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Municipality of
Trent Lakes
Waste Management Plan

December 2015

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Our Waste Management Plan was developed with the Assistance and Guidance of Cambium Inc. and CM Consulting Inc.

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EXECUTIVE SUMMARY

Given the amount of detail and length of our Waste Management Plan, an Executive Summary has been prepared as a separate document for those who wish to review a higher level synopsis.

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SECTION ONE

INTRODUCTION AND BACKGROUND

1.0 INTRODUCTION & BACKGROUND

1.1 PROJECT OBJECTIVES

Waste management represents a significant cost to our property owners ($1.3 million in 2014) and is a growing matter of interest in our community as population increases. As such, the Municipality of Trent Lakes (MTL) initiated this Waste Management Plan (WMP) in order to improve our waste management programs.

Through the development of our WMP, three specific objectives were confirmed as follows:

1. Increase waste diversion and reduce residual (landfill) waste
2. Improve the efficiency of our waste management program
3. Enhance waste education for our residents

1.2 OVERVIEW OF THE PLAN'S DEVELOPMENT

The preparation of our Waste Management Plan (WMP) included the following steps:

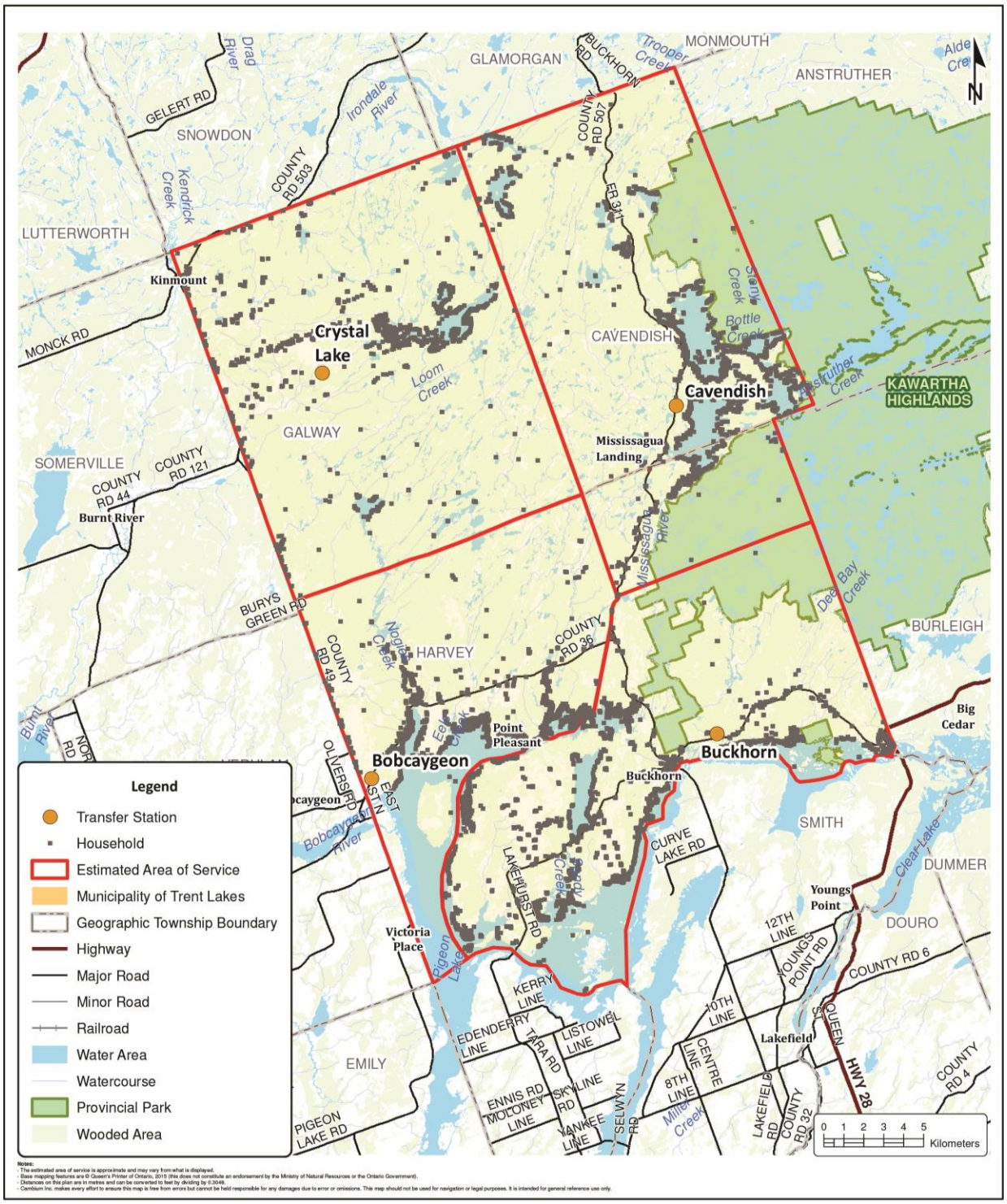
1. Project kickoff meeting between our consultants and MTL representatives to discuss our WMP approach
2. Assessment of our current waste management system
3. Assessment of waste industry trends, best practices, and future legislation changes
4. Development of objectives for future waste management
5. Development and assessment of the options
6. Development of the Draft & Final Waste Management Plan (WMP)

Stakeholders were invited to participate at two key points in the development of our WMP: during Steps 2 and 6 noted above. Comments and feedback elicited during these engagement events were taken into consideration in the development of the WMP. For more details on our public consultation process, see Appendix A.

1.3 STUDY AREA

The study area for our Waste Management Plan (WMP) includes the entire Municipality, which encompasses a total land area of 860 square kilometers. We are located in the northwest corner of Peterborough County, approximately two hours northeast of Toronto. The is comprised of the small communities and hamlets of Alpine/Pirates Glen, Buckhorn, Buckhorn Lake Estates, Burleigh Falls, Catchacoma, Crystal Lake, Flynn's Corners, Fortescue, Kawartha Hideaway, Kinmount, Lakehurst, Mississauga Landing, Nogies Creek, Point Pleasant, Rockcroft, and Sugar Bush. The geographic area of MTL and its associated waste transfer stations is illustrated in Figure 1.

Figure 1 - Map of MTL & Transfer stations



1.4 COMMUNITY CHARACTERISTICS

As of 2014, our Municipality had a population of 5,110 permanent residents and an estimated al population of 8,500 seasonal residents. This combined population occupies approximately 6,374 households[1]. Seasonal dwellings and cottages are generally occupied on a regular basis only during the months of May through October.

In addition to the current trend of seasonal residents becoming permanent residents of their waterfront properties, often with significant renovations of their dwellings, a second trend is emerging: permanent residents are spending the spring, summer, and autumn months in MTL, and the winter months in warmer climates such as Florida or Arizona.

Our community is also characterized by large amounts of Crown land. The natural assets of our Municipality affect the land uses that occur within it. The vast majority of properties within our Municipality are residential, with relatively little in the way of commercial and industrial uses. Our economy is largely driven by the cottage and tourism industry, with the majority of our commercial enterprises being in the form of waterfront trailer parks and accommodation businesses. The industrial enterprises that exist in our community centre on natural resource extraction, namely aggregates and decorative stone.

The above factors combine to create some unique challenges in delivering our waste management services: a relatively small population spread out over a large geographic area; a large proportion of seasonal residents; and a population that is extensively located on waterfront properties. This creates particular challenges in creating efficient operations across our four waste transfer stations.

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SECTION TWO

CURRENT WASTE MANAGEMENT SYSTEM

2.0 CURRENT WASTE MANAGEMENT SYSTEM

2.1 OVERVIEW

Our waste management system is made up of four components: recycling/reuse programs, collection systems, promotion and education, and waste disposal facilities. These components are summarized below.

Table 1 - Overview of Current Waste Management System

Recycle & Reuse Programs	Collection Systems	Promotion & Education	Waste Disposal Facilities
Containers Fibres Waste Electrical and Electronic Equipment (WEEE) Municipal Hazardous Waste and Special Waste (MHSW) Yard Waste / Brush Household Source Separated Organics (SSO) Re-Use Centre Tires Appliances / Scrap Metal Bulky Items Construction & Demolition (C&D) Waste	Waste Pass Access Residential Punch Card - 52 bag annual limit Pay-As-You-Throw also available without Punch Card Tipping Fees	Transfer station Signage Municipal Website Communication between Staff and Users Tax Mail-out Insert Quarterly Newsletters "MyWaste" App Newsletter Local Media Advertising Program Literature County Website	4 Operating Transfer stations* 6 Closed Landfills Special Collection Events Annual Environmental Monitoring Program * All waste hauled to Peterborough County/City Waste Management Facility

2.1.1 *MUNICIPALITY OF TRENT LAKES WASTE MANAGEMENT*

Our current system of waste management requires property owners to transport their waste to one of four waste transfer station sites. As opposed to a landfill system, where some or all of the waste remains on site, a waste transfer station system means that the waste is temporarily stored at these sites, and then transferred to an alternative location such as a landfill or a materials recovery (recycling) facility.

An additional service is offered to trailer parks in our Municipality, and coordinated by the County of Peterborough. Each trailer park can purchase or rent a bin to collect Blue Box recyclables, which is picked up by the County's recycling hauler and transferred to the recycling facility.

Our waste transfer stations are spread across the Municipality: Buckhorn, Bobcaygeon, Cavendish and Crystal Lake. At each transfer station, waste is divided into two streams; landfilled waste (garbage) and diverted waste (recyclables, organics, re-use items, etc.). All four sites previously operated as landfills, but were redeveloped into transfer stations between 2003 and 2008. As such, they require ongoing environmental monitoring. In addition to monitoring at our operating transfer stations, we continue to conduct annual monitoring at two closed landfills: one at Reid Road and the other at Galway Road. Table 2 provides additional information regarding the transfer stations.

Table 2 - Summary of Trent Lakes Transfer Stations

Transfer Station	Location	ECA* No.	Total Property Area (ha)	Year Opened	Total Waste Received 2013 (tonnes)
Bobcaygeon	69 County Road 36, Bobcaygeon, Ontario	A341307	4.00	1978 (fill) 2003 (TS)	616.0
Buckhorn	37 Dump Road, Buckhorn, Ontario	A341301	6.43	1971 (fill) 2008 (TS)	808.2
Cavendish	3405 County Road 507, Buckhorn, Ontario	A341206	20.00	1972 (fill) 2008 (TS)	305.0
Crystal Lake	1018 Crystal Lake Road, Kinmount, Ontario	A341202	10.00	1970's (fill) 2003 (TS)	384.0

* ECA - Environmental Compliance Approval issued by the Ministry of Environment and Climate Change

2.1.2 *COUNTY OF PETERBOROUGH WASTE MANAGEMENT*

As a member Municipality of The County of Peterborough (the County), much of our waste management program is managed and controlled by the County's Waste Management Division. Specifically, the County is responsible for the Blue Box recycling and the Municipal Hazardous or Special Waste (MHSW) programs. In addition, the County works cooperatively with its member municipalities on other waste diversion programs including organics (depot, backyard composting), waste electronics and electrical equipment (WEEE), and construction and demolition (C&D) material recycling. The County also jointly owns the Peterborough County / City Waste Management Facility (PCCWMF) on Bensfort Road in Peterborough, Ontario. Residual waste from our transfer stations is currently hauled to the PCCWMF by 3rd party contractors.

It is important to note that the PCCWMF has an estimated 9-12 years left before it reaches capacity, which will affect our waste management program. In addition, pending changes to the existing County Waste By-Law will also affect our waste management system; this is explored further in the WMP.

2.2 ADMINISTRATION

2.2.1 *STAFF & TRAINING*

Staffing for all transfer stations is currently our responsibility. We operate with a total of eight permanent part-time and four casual part-time staff. Our permanent staff are members of Collective Bargaining Agreement 1306.9 with the Canadian Union of Public Employees (CUPE). The current agreement is in place until March 31, 2017 and stipulates pre-determined annual wage increases.

The only staffing that is not our responsibility is the operation of the seasonal MHSW program offered at the Buckhorn site. This program is staffed by the County of Peterborough, due to the special training required for staff handling hazardous wastes.

Training of our staff consists of sessions on health and safety, Workplace Hazardous Materials Information System (WHMIS), Violence and Harassment, and Municipal policies and procedures. Staff training time is paid for by MTL. New transfer station staff receive on-the-job training by senior staff at each site. Until very recently, no formalized staff training program had been put in place. It is recommended that this new program continue and be reviewed on an ongoing basis for effectiveness. Customer Service training (including dealing with difficult customers) has also been offered to all staff in the past.

Action Opportunity – Consider offering this new formalized training program on a regular basis, including as a refresher for current staff.

Training of our staff is also provided by the County in regards to its diversion programs. In May 2015, the County held an "all staff" training day which reviewed some of the current programs and highlighted new diversion programs. The day consisted of a "classroom" portion as well as a tour of the PCCWMF. The County is considering offering this on an annual basis. In addition, the County holds an annual "Depot Attendants Day" in October for all transfer station staff. Last year's event involved a tour of the Global Electric Electronic Processing (GEEP) facility, where our municipal electronic waste is shipped and processed. Generally, these training programs are not mandatory and, as a result, not all of our staff attends.

Action Opportunity – Making these sessions mandatory represents an opportunity to improve our staff's knowledge of diversion programs and screening techniques.

2.2.2 *USER ADMINISTRATION*

Our Municipality operates our transfer stations using a waste disposal pass and bag limit system. The system differs slightly depending on the property type, and whether it is vacant or occupied. Each system is described in the following paragraphs.

Waste Disposal Pass – All Properties

All property owners, regardless of property type, require a Waste Disposal Pass in order to use our transfer stations. These passes are issued annually with each property owner's interim tax bill. They are valid from April 1st to March 31st of the subsequent year. The colour of this pass is changed from year to year, to assist with easy recognition by our Transfer station staff. A Waste Disposal Pass must be presented at the transfer station, or the property owner will be refused entry.

For those renting or leasing their property, the property owner (Landlord) is responsible for issuing Waste Disposal Passes to tenants. This represents one of the biggest challenges in the administration of our waste management program, and tenants often show up at transfer stations without their waste pass, and unaware of the various diversion programs in place.

Action Opportunity - Developing a cottage rental kit for landlords could assist in alleviating this issue.

Lost waste passes represents another significant issue, with numerous calls being fielded by our municipal administration staff by property owners wanting to replace their lost passes. If the original two Waste Disposal Passes are lost, only one will be replaced for free, and additional passes can be replaced for a fee of $25.00 each.

Waste Punch Card – Residential Properties

A Waste Punch Card is also issued with the interim tax bill for all registered owners of occupied residential properties. This card allows residents to dispose of 52 bags of household garbage per year (equivalent to one bag per week) at no charge. The punch card is valid for residential 'household' waste only – all other waste streams are subject to other rules and tipping fees where applicable.

Upon arrival at the transfer station, an attendant will check off one box per bag on the card. Bags must not exceed the standard size of 26 x 36 inches; if the larger or commercial-sized bags are used, two boxes will be checked off the resident's card. If this card is not presented at the transfer station, or if all 52 holes have been punched, there is a fee of $1.00 per regular sized bag, and $2.00 per large bag. Lost, stolen, or misplaced Waste Punch Cards can be replaced for a fee of $52.00 each.

Action Opportunity – We should consider an alternative to the current waste pass system – one that reduces the associated administrative issues.

2.2.3 *WASTE MANAGEMENT CONTRACTS AND AGREEMENTS*

Our Municipality maintains agreements and contracts with both the County and third party vendors which facilitate our current waste and diversion programs. Those agreements and contracts are summarized in the following paragraphs:

County of Peterborough Agreements

MTL maintains an agreement with the County to control and manage a number of our waste diversion programs, in exchange for payment through the annual County levy. These programs include landfilled waste tipping fees, the Blue Box recycling program, the MHSW program, and the Source Separated Organics (SSO) pilot program.

The Blue Box program is partially funded by Stewardship Ontario and by revenues generated from the sale of recyclable materials. The remainder of the costs of this recycling program are covered by the levy. The Blue Box program levy includes the hauling fees for one transfer station (Bobcaygeon) only. We pay for hauling separately for the other three sites. The County currently contracts collection and transportation of these bins to Progressive Waste Management Solutions, who delivers these recyclable materials to the Peterborough Material Recycling Facility (MRF), which is run by HGC Management Inc. The Progressive Waste Management contract is set to expire in 2018.

In addition to the above, the County works to coordinate our WEEE diversion program.

Other Third Party Contracts

MTL also maintains contracts with two (2) third party providers related to waste management, as outlined below.

North Kawartha Disposal

Our garbage (landfilled waste) haulage contract was awarded to North Kawartha Disposal in 2014. The contract is for a three-year term, expiring in 2017, with a two-year renewal option. The contract stipulates that the company must supply the bins for the collection of waste at our four transfer stations. In addition to supplying the bins, the company must also pickup, deliver, and return the bins from the PCCWMF. The contract stipulates the unit price (per bin) for this service for each of our transfer stations, and the prices vary according to location.

The recent switch, in 2014, to North Kawartha Disposal has resulted in significant savings on haulage pricing versus our previous supplier.

We are working with North Kawartha Disposal to develop a “bear-proof” lid to sit atop garbage containers in order to help address the safety issue associated with black bears coming on to the transfer station sites. These lids are currently being manufactured and will be implemented at our transfer stations once completed.

Arctic West

Haulage of our scrap metal, C&D waste, furniture, appliances, and wood waste is handled by Arctic West, as per the contract awarded in 2011. The contract was initially for a four-month term, but has continued on a month-to-month basis since that time. The contract also stipulates that the company must shred all brush and yard waste on-site at the applicable transfer stations (currently Bobcaygeon and Buckhorn). Arctic West is paid for these services on a monthly basis, at agreed upon rates for excavator / operator time and labourer time.

The current contract, requires that Arctic West push up and clean out the open bulk disposal areas; assist in pulling in and out waste container bins for cleaning; compact garbage where possible; and generally maintain a visible presence in terms of handling the various waste materials on site. In addition to the above, the contract stipulates that the company provide the following services:

- Grinding of brush;
- Brush / C&D load removal; and,
- Hauling furniture to PCCWMF

As per the contract, the provides partial remuneration to Arctic West in the form of all scrap metals and white appliances left at the transfer stations, and shall not be charged for loading or hauling this material.

Action Opportunity – Given the relatively high market price for scrap metal, it would be prudent to complete a thorough analysis of our haulage contract to ensure that it is structured in our best interest.

2.2.4 *WASTE MANAGEMENT BY-LAWS*

Municipal By-Law

Our municipal waste management is governed by Consolidated By-Law B2012-038. This By-Law outlines the locations of our waste transfer stations, defines the waste disposal pass and card, and sets out items that may or may not be accepted at each transfer station, as well as any associated tipping fees. This By-Law may be superseded by County By-Laws where applicable.

County By-Laws

The County has several By-Laws in regards to waste management, including: By-Law 46-1989, which implemented a waste recovery and Blue Box Recycling program; By-Law 21-1991, which authorized the County to assume authority over member municipalities in regards to the disposal of waste; and By-Law 11-1996, which implemented mandatory recycling and banned certain items from transfer stations or landfills. These By-Laws will soon be repealed by a new, overriding County Waste Management By-Law which is currently in the draft stage, and is discussed further in section 3.4.

2.2.5 *PLAN INTEGRATION*

In developing this WMP, we considered other current plans and policies which may relate to waste management, including county, regional, and provincial policies. These documents included:

- County of Peterborough Waste Management Master Plan (2012)
- County of Peterborough Waste Recycling Strategy (2011)

- Regional Integrated Community Sustainability Plan (2012)
- Provincial Policy Statement (2014)
- Ministry of Environment Policy Statement on Waste Management Planning: Best Practices for Waste Managers (2007)
- Greater Golden Horseshoe Growth Plan (2006)

Our review of these documents revealed a number of common waste management strategy themes and objectives, which are outlined in Table 3 below.

Table 3 - Related Plans - Common Themes

Area	Common Themes
High-level Principles & Objectives	Integrated waste management Regional collaboration/cooperation Community participation Maximize waste diversion Maximize use of funding opportunities Implement creative and innovative solutions Long-term planning / thinking
Specific Targets & Objectives	60% waste diversion target Creation of incentives to reduce landfilled waste (e.g. user pay, bag limits) Enhancement of composting initiatives / opportunities Promotion of reuse and recycling of construction materials

2.3 STAKEHOLDER ENGAGEMENT

The development of our WMP included the engagement of stakeholders several times during the process. Stakeholders included transfer station staff, administrative/management staff, property owners, and County representatives.

2.3.1 *TRANSFER STATION STAFF MEETING*

An on-site meeting with transfer station staff was organized to gather information and better

understand day-to-day waste management operations. Six attendants joined the meeting, as well as several administrative staff. In addition to asking transfer station staff members about their daily activities, including interaction with users, they were also asked for their opinions and ideas related to challenges in their work. Transfer station staff were also observed carrying out their duties during various on-site visits.

2.3.2 *TRANSFER STATION USER SURVEY*

A transfer station user survey was conducted in order to get a sense of how property owners feel about waste management in the Municipality. Users were surveyed at each transfer station over two days. Paper copies of the survey were also available for pick-up and return at all transfer stations. An online link to the survey was made available for residents to complete at home. A total for four hundred and sixty-five surveys were completed, 55% of which were by permanent residents and 45% by seasonal residents.

A summary of key findings from our survey is provided below. Our complete survey results can be found in Appendix A.

- Among the top plan objectives indicated by respondents were: “increasing recycling/diversion rate” (68%) followed closely by “community education related to waste/recycling” (65%).
- Although users are generally satisfied with the level of services offered at our transfer stations, they are interested in additional diversion programs including Source Separated Organics (kitchen waste), household hazardous waste, Styrofoam, mattresses, and brush.
- 18% of our seasonal residents indicated that they were likely to become year-round residents in the next five years, while an additional 24% indicated “possibly”.
- 69% of respondents indicated that they did not want curbside garbage and Blue Box pickup.
- 70% of respondents travel 10 kilometres or less to get to a transfer station – of those, almost 30% travel less than 5 kilometres.
- The Blue Box, Scrap Metal, and Re-Use Centre are the most often used diversion programs.
- 38.5% of respondents participate in backyard composting. Of those who don’t, the main reasons given pertain to concern over attracting wildlife to their properties.
- 89% of respondents indicated that they prefer to maintain our four transfer stations rather than decrease the number to lower operating costs for the Municipality.

2.3.3 *DRAFT PLAN REVIEW*

An Open House was also held in our community to give transfer station users an overview of our draft WMP. We took care to specifically invite users who participated in the initial survey.

After the Open House, comments on the draft WMP were invited via an online survey. This gave users an important opportunity to have their voices heard and learn more about waste management in our Municipality.

All comments were considered prior to finalization of the WMP and presentation to our municipal council.

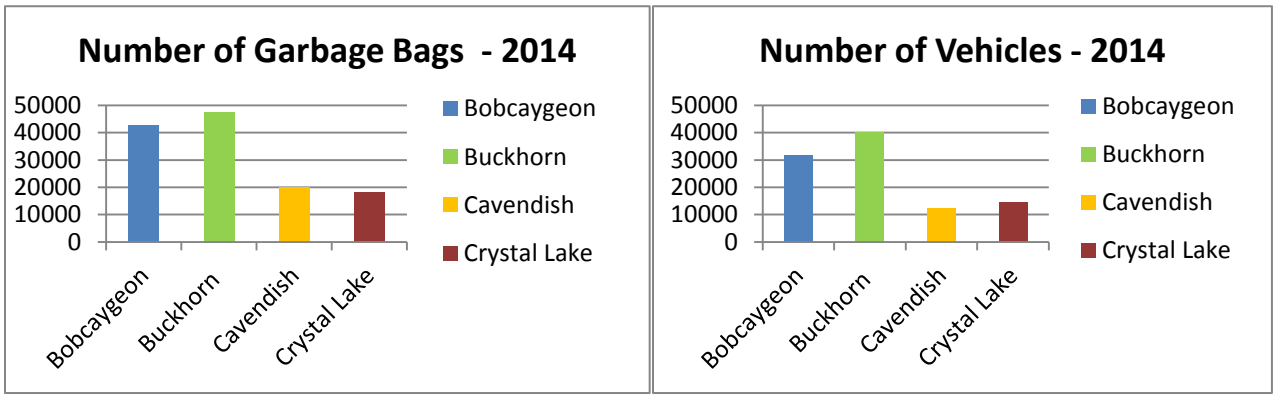
2.4 OPERATIONS ASSESSMENT

The Operations Assessment portion of our WMP included a review of all operational aspects of our waste transfer stations.

2.4.1 *ACTIVITY BY TRANSFER STATION*

As evident in Figure 2, our Buckhorn Transfer station is the busiest of the four in terms of the amount of waste collected and vehicle counts. Our Bobcaygeon site is the second busiest, while Cavendish and Crystal Lake are well behind, being in less densely populated areas.

Figure 2 - Annual Number of Garbage Bags & Vehicles Per Transfer Station 2014



2.4.2 *TRANSFER STATION HOURS OF OPERATION*

The hours of operation for our four transfer stations vary by location and by time of year, as outlined below.

Table 4 - Transfer Station Hours of Operation

Transfer station Summer Hours (Victoria Day to Thanksgiving Day)				
	Bobcaygeon	**Buckhorn**	**Cavendish**	**Crystal Lake**
Monday	8:00am - 4:30pm	Closed	7:00am -12:00pm	7:00am -12:00pm
Tuesday	8:00am - 4:30pm	Closed	Closed	Closed
Wednesday	Closed	8:00am - 4:30pm	8:00am - 12:00pm	8:00am - 2:00pm
Thursday	Closed	8:00am - 4:30pm	Closed	Closed
Friday	8:00am - 4:30pm	Closed	Closed	Closed
Saturday	8:00am - 4:30pm	8:00am - 4:30pm	8:00am - 4:00pm	8:00am - 4:00pm
Sunday	12:00pm - 8:00pm	12:00pm - 8:00pm	12:00pm - 8:00pm	12:00pm - 8:00pm
Total Hours	**42**	**33.5**	**25**	**27**

Transfer Station Winter Hours (Thanksgiving Day to Victoria Day)				
	Bobcaygeon	Buckhorn	Cavendish	Crystal Lake
Monday	Closed	Closed	Closed	Closed
Tuesday	8:00am - 4:30pm	Closed	Closed	Closed
Wednesday	Closed	8:00am - 4:30pm	8:00am - 12:00pm	8:00am - 2:00pm
Thursday	Closed	Closed	Closed	Closed
Friday	Closed	Closed	Closed	Closed
Saturday	8:00am - 4:30pm	8:00am - 4:30pm	8:00am - 4:00pm	8:00am - 4:00pm
Sunday	12:00pm - 5:00pm	12:00pm - 5:00pm	12:00pm - 5:00pm	12:00pm - 5:00pm
Total Hours	**22**	**22**	**17**	**19**

Our transfer station hours were identified by staff and users as an area to be reviewed for potential changes and efficiencies. The operating hours need to strike a balance between convenience for users (both permanent and seasonal) and cost to the Municipality.

Action Opportunity - Reduce operating hours while maintaining a convenient level of service for property owners.

2.4.3 *TRANSFER STATION SERVICES*

Table 5 provides a summary of the waste services offered at each transfer station.

Table 5 - Summary of Services Provided at Each Transfer station

Waste Stream	Bobcaygeon	Buckhorn	Cavendish	Crystal Lake
Blue Box Materials Recycling	Yes	Yes	Yes	Yes
Hard Plastics (Pilot Project)	July - Sept 2015	Jul - Sept 2015	No	No
Waste Electrical and Electronic Equipment (WEEE)	Yes	Yes	No	No
Source Separated Organics	No	Yes	No	No
Municipal Hazardous or Special Waste (MHSW)	No	Yes (June to Oct)	No	No
Tires	Yes	Yes	Yes	Yes
Scrap Metal	Yes	Yes	Yes	Yes
Furniture/Bulky Goods	Yes	Yes	Yes	Yes
Leaf &Yard	Yes	Yes	No	No

Re-Use Centre	Yes	Yes	Yes	Yes
Construction and Demolition (C&D) Waste	Yes	Yes	Yes	Yes
Liquor Bottle Depot	Yes	2016	Yes	Yes

2.4.4 *CURRENT DIVERSION PROGRAMS & SERVICES*

2.4.4.1 BLUE BOX RECYCLING

Blue Box recycling is available at all four transfer stations. Coordinated by the County, the program collects two waste streams: containers (glass, plastic, metal, and other), and fibres (paper, cardboard/ boxboard, and plastic bag/packaging). Our property owners are required to transport their recyclables to the transfer stations, where they are temporarily stored in 8-yard bins. All Blue Box material collected is taken to the MRF for sorting and sale (where applicable).

The County also coordinates a recycling pickup program for campgrounds, marinas and golf courses in its member Municipalities, along with providing signage and brochures to encourage campground users to recycle. Eighteen such businesses in our Municipality take advantage of this program, which runs from May to October. The Municipality pays for the pick-up and transfer of the recyclable materials to the MRF. The cost of pick-up and transfer has been approximately $5,000 per year. This equates to $12.75 per pick-up. The individual businesses pay for other costs including purchase of the bins or totes.

No changes are proposed for our current Blue Box program.

2.4.4.2 HARD PLASTICS

Hard plastic (e.g. plastic lawn chairs) recycling was added to the Buckhorn and Bobcaygeon transfer stations as a pilot program for July through September 2015. The program, including the training of transfer station staff, is coordinated by the County. There was no additional cost to our Municipality this year. The program is slated to continue, with its associated costs being added to the County levy.

2.4.4.3 WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The Waste Electrical and Electronic Equipment (WEEE) program is administered by the County. WEEE items are accepted during all regular hours at the Bobcaygeon and Buckhorn transfer stations. WEEE items can also be brought to the Peterborough Hazardous Waste Depot at 400 Pido

Road. Electronics disposal is free at all locations. WEEE items are placed by transfer station users in a covered, walk-in shipping container. Transfer station staff occasionally organize the waste materials in an orderly fashion, so that the container can be filled as efficiently as possible. The WEEE contract is tendered by the County on behalf of its member municipalities. Global Electric Electronic Processing (GEEP) is the current contractor. GEEP provides and picks up the full container, replaces the full container with an empty one, and ships the contents to its facility in Barrie, Ontario, where the waste material is processed and recycled. Revenue from the GEEP program is paid to the County who in turn forward our share to us on a quarterly basis (the County keeps 20%).

Action Opportunity - The WEEE program is easily implementable and a net generator or revenue for our Municipality. It should be considered for our Cavendish and Crystal Lake sites

2.4.4.4 SOURCE SEPARATED ORGANICS (SSO)

A Source Separated Organics (SSO) program is currently offered at the Buckhorn transfer station only. With this program, users are able to bring food scraps and other compostable items (including cooked foods, meat, bones, oils, and paper towels) to the station for disposal. The organics are deposited into a Molok™ bin (pictured) which is designed to keep vermin and bears from accessing the waste by keeping it below the surface of the earth using a deep collection (liner) system. When the bin is full, a truck lifts the full liner from the container and into a disposal truck. The liner is then replaced back in the container. The SSO waste is transported to the Harper Road compost facility in Peterborough.

We note that this facility does not allow for the expansion of SSO waste, and is actually slated for closure (as early as 2016). A new compost facility is to be built on the PCCWMF site, and will accept leaf and yard waste, along with a limited amount of SSO waste.

Action Opportunity – As a much-requested service, with great potential for increasing diversion, we should review the various options that are available to us to expand the SSO program.

2.4.4.5 ORGANICS (BACKYARD)

In addition to the Buckhorn SSO program, residents are encouraged to divert their organics in their backyards, either through composters or digesters. Composters can handle fruit, vegetable, and yard waste, while digesters can handle those same wastes along with meat, dairy, and pet wastes.

The County will deliver, install, and educate residents on the use of a backyard composter (pictured) or digester through its "Garbage to Garden" program. The price of these systems is subsidized by the County, with residents paying $25 for a composter and $45 for a digester. There are also composters and digesters available through this program at the MTL municipal office. The difference between composters and digesters are explored below.

- Composters are aerobic, meaning that they require air and water to function properly. Raccoons and skunks have been known to access composting units. The County has suggested that residents refrain from adding 'sweet' items such as fruits, and that proper cover is used, such as leaves and soil, to reduce odours that may attract wildlife.
- Digesters are cone-shaped units that are dug at least 1 metre into the ground. They work anaerobically, that is, without air and water. They are designed to be more pest resistant than composters, if installed and used properly. Complaints of wildlife being attracted to or getting into these digesters are generally a result of improper usage.

Feedback from our user survey indicates that many of our residents are interested in backyard composting but are concerned about attracting wildlife to their property, particularly bears.

Action Opportunity – Educating our community on the proper use and benefits of backyard composting should form a recommendation of our WMP.

2.4.4.6 MUNICIPAL HAZARDOUS OR SPECIAL WASTE (MHSW)

Household hazardous waste, often referred to as Municipal Hazardous and Special Waste (MHSW), is waste that poses a danger to the public or the environment if not handled properly. This waste stream includes paints, solvents, batteries, coolant, fertilizers, and pesticides.

The County manages the MHSW program (including staffing), and costs for the program are paid for via the County levy. The Buckhorn transfer station is the only location where MHSW is consistently accepted in our Municipality, and disposal is free. The program runs during select hours each week and is offered only between June and October. MHSW collection is also part of the County's Environment Days held each summer around the County. In addition, items can also be brought to the Peterborough Hazardous Waste Depot year-round.

Action Opportunity – Options to provide greater access to MHSW programs should considered as part of our WMP.

2.4.4.7 TIRES

Tires are accepted for disposal at all transfer stations. Disposal is free up to a limit of four tires. However, there is a $5 disposal fee if the tire is still mounted on the rim.

No changes are proposed for our tire program.

SCRAP METAL & WHITE GOODS

Appliances and scrap metal are accepted at all transfer stations in the Municipality. Accepted items include most metal, as well as 'white goods', such as refrigerators, freezers, air conditioning units, dehumidifiers, and coolers. Disposal is free at all locations; however, a $20 charge is applied for Freon removal, when required. (Note: Freon is a chemical refrigerant that is commonly found in appliances, but can be hazardous if leaked into the environment). Any refrigerators or freezers must have the doors removed before disposal.

2.4.4.8 FURNITURE & BULKY GOODS

Large items such as sofas, chairs, carpeting and painted wood items can be disposed of at all transfer stations, but are subject to a tipping fee, as no recycling marketing exists for these items. Smaller items may be disposed of for a fee of $5, while larger items may be disposed for a fee of $10. Specifications are outlined in Appendix B.

Mattresses are commonly brought to our transfer stations for disposal, but are not accepted. Mattresses in need of disposal can be taken directly to the PCCWMF, where they are accepted and recycled for a $10 fee.

Action Opportunity – Mattress diversion options should be explored, as it was one of the top five requested diversion programs from our waste survey.

2.4.4.9 LEAF &YARD WASTE AND BRUSH

Leaf & Yard Waste is defined as leaves, grass trimmings, used Christmas trees, and brush less than 100mm in diameter. Yard Waste is accepted at Buckhorn and Bobcaygeon transfer stations at no charge. The waste is placed in a designated location at each transfer station, where it is eventually chipped and removed by the contractor. This service was previously offered at Cavendish and Crystal Lake sites; however a Ministry of Environmental & Climate Change requirement for a noise study related to the grinding equipment used by the contractor has halted this service.

Brush is accepted at the Buckhorn and Bobcaygeon transfer stations only. There is no charge for this waste stream. This waste is placed in a designated location at the transfer station, where it is eventually chipped and removed by a contractor.

Yard waste and brush are considered "diverted" waste streams so long as they are removed from the transfer station and re-used in some way. Recently, we have begun using the chipped brush

and leaf/yard waste to rehabilitate a former quarry site.

Action Opportunity – We should consider reinstating Brush, Leaf, & Yard Waste diversion programs at the Cavendish and Crystal Lake sites.

2.4.4.10 RE-USE SHED

Our Re-Use program was launched in 2013, and runs March through November each year at all transfer stations. The program features a Re-Use Shed where users can leave goods that are unwanted, but still usable. This is based on an honour-system, where users are free to leave or take items at their discretion. This is a great way to keep still-usable items out of the landfill, and increase our diversion rate.

2.4.4.11 BOTTLE COLLECTION

During the summer of 2015, our Municipality implemented a beer and liquor container diversion program, whereby residents can deposit their alcoholic beverage cans and plastic or glass alcohol bottles into a bin that is maintained by a local community organization. The organization returns the bottles for deposit and keeps the revenue generated to help fund their activities.

Glass is becoming a more expensive waste stream to divert. Our new glass bottle recycling program not only helps community organizations, but also avoids likely cost increases in the future.

Action Opportunity – We should promote the new bottle collection program, as it increases our diversion rate and has numerable other community benefits.

2.4.4.12 CONSTRUCTION & DEMOLITION MATERIALS

Materials from construction and demolition (C&D) activities, such as wood, are accepted at all transfer stations for a minimum $5 flat charge, and $35 per cubic yard. There is a limit of 3 cubic yards per visit. Drywall and shingles are also accepted at all transfer stations for a minimum $10 flat charge, and $45 per cubic yard. No formal measurement system is used to determine the volume of waste: our staff estimate the volume visually. C&D waste is picked up on an as needed basis by a third party contractor and recycled. For large quantities of C&D waste, residents are asked to contact a third party recycler directly or take it to the PCCWMF.

2.4.4.13 TIPPING FEES

As noted above, tipping fees apply to some items accepted at the transfer stations, generally to cover the costs of their removal from the transfer station. The current tipping fee schedule can be found in Appendix B.

2.4.5 *STAFF INTERACTION WITH USERS*

Our transfer station staff members are crucial to the success of our waste management program. Since we do not offer curbside service, our staff interacts with almost every property owner on a regular or seasonal basis.

The typical activities of our transfer station staff include greeting users at the gate or in the yard, checking waste disposal passes and punch cards, answering questions and directing users to appropriate disposal locations, assessing the assortment and volume of waste to be disposed of, tracking various metrics including number of bags of waste and number of vehicles, calculating and collecting any applicable tipping fees. They are also responsible for sorting bins and general site maintenance.

Currently, the process of interaction with users varies from site to site, as each site offers different services, has a different configuration, and sees a different volume of users.

The role of our transfer station attendants is integral to successful diversion. A good rapport with users, attentiveness to proper screening of waste, vigilant direction of users to appropriate bins, and willingness to sort bins and keep the site in order can go a long way in increasing the diversion rate.

Action Opportunity – In general, our staff take pride in their work and seek to do it well. In order to support them, it is recommended that a simple set of Standard Operating Procedures be developed for transfer station staff and that proper and regular training be implemented. As part of this training, an enhanced screening protocol should be introduced.

2.4.6 *PROGRAMS OFFERED IN ADJACENT MUNICIPALITIES*

Municipalities that border our own include The City of Kawartha Lakes (to the west), the Township of Selwyn (to the east and south), the Township of Minden Hills (to the northwest), and the Municipality of Highlands East (to the northeast). Given their similar rural, cottage country location, a review of each of their waste management program provides valuable insight for the development of our WMP, including the potential for collaborative efforts. A summary of their services is provided below.

Table 6 - Waste Management Services Provided by Neighbouring Municipalities

Waste Service	City of Kawartha Lakes	Township of Selwyn	Township of Minden Hills	of Highlands East
Number of Waste Sites	5 active landfill sites	1 active landfill	3 transfer stations; 2 active landfills	1 transfer station; 4 active landfills
Garbage	All households receive **curbside garbage pickup** with the use of Bag Tags (2 free bags allowed +$3 per extra with tag) Pay-As-You-Throw ($3 per bag) also at landfill sites	All households receive **curbside garbage pickup** with use of Bag Tags ($2 per tag) Pay-As-You-Throw ($3 per bag) also available at the Selwyn landfill site	Residents must **transport garbage** to transfer station/ landfill sites; waste pass/bag limit system, 3 bags per week limit with pass Pay-As-You-Throw ($1 per bag, sorted, $2 per bag, unsorted)	Residents in Bicroft ward receive curbside pickup. All other must **transport garbage** to landfill sites All volumes of waste less than 1 cubic yard are free of charge
Clear Bag Policy	No	No	Yes	No
Blue Box Recycling (no charge)	All households receive **curbside pickup**	All households receive **curbside pickup**	Residents **transport** to transfer station/landfill sites	Residents **transport** to landfill sites
MHSW (no charge)	Accepted at Fenelon and Lindsay Depots	Accepted at the Selwyn landfill site (seasonally)	Accepted at Scotch Line landfill site on designated MHSW Collection Days	Accepted at MHSW Collection Days only throughout the year
WEEE (no charge)	Accepted at all landfill sites	Accepted at the Selwyn landfill site	Accepted at Scotch Line and Irondale landfills	Accepted at all sites
Tires	Accepted at Laxton Digby & Longford, Eldon, Somerville, Fenelon, and Lindsay landfill sites (free of charge)	Accepted at the Selwyn Landfill site for a minimal charge	Accepted at Scotch Line landfill only; up to 5 tires at a time, must be taken off of rim (free of charge)	Accepted at all sites; must be off of rim (free of charge)

Waste Service	City of Kawartha Lakes	Township of Selwyn	Township of Minden Hills	of Highlands East
Mattresses	Accepted at all landfill sites; also eligible for pick-up ($5 per item)	Not accepted at transfer stations or landfill	Accepted at Scotch Line landfill ($10 per item)	Accepted at all sites ($10 per item)
Notable Policies	New landfill load inspection policy in place	Annual Spring Cleanup Day - most tipping fees waived	Additional $2/bag of garbage if not sorted "Cottage Kits" available for $3 per kit	Agreement with Minden Hills so that Ward 3 residents can use select sites in Minden Hills

2.4.7 *CURRENT COMMUNICATION AND EDUCATION PROGRAM FOR WASTE MANAGEMENT*

Communication and education regarding our waste management program is handled by both our Municipality and the County. From the municipal point of view, we provide information to residents via our website, and through tax bill inserts and quarterly newsletters. The information includes transfer station locations, operating hours, waste passes, and fees. Our website also includes information about our various diversion programs, which are found as links to various pages on the County website.

The County provides their own website related to waste, and information on how to dispose of the various types of wastes. In addition the County provides an electronic newsletter on waste matters, articles in local newspapers, roadside signs (for special collection days), and brochures at municipal offices and transfer station sites. The County also makes presentations to local groups and cottage associations.

Action Opportunity – Exploring additional promotion and education initiatives, in partnership with the County where possible, is recommended.

2.5 FINANCIAL ASSESSMENT

2.5.1 *SUMMARY OF ANNUAL REVENUES & EXPENSES*

Below is a summary of our expenses and revenues related to the waste management system for the years 2012 to 2014.

Table 7 - Annual Waste Management Expenses & Revenue (2012-2014)

Expenses				
Expense	**2012**	**2013**	**2014**	**Avg. % of Expenses**
Labour/Wages	$250,731	$252,410	$289,616	20%
EI/CPP/OMERS	$44,734	$38,203	$44,031	3%
Recycling Bins (County Shipping Costs)	$28,460	$30,678	$38,355	2%
Other	$19,777	$20,995	$76,857	3%
Campground Blue Box Program (50%)	$5,092	$5,197	$4,864	<1%
Recycling/ Compost Items	$428	$523	$734	<1%
Telephone/Fax	$4,584	$5,059	$4,043	<1%
Bldg. Maintenance	$7,957	$5,279	$6,051	<1%
Monitoring	$105,117	$185,674	$171,835	12%
Waste Haulage	$277,297	$241,096	$265,127	20%
PIL Taxes	$ 6,396	$8,631	$8,593	1%
Other Capital	$614	$1,978	-	<1%
General Levy to County	$465,000	$465,000	$465,000	35%
Depot Levy to County	$35,000	$35,000	$35,000	3%
Total	**$1,251,187**	**$1,295,723**	**$1,410,106**	**100%**

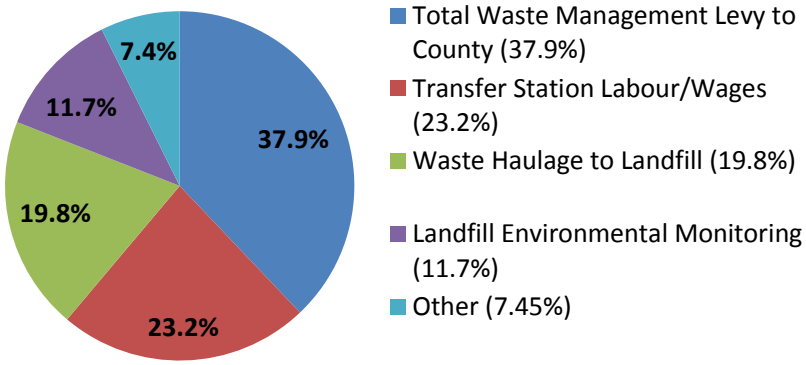
Revenue				
Revenue	2012	2013	2014	Avg. % of Revenues
Tipping Fees	$ 86,540	$ 106,092	$ 120,586	100%

Net Expenses			
Net Expenses	2012	2013	2014
	$ 1,164,647	$ 1,189,631	$ 1,289,520
Percent Change in Net Expenses	-	2.1%	8.4%

The net expenses for our waste management program have risen in each of the past two years, climbing 2.1% and 8.4% in 2013 and 2014 respectively.

As seen in Figure 3 below, over 90% of our expenses are associated with four particular items: County levy, staff wages, waste haulage to landfill, and environmental monitoring.

Figure 3 - Waste Management Expense Breakdown



A few items of note related to our expenses:

- Annual landfill monitoring is required by the Ministry of the Environment and Climate Change for all former landfills
- Waste haulage does not include tipping fees; tipping fees are paid to the County for use of the PCCWMF and are therefore included in the County levy
- There are no haulage costs associated with the Bobcaygeon Blue Box program, as the County levy covers the cost for one recycling program for each of its member municipalities

- The 2014 increase in labour/wages is associated with higher wage levels as a result of transfer station staff joining a collective bargaining unit
- The 2014 increase in "Other" is associated with additional site surveying work required, as well as site re-contouring at our Cavendish transfer station
- The 2013 increase in "Monitoring" is associated with additional monitoring required by the Ministry of the Environment & Climate Change

County Levy

The County levy is by far our largest expense item and thus warrants further discussion. The County operates or coordinates a number of programs on behalf of its member municipalities, and in return charges municipalities for their proportionate share of the cost of these programs, including administration. The costs included in the County levy are outlined below.

- Landfill tipping fees
- Net Blue Box Expenses
- Net MHSW Expenses
- Environment Days
- SSO Program (Buckhorn)

Action Opportunity - Given the significance of the levy, we should work closely with the County to gain a better understanding of each levy item and determine any opportunities for expense reduction or service enhancement.

Transfer Station Staffing Costs

Staffing related costs represent over 23% of our annual expenses. These costs are directly attributable to operating hours and the number of staff on hand. As such, opportunities to reduce these costs lie in reducing the transfer station operating hours or the number of staff on working, while maintaining sufficient service for our residents.

At the same time, due to the significant investment in our transfer station staffing, we want to ensure that our team is fully trained and proficient in their roles, including screening our waste for proper diversion. It is also important to keep in mind that Health and Safety requirements specify that two staff must be at the site when open.

Action Opportunity - An analysis of our staffing requirements and related costs should be undertaken with the above-mentioned priorities in mind.

Waste Haulage

Waste haulage to landfill represents almost 20% of our annual waste management costs. Over the past three years our average haulage cost has been $119/tonne. In general, it is less expensive to haul our Blue Box materials. One way to lower our costs is to create less waste, or divert more of the waste generated to this program. Additionally, hauling the compacted fibre at our Buckhorn site is approximately one-third of the cost of hauling fibre in the 8-yard bins.

Action Opportunity – Investigating additional ways to maximize the use of the fibre compactor at Buckhorn site should be pursued.

2.5.2 *PROVINCIAL STEWARDSHIP PROGRAMS*

Over the past decade a number of stewardship programs have been implemented in Ontario that require producers or distributors of certain products to help pay the costs of managing their products at end-of-life, by paying into a fund that has been established for this purpose. A portion of those funds is distributed to municipalities to support their effort in collection the products covered. Below is a summary of these stewardship programs.

Stewardship Program	Items Covered
Blue Box	PET, glass, aluminum, and steel containers. Voluntary Collection: Tetra Pak, gable top, HDPE, and other less common containers
Used Tire Program	On-road passenger and light truck tires, includes recreational vehicles, motorcycles, and golf carts. On-road medium truck tires designed for truck/bus
WEEE	Desktop computers; portable computers; computer peripherals; printing, copying & multi-function devices; mobile devices; display devices, televisions, and monitors; non-cellular telephones; personal or portable audio/video systems; home theatre-in-a-box systems; home audio/video systems; vehicle audio/video systems
MHSW	Paint; solvents; single-use batteries; vehicle engine antifreeze/coolant; fertilizers; pesticides; empty oil containers; oil filters, pressurized cylinders that held propane, oxygen, helium, or other gases

The County coordinates these stewardship programs on behalf of our Municipality. The associated revenues generated by the programs are generally incorporated into the County levy, based on estimated volumes, which are adjusted annually. However, for both the WEEE program and for collecting recyclable batteries we receive directly our share of revenue generated.

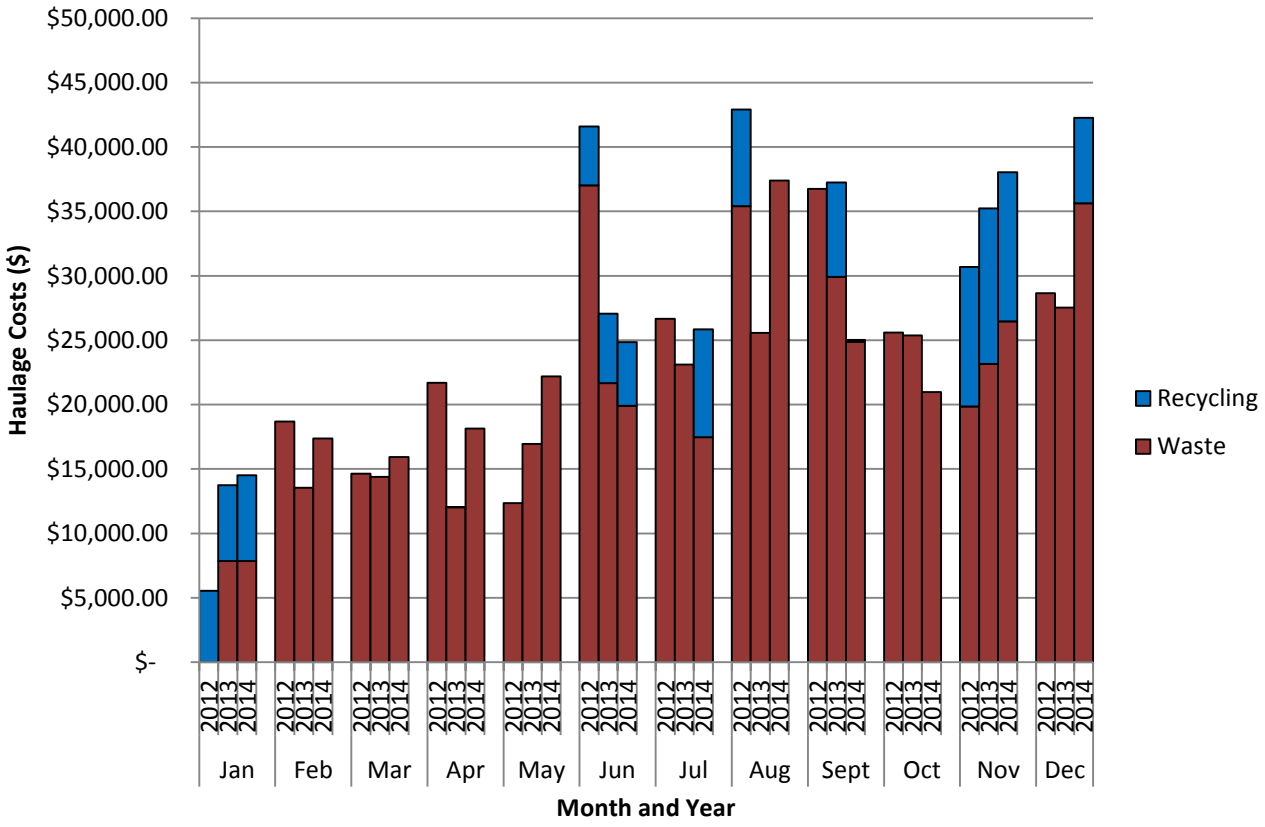
Other related programs include the Ontario Deposit Return Program, which deals with all beer, wine, and spirits bottles over 100 ml and sold through LCBO and The Beer Store outlets, and various retail take-back programs including those for pharmaceuticals/sharps and compact fluorescent light bulbs.

Action Opportunity – Highlighting retail take-back programs available in our region should be considered.

2.5.3 *BREAKDOWN OF REVENUES & EXPENSES BY MONTH*

Figure 4 below shows our monthly expenses for waste and recycling haulage over the past three years.

Figure 4 - Waste & Recycling Haulage Costs



Our community's waste haulage has remained fairly consistent over time, with an increase each June to September, related to the increase of seasonal residents and cottagers, and another increase in December, related to the increase in waste associated with the holiday season. Increases in waste haulage in 2012 were likely associated with additional wastes from storm damage that occurred in 2011.

There are trending peak periods for recycling collection over the three years, generally in June, November, and January with one pick-up during the summer months. Our third-party waste and recycling haulers are contracted to collect recycling bins at these peak periods, with other additional pick-ups completed as needed.

2.6 PERFORMANCE ASSESSMENT

Our waste management performance can be measured in several ways: overall tonnage of wastes collected, the composition of those wastes, and the percentage of waste that is being diverted from landfill. Each of these metrics provides us with insight as to how we are doing over time, and to which areas we can look to

improve. In addition, we can use these measurements to compare performance with other communities in our County and across the province.

2.6.1 *LANDFILLED WASTE VS DIVERTED WASTE*

Our waste can be broken down into two categories: diverted tonnage and landfilled tonnage. A key objective of our WMP is to increase diversion and reduce the amount of waste going to landfill. Table 8 shows our diverted and landfilled tonnage waste over the past 5 years.

Table 8 - Summary of Landfilled and Diverted Tonnage 2010 - 2014

Material Type	2010 (Tonnes)	2011 (Tonnes)	2012 (Tonnes)	2013 (Tonnes)	2014 (Tonnes)
Total Diverted Tonnage	1400	1767	1385	1077	1975
Total Landfilled Tonnage	2624	3061	2563	2042	2025
Total Tonnes	**4024**	**4828**	**3948**	**3119**	**4000**

In 2012 and 2013, we experienced a significant drop (approximately 500 tonnes per year) in landfilled waste. This was partially attributed to the new Waste Management By-Law adopted on September 1, 2012, which limited free landfilled waste to 52 bags per year for residential property owners (all additional waste is charged a tipping fee of $1.00 per bag). Our landfilled waste levelled off in 2014 at 2,025 tonnes.

At the same time, our diverted tonnage dropped in both 2012 and 2013, before jumping almost 900 tonnes or 83% in 2014. This dramatic increase was driven mainly by new diversion practices for C&D waste and for Leaf & Yard waste.

Figure 5 - Total Waste vs. Total Households 2010-2014

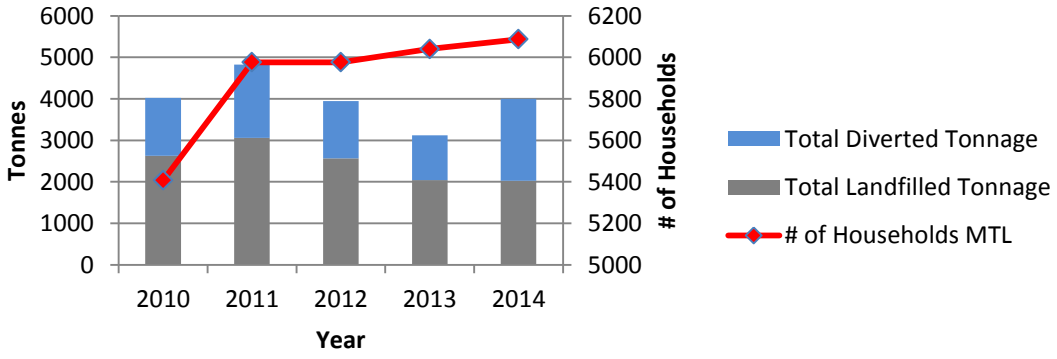


Figure 5 plots our total waste versus total households for the years 2010 to 2014. It is important to note that the number of households in our Municipality increased from 5,407 in 2010 to 6,087 in 2014, representing a 12.6 % increase over this time period[2]. Despite the increase in the number of households, the total landfilled

waste tonnage has decreased. Diversion has increased in this time period, again mainly due to the new diversion programs noted above.

2.6.1.1 COMPARISON TO COUNTY OF PETERBOROUGH

Figure 6 and Figure 7 illustrate average landfilled waste per household and Blue Box recycling per household for our Municipality and the County, respectively.

Figure 6 - Landfilled Waste per Household

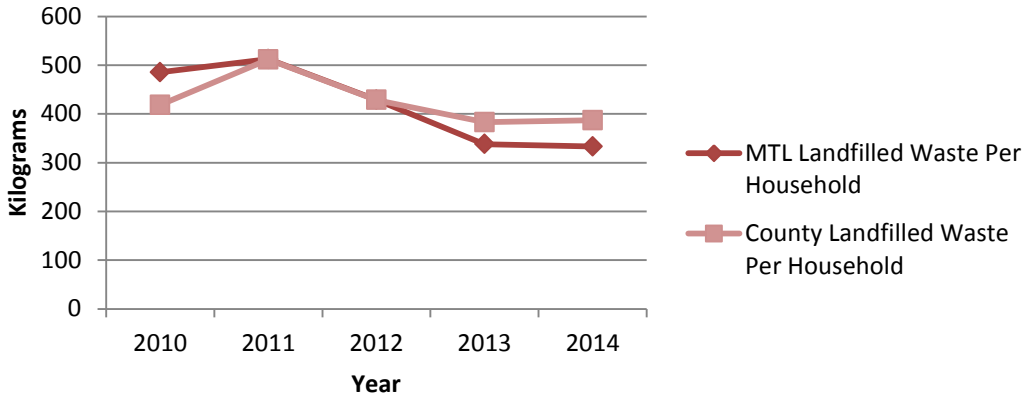
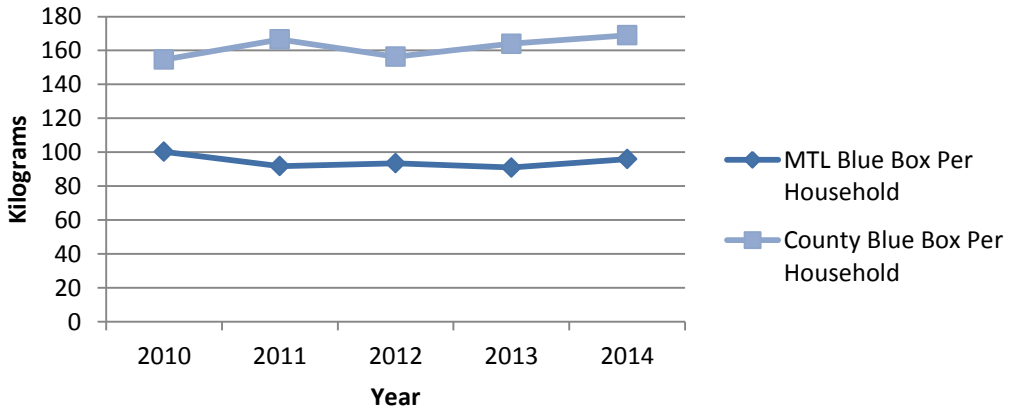


Figure 7 - Blue Box Recycling per Household



When comparing the two figures, it apparent that our community recycles much less material per person than the County average - just over half the amount. However, we also produce less landfilled waste per person than the County average. In comparison, we are doing well in reducing the amount of waste sent to landfill, but we appear to have a significant opportunity to improve on our diversion.

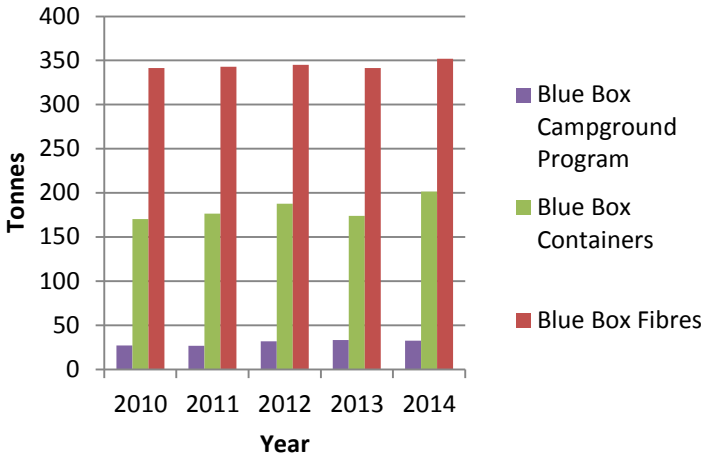
2.6.2 *DIVERTED WASTE TONNAGE BY PROGRAM*

The performance of our waste diversion programs is outlined in the following sections.

2.6.2.1 BLUE BOX PROGRAM

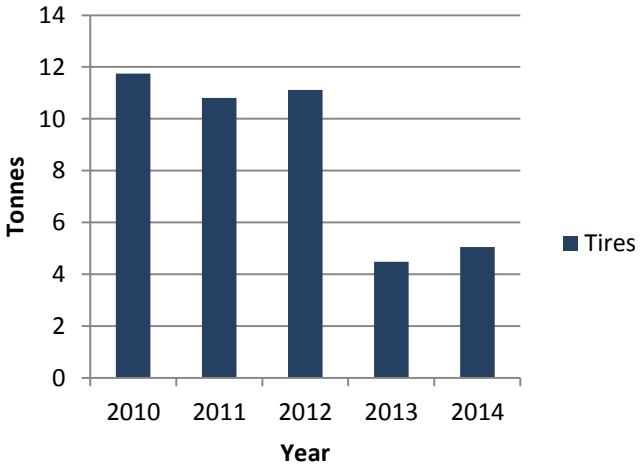
The amount of Blue Box material collected, particularly fibres, has been fairly consistent from 2010 to 2014. There has been a slight increase in recycling of containers.

The campground recyclable collection program is also consistent from year to year, collecting about 30 tonnes of recyclable waste annually. In 2014, the campground program cost our Municipality $4,900.



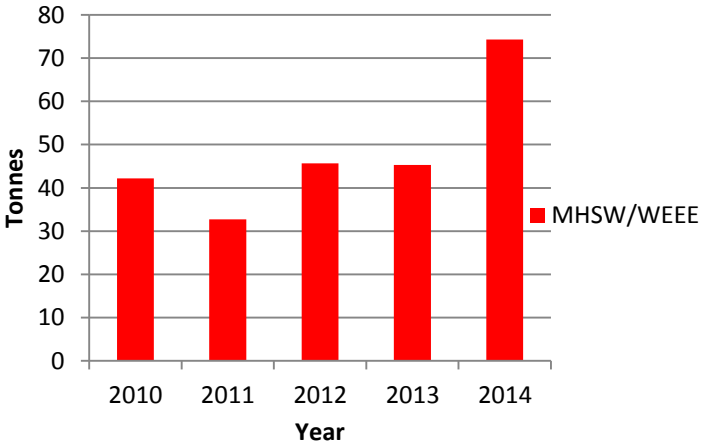
2.6.2.2 TIRES

There has been a decrease in the tonnage of tires collected over time. When new tires are introduced into the Ontario market, producers pay a fee per tire to Ontario Tire Stewardship (OTS), an organization which uses this money to fund tire collection programs, such as the one in our Municipality. OTS also uses some of this money to operate retailer take-back programs, where retailers can take back and divert old tires when a new purchase is made. Thus, tires are still being diverted, however, not through Municipal avenues. This likely explains the decrease in tires over time in our Municipality.



2.6.2.3 MHSW/WEEE

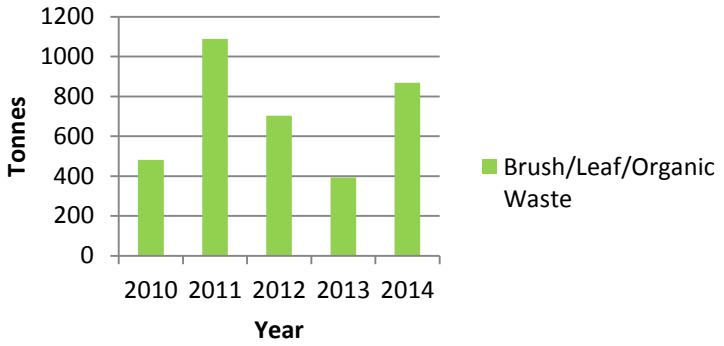
The increase in MHSW and WEEE tonnages is positive, and shows that more residents are taking advantage of the programs implemented at our transfer stations. The WEEE program has evolved,



moving from a part-time, seasonal offering in 2010 to a year-round full-time offering in 2013 at our Buckhorn and Bobcaygeon sites. In 2014, we collected 4.93kg of WEEE per capita. The Ontario average for WEEE collection, according to Ontario Electronic Stewardship (OES), is 5.25kg per capita. This means that our WEEE program is working effectively towards this goal, and represents an opportunity for improvement.

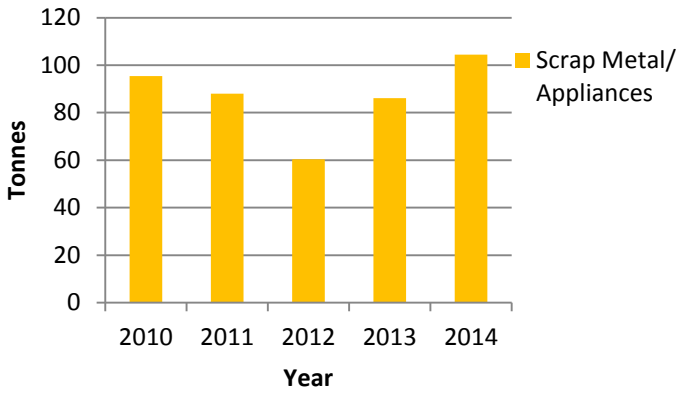
2.6.2.4 BRUSH/LEAF/ORGANIC WASTE

Brush, leaf, and organic waste are grouped together for County reporting purposes. After falling for three years, diversion of this waste stream doubled in 2014, as a result of the introduction of a new diversion method was introduced.



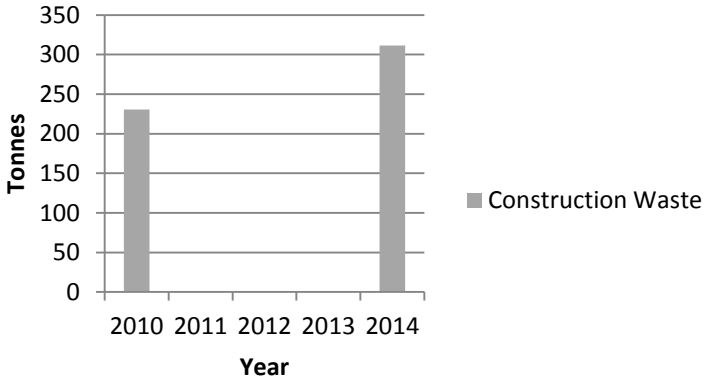
2.6.2.5 SCRAP METAL / APPLIANCES

After falling for three years, diversion of this waste stream rose in each of the past two years, to over 100 tonnes. An exact explanation for the rise is unknown at this point.



2.6.2.6 CONSTRUCTION & DEMOLITION WASTE

No C&D waste was able to be diverted between 2011 and 2013 due to contamination. This waste was therefore included with furniture waste and hauled to the PCCWMF to be landfilled. However, improved program operations allowed for C&D waste to be properly diverted in 2014. As with organics, C&D materials are relatively heavy as compared to other waste streams, which mean that increases in C&D waste tonnages can drive up diversion rates significantly.



2.6.3 *DIVERSION RATE*

The tonnages collected from all of the programs outlined above are used to calculate our diversion rate, which is the percentage of total waste that is being diverted from the landfill. The higher the diversion rate, the less waste being landfilled, which translates into more material in diversion revenue stream and often lower haulage costs. Generally, and in the case of our WMP, municipal diversion rates are calculated for residential waste only, due to the difficulty in accessing industrial, commercial, and institutional data which tend to use 3rd party waste haulers.

A simple diversion rate can be calculated by the following equation:

$$Diversion\ Rate = \frac{Tonnes\ of\ Waste\ Diverted\ from\ Landfill}{(Tonnes\ of\ Waste\ Diverted + Tonnes\ of\ Waste\ Sent\ to\ Landfill)} \times 100\%$$

Figure 8 - of Trent Lakes Waste Diversion Rate - 2010 - 2014

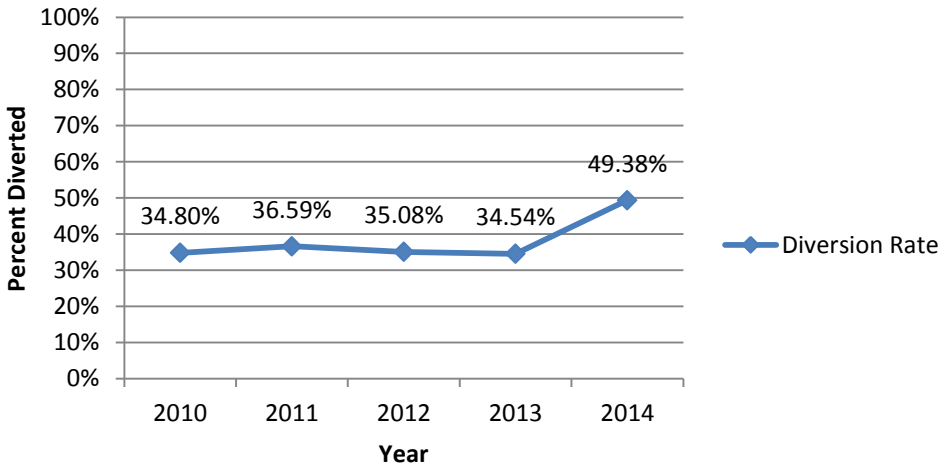


Figure 8 illustrates our diversion rate over the past five years. The jump in 2014 (almost 15%) is reflective of the re-inclusion of our C&D and Leaf & Yard tonnages in the diversion calculation.

We are currently diverting from landfill at a rate of 49%, which means that roughly half of our generated waste goes to landfill, and half is diverted. Comparatively, the County's total diversion rate is 53%. The highest diversion rate for all of the townships in the County is 59%, while the highest diversion rate in the province is 69% (City of Guelph)[3]. Interestingly, the City of Kawartha Lakes recently announced their long-term target of 70% diversion.

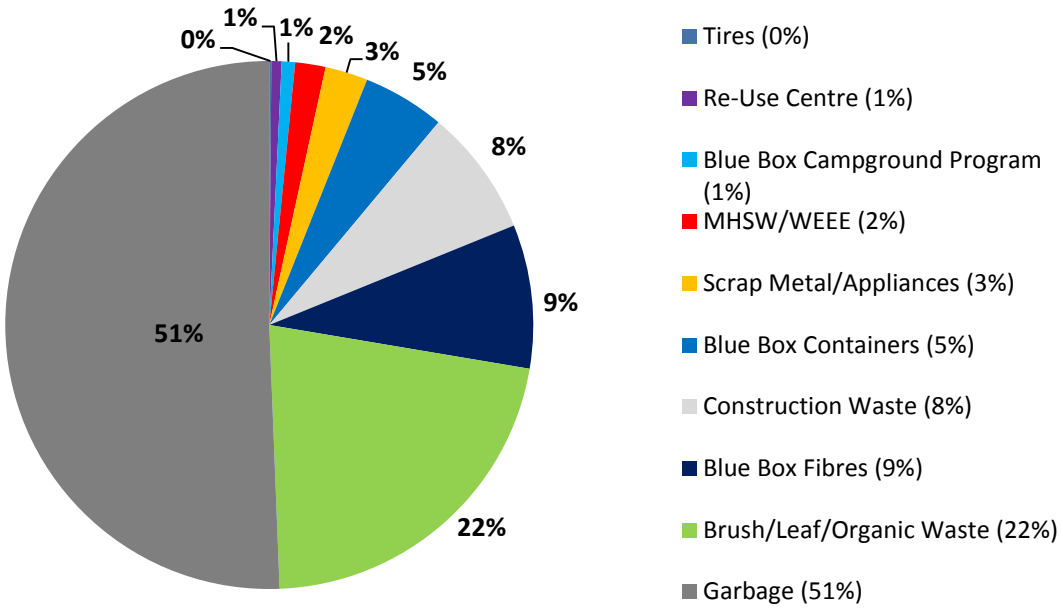
The County has set a target diversion rate of 60% by 2030, and our transfer station user survey indicated that 47% of respondents feel we should meet that target, while 32% feel that we should exceed it.

Action Opportunity – Consider setting our target diversion rate as 65% by 2025.

2.6.4 *WASTE STREAM COMPOSITION*

Waste composition, also known as waste stream characterization, can give us important information regarding the relative amount of waste being produced and what programs can be expanded to capture more wastes and divert them from landfill. Figure 9 illustrates the composition of our waste for 2014.

Figure 9 - Trent Lakes Waste Stream Composition - 2014



As shown in the figure, 51% of all household waste generated in our Municipality is being sent to landfill, while 49% (the coloured areas) of our waste is being diverted through the various diversion programs.

Forty percent of the average Canadian municipal waste stream is comprised of organic material, with 10% of this being leaf and yard waste and 30% being household organic waste[4]. Our Municipality is currently diverting about 22% of our entire waste stream as organics. This indicates an opportunity to divert a significant amount of organics away from the landfill, if a more widely accessible program can be established.

Although expanding existing diversion programs to capture these additional tonnages is needed, education and proper enforcement of user sorting is also required to support this endeavour.

2.6.4.1 WASTE AUDITS

The County conducts regular waste audits in their member Municipalities. Staff members take a sample of garbage bags and assess the contents to determine if what is being put into garbage bags should truly be sent to landfill given the diversion options available. The most recent audits for our community were performed at in 2011 at our Buckhorn site and in 2012 at our Cavendish site. The result of these audits, discussed below, offers valuable insight into the performance of our diversion programs.

Buckhorn Waste Audit (2011)

- Diversion Potential: 61.8% (proportion of materials in garbage that could have been diverted)
- Recycling Contamination Rate: 7.3% (proportion of garbage contaminating recycling stream)
- Garbage Contamination Rate: 9.7% (proportion of recycling in garbage)
- Percent of Organics in Garbage: 50.7%

91.4% of the organic material found in the garbage could have been diverted; 66.51% could have been placed in the SSO system and 8.57% in the Leaf & Yard waste pile. Backyard composting would also be an alternative option for 24.92% of these materials.

Cavendish Waste Audit (2012)

- Diversion Potential: 28.6% (proportion of materials in garbage that could have been diverted)
- Recycling Contamination Rate: 15.3% (proportion of garbage contaminating recycling)
- Garbage Contamination Rate: 14.3% (proportion of recycling in garbage)
- Percent of Organics in Garbage: 51.4%

100% of the organic material found in the garbage could have been diverted; 39% of the garbage consisted of organic material that could have been composted in a centralized program such as the one at Buckhorn transfer station, and 12% of the garbage consisted of organic material that could have been composted in a backyard composter or digester. It is important to note that Cavendish transfer station does not have a Molok™ centralized organics program.

While the results of these waste audits provide us with excellent insight into our performance for 2011 and 2012, more frequent audits of all transfer stations is necessary to give us a more accurate picture of our waste situation, and track our progress going forward.

Action Opportunity- It is suggested that we explore options to increase the frequency of our waste audits, potentially partnering with local post-secondary institutions.

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SECTION THREE

TRENDS, BEST PRACTICES, AND FUTURE LEGISLATION

3.0 TRENDS, BEST PRACTICES, & FUTURE LEGISLATION

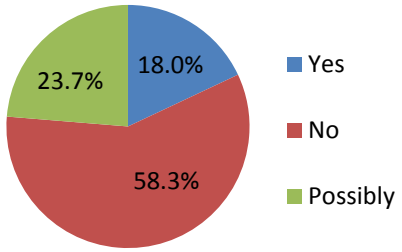
3.1 LOCAL POPULATION TRENDS

Our waste management services are directly impacted by our population. Generally, the more people living in our Municipality, the more waste generated, which could result in higher waste management costs. In 2006, our Municipality had a permanent population of 5,285; in 2011, the permanent population was 5,105. This represents a decrease of 3.41% in population over five years.

However, the number of households in our Municipality has increased from 5,407 in 2010 to 6,087 in 2014, indicating an increase of 12.8%.[5] This increase in households indicates that our population is increasing slightly, but this increase may be made up of seasonal and transient residents who are building cottages in the area.

As shown in Figure 10, 18% of our survey respondents indicated they are likely to become permanent residents in the next five years, while an additional 24% are considering becoming permanent. This shift from seasonal to permanent residency will result in a corresponding increase in the amount of waste generated.

Figure 10 - Results of Waste Survey Residency Question



"If you are a seasonal resident, are you planning on becoming a permanent resident of the Municipality within the next 5 years?"

3.2 WASTE INDUSTRY TRENDS

3.2.1 *OVERALL*

To ensure that our WMP is in keeping with leading edge trends and developments in the waste industry, we conducted research and analysis to identify some of the key trends that are likely to have an impact on our future diversion efforts. These include:

- Increasing extended producer responsibility (industry product stewardship)
- The 'evolving tonne'
- Declining e-waste tonnages

Each of these trends is discussed in greater detail below.

Increasing Extended Producer Responsibility

With Extended Producer Responsibility (EPR), the financial and/or physical responsibility for managing products/materials at end-of-life lies with the manufacturers, which provides a direct incentive to design products and packaging in a

way that minimizes waste. Despite the many challenges and issues associated with EPR, a growing number of jurisdictions have enacted, or are considering, EPR legislation for a variety of products. This trend is projected to continue as governments face increasing waste generation rates, increased difficulties in siting disposal facilities, and growing waste management costs.

Such programs have existed in Ontario for several years for materials like beer and wine bottles, tires, electronics, and municipal hazardous or special waste (MHSW). Other materials diverted from Ontario landfills through product stewardship programs include fluorescent lights, batteries, and pharmaceuticals – and the list is growing. The question is not whether EPR will be adopted, but what products/materials it will expand to cover, and when it will happen. Possible candidates for EPR legislation in the future include textile related products like carpeting, clothing, mattresses, and furniture.

Depending on the materials targeted and how programs are implemented, the main impact of expanding EPR to more product groups will be increased opportunities for our community – on our own, or via the County – to dispose of certain materials at no, or significantly reduced cost. This trend could have a positive impact on diversion, helping us achieve the County's waste diversion goal of 60% all the while maintaining or reducing costs.

The 'Evolving Tonne'

Over the last decade, many municipalities across Canada and the United States have experienced declining tonnages of collected recyclables (i.e. paper & fibres, aluminum, glass, plastic). While various factors are likely at play, part of the dip in recycling can be attributed to the changing waste stream. A recent study by CM Consulting found that in many cases, declines in recycling tonnages are not related to a drop in program participation or material capture, but rather to a host of societal factors and trends in packaging design.

As an example, paper—especially newsprint—has traditionally represented a significant share of the material collected in residential recycling programs. However, as we shift to a digital world (for news, advertising, shopping, etc.), the amount of newsprint and paper available for recycling has declined. Data from the WDO 2013 Municipal Datacall[6] helps to illustrate this trend. As shown in Table 9, the total weight of paper and fibres sent to market for recycling declined from 729,040 tonnes in 2008 to 675,135 tonnes in 2013.

Table 9 - Summary of Residential Blue Box Tonnes Marketed in Ontario

Material	2008	2009	2010	2011	2012	2013	2012-2013 % Change
Total Paper & Fibres	729,040	669,590	696,214	703,725	686,377	675,135	-1.6%
Polycoat	3,957	5,254	5,257	4,956	5,657	6,176	9.2%
Aluminum	10, 693	10,840	10,843	10,314	11,208	10,606	-5.4%
Steel	34,138	33,384	31,237	30,800	30,825	31,197	1.2%
Glass	94,983	92,609	85,071	88,335	87,224	93,430	7.1%
Plastic	56,717	58,537	58,621	66,720	71,634	83,591	16.7%
Totals	929,528	870,214	887,242	904,850	892,924	900,135	0.8%

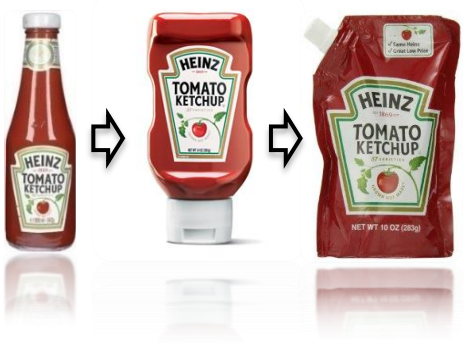
**Includes data for 226 municipal residential Blue Box recycling programs in Ontario*

In addition to less paper being generated, there are a number of packaging trends impacting the waste and recycling stream. One of the most obvious is light-weighting. Manufacturers are using different packaging materials or using less of them to package the same product, in an effort to reduce manufacturing and shipping costs as well as to meet sustainability goals. As an example, some PET water bottles on store shelves today are as much as 50% lighter than bottles that were sold a few years ago (see Figure 11).

Figure 11 - Example of Lightweighting

Another key trend being observed in the waste and recycling industry is packaging material substitution (see Figure 12). Increasingly, traditional packaging materials like glass, metal, and heavier plastics are being replaced by multi-layered packaging and new types of flexible packaging (e.g. stand-up pouches). Many of these new packaging designs cannot be effectively sorted or recycled in current municipal recycling programs.

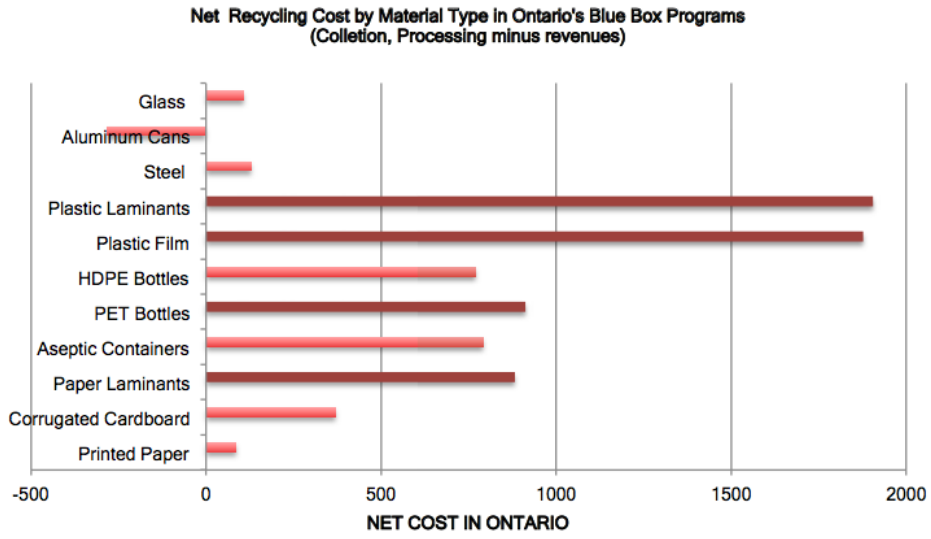
Figure 12 - Example of Material Substitution



It is likely that, over the longer term, these trends will have a significant impact on the economics of residential recycling programs. As the tonne of recyclable material evolves over time, so too do the costs of managing each tonne of recyclable materials, in terms of collection and processing. Each tonne of recyclable material has greater amounts of plastic (low value) and smaller amounts of printed paper (which is easier and cheaper to collect and process, and generally can produce a reliable revenue stream).

As illustrated in Figure 13, the materials which are likely to make up a greater percentage of future municipal recycling programs are all the most expensive on a per tonne basis – plastic laminates (like flexible pouches) and plastic film, for example, carry net costs of close to $2,000 per tonne. These new tonnes, which are effectively replacing glass ($108/tonne) or steel ($129/tonne) will have a very significant impact on costs.

Figure 13 - Net Recycling Cost by Material Type - Ontario Blue Box Programs (2013)

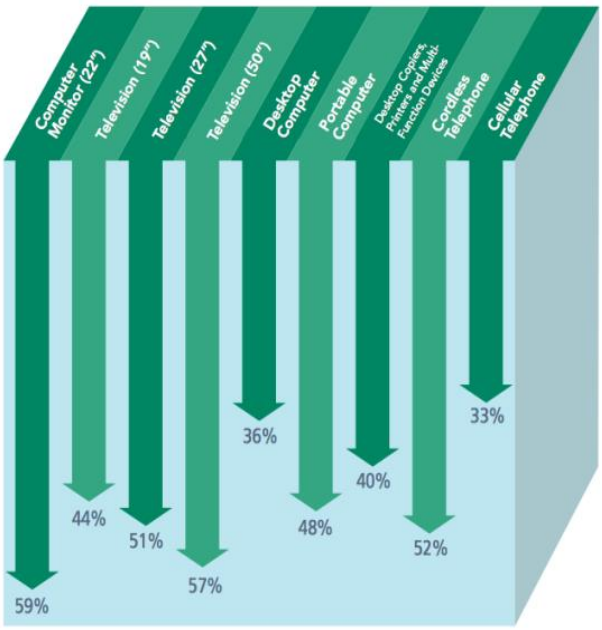


Declining WEEE Tonnages

Due to advances in technology and a growing desire among consumers for more multi-functional electronic devices, electronic products are becoming lighter, smaller, and more versatile. The result is an overall reduction in the weight of consumer electronics. Figure 14, which is taken from a 2014 Electronics Product Stewardship Canada report, shows how the weight of electronic devices has declined by as much as 59% in the last 6 years.

In addition to products decreasing in size and weight, there is a trend towards designing devices with multiple applications. One product can now perform the tasks of what once took many individual devices. The iPhone, for example, has replaced the basic phone, the camera, music player, TV remote, GPS, video camera, pager and many more electronic items.

Figure 14 - WEEE Tonnages 2009 - 2014



The result of these trends will be an overall reduction in the weight of electronics entering the waste stream on an annual basis, even though the number of units captured is increasing. While this may cause issues for those municipalities with weight-based collection targets, because our diversion target is percentage-based, the impact of this trend on our will be minor. The impact is also minimal since the costs of WEEE end-of-life management are paid for by stewards (through eco-fees passed on to consumers). Nevertheless, the issue of declining WEEE collected should be carefully considered and can inform our future planning decisions.

3.3 BEST PRACTICES

In order to identify best practices that were appropriate to our needs and specific characteristics, we focused our research on programs operating in similar rural-based municipalities with a significant percentage of seasonal residents. A summary of our findings is provided below.

3.3.1 *PUBLIC EDUCATION AND PROMOTION*

For rural municipalities with depot systems, best practices literature identifies the need for integrated, municipally supported promotional efforts, and greater public education resources.[7] Our current Promotion and Education (P&E) program is comprised of a variety of tools, including our website, newsletters sent to residents with tax bills, flyers and brochures, and Environment Days. To increase the effectiveness of our P&E activities, other best practice opportunities to consider include:

- A community-based social marketing campaign (e.g. a staff member or student goes door to door distributing program brochures and answering questions about diversion)[8];
- Updated print materials (e.g., a 'reminder' fridge magnet, calendar, newspaper inserts, paid ads, waste education kits (see textbox for case study);
- Broadcast (radio ads, public service announcements);
- Rewards and recognition programs;
- Static and/or staffed recycling kiosk(s) in public areas (e.g., Beer Store locations, community events)[9]

Further ideas are described the Blue Box Program P&E Review Final Report[10] and Identifying Best Practices in Municipal Blue Box Promotion and Education.[11]

An enhanced P&E strategy will result in a number of benefits for our Municipality, including: increased awareness of and participation in our diversion programs; proper source separation, which results in higher recovery rates; reduced contamination and potentially higher revenue for market material; and higher overall waste diversion.

Action Opportunity – An enhanced Promotion and Education strategy should be considered as part of our WMP, and should include working closely with the County.

Case Study: Dysart

"Cottage Kit"

In order to get waste management information across to residents, the Municipality of Dysart et al. has created "The Cottage Kit." These kits come with a one-time use landfill pass, one clear bag for garbage, one blue bag for recycling, and one paper bag for recycling fibre material. The kit also contains a map showing the location of each landfill site, hours of operation, and a list of disposal fees indicating what materials are accepted where. These kits are available for purchase for $3.00 each (or 10 kits for $25.00) and have been a huge success when it comes to communicating, especially when it comes to seasonal residents. They are very popular among residents who rent out their cottages and who use them to ensure that their renters are aware of the Municipality's waste requirements.

3.3.2 *ENHANCEMENT OF TRANSFER STATIONS/DROP-OFF DEPOT*

We will likely continue to operate our transfer stations. For this reason, it is beneficial to consider best practices applicable to the operation of these depots, in order to maximize the effectiveness and efficiencies of existing resources. A review of rural recycling depot best practices applicable to our Municipality is provided here for consideration[1213].

Depot Accessibility – Ensure that depot locations are as accessible as possible to our residents; the locations should be based on public input. The containers themselves should be clean and easy to load.

Site Conditions – Well-maintained, organized, clean, and uncluttered sites help to boost participation. Other elements that make depots more attractive to the public and that help to increase participation include adequate parking, signage, and traffic flow. Depot locations should be designed with sufficient turning radius for self-haul and collection vehicles, and with an area separate from congestion of vehicular traffic. "No idling" and "no smoking" policies can also help to encourage participation.

Incorporating friendly, easy-to-read signage - Making use of universally recognized graphics and symbols, combined with minimal text for easy reading. Large, visible signs with clear lettering and bright colours should be located near depot entrances indicating acceptable/unacceptable materials. Individual bins should be clearly labelled to increase ease of use and to reduce improper sorting.

Action Opportunity - Enhanced and less cluttered signage at our transfer stations represents an opportunity to improve education and diversion.

Depot Attendants – With the proper training and dedicated time to interact with residents, attendants contribute to the program's success by increasing participation and encouraging proper material separation (by improving residents'

understanding of how to use the program), which results in higher material recovery rates.

Seasonal Fluctuation – Provide additional part-time staff during periods of seasonal population fluctuations to encourage proper material separation.

3.3.3 *CLEAR BAG POLICY FOR GARBAGE*

A clear bag program requires residents to place all residual waste in transparent garbage bags. Clear bag policies increase waste diversion and the capture of recyclable materials in three ways: 1) there is social pressure to ensure that no recyclables, organics, or hazardous waste are in the garbage, as the contents are visible to transfer station staff; 2) clear bags prompt residents to reflect on their waste disposal habits and to consider waste diversion options; and 3) clear bags facilitate easier screening of waste (depot attendants can accept/reject a bag of garbage at a glance without having to open and audit bags individually).[14]

A common concern with clear bag programs has to do with the fact that others can see what is in your garbage. To address residents' privacy concerns, some programs allow the use of a small non-transparent (opaque) bag, such as a grocery bag, inside the clear bag, in which residents can dispose of materials they wish to keep private.[15]

If our clear bag policy is to be re-introduced, the public should be given enough notice to give them the opportunity to use up their old coloured bags. It is recommended that a minimum of 6 months' notice be given to the public and retailers to help them with the transition.[16]

In terms of impact, the of Centre Hastings and Madoc Township launched a clear bag pilot project in 2008 and found that participation in the recycling program doubled in the first month of enforcement. Overall, collected recycling tonnage increased by 9% over the first 6 months of the pilot program.[17]

Other communities across Ontario that have implemented clear bag programs for garbage include (but are not limited to) [18]: of Algonquin Highlands (2008), the Municipality of Bluewater – Bayfield Ward only (2009), of Dysart et al (2007), and the Township of Minden Hills (2008).

Action Opportunity - Reintroducing our clear bag policy represents an opportunity support enhanced screening by our staff.

3.3.4 *USER PAY SYSTEM FOR GARBAGE - BAG TAGS AND BAG LIMITS*

An increasing number of municipalities are beginning to rely on economic incentives to maximize waste diversion. One example is "pay-as-you-throw" (PAYT) programs, which require residents to pay a volume-based rate for the amount of garbage they produce. Under this system, the more waste residents produce, the more they pay. This provides a direct economic incentive to reduce, reuse and recycle.

Research shows that a full user-pay system, or partial user-pay system, with very limited "free" bags provides the greatest incentive to increase diversion. In an analysis conducted by the Association of Municipal Recycling Coordinators[19], it was found that recycling tonnage increases ranged from 22% to 86% and that decreases in waste tonnage ranged from 6% to 61% after the

implementation of PAYT programs in six Ontario municipalities that allowed only one or no free bags per week. In our Municipality, residents are allowed to dispose of 52 garbage bags per year for free. Any garbage over that limit is charged at a rate of $1.00 bag. This puts us at the low end of the provincial average, which is about $2.00 bag.[20]

Examples of rural municipalities that have implemented a PAYT system include: Township of North Frontenac, Township of South Frontenac, Township of Rideau Lakes, Township of Minden Hills, Township of Asphodel-Norwood, and the Municipality of Grey Highlands.

Action Opportunity - Moving to a full PAYT system, in conjunction with greater diversion options should be considered.

3.3.5 *MANDATORY RECYCLING / LANDFILL DISPOSAL BANS*

When sufficient infrastructure and supporting policies are in place, mandatory recycling by-laws are considered to be a best practice to drive increased diversion. Most commonly, the implementation of this strategy is done through the application of a municipal by-law that either: bans recyclable and other materials from landfill disposal; prohibits recyclable materials from being placed in the garbage; or both.[21] In our case, Schedule B of the proposed new County Waste Management By-Law lists recyclable materials, including recyclable containers and recyclable fibres, as “prohibited waste,” effectively banning these materials from disposal facilities. Other materials banned from disposal at waste transfer stations and disposal facilities include mattresses, tires, waste electronics and electrical equipment (WEEE), and household hazardous waste.

The enactment of a mandatory recycling by-law implies a level of enforcement by the municipality. Enforcement can be accomplished in a number of ways. A moderate approach would see the policy used as a P&E tool, to be enforced on a case-by-case basis (e.g., a resident that brings several bags of garbage to the transfer station each week with no attempt at diversion). A more aggressive approach would involve depot attendants inspecting garbage bags they suspect of containing recyclables and rejecting bags that do. Even without enforcement, mandatory recycling by-laws have shown to have an impact on recycling rates. Depending on whether the policy is used in conjunction with clear bags, the estimated diversion increase is between 2%[22] and 10%.[23]

3.3.6 *ESTABLISHMENT AND PROMOTION OF RETAIL TAKE-BACK INITIATIVES*

One of the ultimate goals of extended producer responsibility (EPR) legislation is to make producers and importers physically and/or financially responsible for taking back their products at end-of-life. Examples of products currently targeted by EPR programs include tires, WEEE, and MHSW.

Although municipalities may not have the appropriate legal grounds to pass by-laws requiring EPR programs, they can work with local retailers to make them aware of opportunities to take-back goods. Depending on which materials are targeted by these programs, they are estimated to increase diversion by 1% to 3%.[24]

Case Study: City of Ottawa's "Take It Back!" Program

The City of Ottawa's award-winning Take it Back! Program encourages local retailers to "take back" certain goods that they sell, and to ensure that they are reused, recycled, or properly disposed (at their own cost).[1] Through the program, residents can search and access a directory of approximately 600 retailers and charitable organizations registered with the City as either a reuse or recycle depot for a specific household waste good(s). In return for registering with the City to accept materials for reuse/recycling, retailers receive increased awareness of their business through City-wide advertising of the program and participating partners. Examples of materials that can be returned through the Take it Back! program include: paint, anti-freeze, cell phones, motor oil, tires, clothing, small appliances, flower pots, needles and syringes, eyeglasses, clothes hangers, and rechargeable batteries.

3.3.7 *ENHANCED PROMOTION OF BACKYARD COMPOSTING*

Backyard composting is one of the most cost-effective means of reducing the amount of waste requiring collection and end-of-life management. In addition to providing free (or subsidized) composters to residents, it is considered best practice to develop a reward program or some other means of promotion/education to encourage residents to participate. This could include aspects such as master composter programs, signs on lawns supporting the use of backyard composters, and workshops to educate residents on the benefits and proper use of backyard composters.

The level of program promotion has a significant impact on resident participation. It has been found that in programs that are moderately promoted, about 25% of households will use a backyard composter. In comparison, about 50% of households will use a backyard composter in an intensely promoted program.[25]

3.3.8 *MOBILE HAZARDOUS WASTE UNIT*

Providing hazardous waste (MHSW) collection services is an important aspect of any municipal waste management program. For some municipalities, like those in rural areas, mobile MHSW units are a viable alternative to permanent collection facilities. Mobile collection units typically operate on a fixed, predictable schedule, and are moved to various locations where they collect MHSW for a number of days before they are moved to another location. In addition to being more cost-effective and cost-efficient than one-day collection sites,[26] they allow residents who may not otherwise travel the distance to a permanent facility to recycle, which can increase program participation. Because these programs can still be expensive, it is recommended that municipalities with limited resources form partnerships with other municipalities, private service providers, or environmental groups to help run and advertise the program.[27]

Case Study: King County Wastemobile (U.S.)

Created in 1989, the Wastemobile travels to municipalities in King County and sets up in parking lots for three days at a time to collect household hazardous waste (HHW).[1] Residents can dispose of HHW items such as pesticides, oil-based paints, oil, anti-freeze, automotive batteries, fluorescent bulbs, and other items. In addition to taking back HHW, the Wastemobile provides free reusable products to the public, such as stain and primer and cleaning products. The Wastemobile is funded through a surcharge on solid waste disposal and wastewater discharge and there is no direct fee to residents.

3.4 FUTURE LEGISLATION

Legislative changes have the potential to significantly affect our ability to meet diversion goals as well as the feasibility of implementing various waste reduction measures. Two major legislative changes that will impact on how we plan and deliver our waste services in the future are detailed below.

3.4.1 *PROPOSED COUNTY WASTE MANAGEMENT BY-LAW*

The County of Peterborough has proposed a new County-wide waste management by-law, which would effectively standardize waste management services for all residents. This bylaw is intended to consolidate and update the various existing waste and recycling bylaws in the County, which are summarized in Appendix A. The goal of the new by-law is to improve waste reduction and to cooperatively implement municipal solid waste practices within all of the County's member townships/municipalities. Priorities include; encouraging reuse by supporting townships in provision of reuse depots, provision of a more streamlined and uniform system for recovery of recyclable material among the townships, and continuing to operate and promote MHSW, WEEE, and organics collection programs within all townships.

A draft of the by-law was presented to the County Waste Management Committee (WMC) in June 2015, and will be presented to County Council for approval in October 2015 (Note: A copy of the proposed by-law can be found in Appendix D).

The major changes in the proposed by-law include:

- Move to a waste levy calculation based on actual landfill tonnage (set for Jan. 1, 2018)
- County-wide two bag per week limit
- Requirement for recycling bins at all public facilities
- Enhanced screening at transfer stations

Combined, these changes will work to incentivise greater waste diversion by County municipalities. For our community, the waste levy calculation change and the enhanced screening will have the most significant impact. Preliminary calculations by the County estimate that our Municipality would incur additional landfill fees due to the fact that we are generating more than expected per household.[28] These fees would potentially kick in in 2018, which allows us time to reduce our landfill waste. Enhanced screening in itself would improve diversion at transfer station, by capturing more recyclable material before it is incorrectly disposed of as garbage.

3.4.2 *PROPOSED WASTE REDUCTION AND RESOURCE RECOVERY POLICY FRAMEWORK*

The other pending legislative change that will impact our waste management services is the new provincial waste reduction and resource recovery policy framework. Expected for release in late 2015, the Waste Reduction and Resource Recovery Act would replace the existing *Waste Diversion Act (2002)* and would entail significant changes for Ontario's existing waste management and recycling systems. If approved, the proposed policy framework would include the following key components:[29]

- Establish provincial interests on waste reduction and resource recovery matters and allow government to issue policy statements to provide further direction
- Establish a producer responsibility regime by making producers accountable for the proper end-of-life management of their products and packaging
- Waste Reduction and Resource Recovery Strategy to outline the path forward to support the circular economy:
    - Priority on 3Rs – focusing on reducing and reusing
    - Road map for implementation of the new legislation
    - Tools for increased diversion in C&D waste
    - Path forward for increased diversion of organic waste
    - Opportunities to increase diversion of MHSW

Of all the changes from the new legislation, the one with the most direct impact on our waste management services will be the establishment of an enhanced producer responsibility regime. Effectively, this new Act will create a new system based on Individual Producer Responsibility (IPR)—as opposed to collective producer responsibility—ensuring that producers are responsible for 100% of the costs of designated wastes. While the Act would allow producers the flexibility and autonomy to determine the best way to meet outcomes, responsibility for meeting those outcomes will remain with individual producers (i.e. no transfer of liability to others). Producers will be obliged to implement their own take-back systems outside of the existing municipal services infrastructure (like return to retail), or work with

organizations like municipalities as their service provider.

If adopted, this legislation will result in more opportunities for us—on our own, or via the County—to dispose of certain waste materials (e.g., Blue Box, WEEE, MHSW, etc.) at no—or significantly reduced—cost. Under this new Act, the list of products targeted by EPR programs could expand to items like furniture, beds, carpeting, etc.

This, along with the proposed County Waste Management By-Law, would help us to achieve the County's waste diversion goal of 60% all the while maintaining or reducing our costs.

WE'RE ALL IN THIS

TOGETHER

SECTION FOUR

STRATEGIC DIRECTION - A DIFFERENT POINT OF VIEW

4.0 STRATEGIC DIRECTION - A DIFFERENT POINT OF VIEW

Our current waste management system provides us with a fantastic opportunity that is often overlooked. Because we operate with transfer stations only, we interact with nearly all of our residents on a weekly or seasonal basis. This provides us with the chance not only to educate our residents on waste related matters, but to provide them with an outstanding service experience. Imagine our residents telling friends about the fantastic experience they had "going to the dump", the way in which many still refer to the task.

Rather than view our transfer station team as staff, we should view them as Trent Lakes Ambassadors, there to provide the best service possible to our customers (our residents), while keeping our waste management objectives in mind.

Beyond that, we seek a new culture around waste:

WE'RE ALL IN THIS TOGETHER!

We seek to create a waste culture in our in which we realize that "we're all in this together" – meaning this is a collective effort between our transfer station staff, our administration staff, our elected officials, the County, and our community members to achieve our waste related goals. All will benefit in the end.

4.1 THE PLAN

Given our thorough review of our current waste management system, stakeholder feedback, industry trends, and anticipated legislative changes, the following key factors have influenced our waste management strategy:

- Community desire to increase diversion rate to 60% or higher
- Anticipated increasing cost for landfilled waste as a result of the pending new County waste bylaw
- Moderate population growth driven by conversion of seasonal to permanent residents
- Increased funding for diversion programs as a result of pending provincial legislation changes
- Increasing annual net cost of our waste management program
- Trend towards user fee for each bag of waste sent to landfill (Pay-As-You-Throw)
- Challenges associated with administration of waste pass program

Given the above, our strategy will see us evolve to a full Pay-As-You-Throw (PAYT) system whereby the current 52 free bag limit will be removed, and all users of our transfer stations will pay for each bag landfilled. This will be implemented in the medium term (Years 4 – 6).

As a lead up to this change, and in the short-term (Years 1 - 3) we will increase the waste diversion opportunities available to our residents, in order to provide them more options to reduce the number of bags landfilled, and therefore incur less fees once our PAYT system is implemented. In addition, we will enhance our promotion and education (P&E) program and transfer station screening program to ensure that residents are fully aware of the diversion options available to them, which again can allow them to reduce the number of bags being landfilled.

Our strategy will also see us, in the medium term, assess the impact of the pending changes to the provincial waste legislation and the County by-law, which may result in significant changes to the current waste management system and stewardship programs, and to waste management approaches altogether.

In the long term (Years 7 – 10), we will undertake a feasibility study on the construction of a new, centralized, full-service waste transfer station.

All along the way, we will improve and increase our communication related to waste management, providing regular updates to our residents on upcoming changes as well as our annual performance And we will adapt our Annual Waste Management Action Plan (see Section 5.0) to meet changing conditions.

Figure 15 below outlines our strategy, showing keys step over time.

Figure 15 - Waste Management Plan Strategy

WE'RE ALL IN THIS
TOGETHER

SECTION FIVE

IMPLEMENTATION STRATEGY

5.0 IMPLEMENTATION STRATEGY

Ensuring that our WMP is implementable is a crucial part of its development. The waste management industry is continually evolving, driven by market conditions, legislation, the evolution of packaging and technology, and changing consumer preferences. Our WMP must be adaptive to allow flexibility and deviation as necessary. The successful implementation of our WMP will include the use of our *Options Inventory* and our *Annual Action Plan*.

5.1 THE OPTIONS INVENTORY

Our *Options Inventory*, found in Section 6.0, contains a listing of potential options that could be pursued to achieve our WMP's Goals. Our initial *Options Inventory* has been created as part of this WMP. The outcome of our review of the options takes place is discussed in Section 7.0. The *Options Inventory* is a "living" document, meant to be amended as needed over time as new ideas, feedback, and opportunities come forward from community members and other stakeholders.

5.2 THE ANNUAL ACTION PLAN

Each year a number of actions to pursue will be chosen from the *Options Inventory*. The actions are developed such that they can be completed in a one-year time frame. More complex actions that take longer than one year to implement will be broken down into smaller components in order to avoid the "implementation paralysis" sometimes associated with actions that are too large and intimidating. At the end of each year the implemented actions will be reported upon, and new set of actions will be chosen for the following year. Thus, the *Action Plan* is to be reviewed and updated on an annual basis. Our Year 1 Action Plan has been created as part of the WMP, and can be found in Section 8.0.

5.3 THE IMPLEMENTATION PROCESS

The successful implementation of our WMP will require a continual focus using the following steps:

1. **Establish a Waste Committee** – potential members to include: a Councillor, a transfer station staff member, a public works management representative, the CAO, a County representative, and a community member of the community at large.
2. **Develop an Options Inventory** - look for overlap opportunities with other community initiatives (i.e. community improvement plan).
3. **Create the Annual Waste Management Action Plan** – all actions need to be completed in 12 months' time.
4. **Track Progress Quarterly –** colour code actions as 'completed', 'in-progress', and 'not yet started'.
5. **Create Year End Report** – include information on actions completed, in progress, and not yet started as well as the net benefits of each.
6. **Report to Council** – present Year End Report to Council highlighting progress toward goals
7. **Create the Next Annual Waste Management Action Plan** – Once this is complete**,** return to step 4.

WE'RE ALL IN THIS

TOGETHER

SECTION SIX

REVIEW OF OPTIONS

6.0 REVIEW OF OPTIONS

As noted previously, the objectives of our WMP are as follows:

1. Increase waste diversion and reduce residual waste
2. Improve the efficiency of our waste management program
3. Enhance waste education for our residents

Each of these objectives required us to look at a number of options, which were developed through feedback provided by our residents, our staff and administration, and our consultants. Collectively, these form our *Options Inventory*. In order to assess their feasibility and priority, the options were then reviewed from a sustainability perspective (that being financial, environmental, and social), as well as their ease of implementation, and their potential impact on diversion, where applicable.

6.1 DIVERSION POTENTIAL

The table below shows potential additional diversion possible for each waste stream, assuming a 75% capture rate of divertible materials (contamination issues arise in even the most cutting-edge systems). We can see that increasing diversion is possible, particularly in the areas of organic materials, MHSW, and WEEE.

Table 10 - Summary of Diversion Potential by Waste Stream

Waste Material	Current Diversion % of Current Total Waste Stream[30]	Potential Additional Diversion Assuming 75% Capture Rate	Future Diversion Current Diversion + Potential Diversion
Blue Box Fibres	8.8%	4.1%	12.9%
Blue Box Containers	5.0%	4.9%	9.9%
Blue Box Campground Program	0.8%	-	0.8%
Tires	0.1%	-	0.1%
Scrap Metal/Appliances	2.6%	-	2.6%
Construction Waste	7.8%	-	7.8%
Brush/Leaf/Organic Waste	21.7%	13.6%	35.3%
Depot Organic Waste	-	*23.1%*	*23.1%*
Backyard Organic Waste	-	*11.6%*	*11.6%*

Leaf/Yard	-	*6.1%*	*6.1%*
MHSW/WEEE	1.9%	6.0%	7.9%
Re-Use Centre	0.6%	-	0.6%
Diversion Rate	**49.4%**	**28.6%**	**78.0%**

We are currently diverting about 22% of our entire waste stream as organic material (kitchen waste plus leaf & yard). However, there is potential for us to divert an additional 14% of waste away from landfill in the form of organic material. Table 10 illustrates the diversion potential of each of the individual components of organic waste: depot SSO, backyard composting, and transfer station Brush, Leaf and Yard waste. Enhancing each program could yield a sizeable impact.

There is also significant potential to increase diversion in our MHSW and WEEE programs by making them more widely available and convenient. It is expected that in doing so, we could achieve up to a 6% increase in our overall diversion rate.

If we are able to implement and maintain programs to capture 75% of all recyclables, organics, MHSW, and WEEE, we could conceivably achieve a diversion rate of 78% in the future. However, as we are limited by cost and staffing, we know we can make at least small gains towards this goal by focusing on the major areas of potential.

6.2 WASTE MANAGEMENT OPTIONS – INCREASE WASTE DIVERSION

6.2.1 *INCREASE SOURCE SEPARATED ORGANICS PROGRAM*

Source separated organics (SSO), or kitchen organic waste, was the top requested diversion program by residents surveyed. Given the relatively heavier weight of SSO waste, as compared to other diversion streams, an enhanced SSO program could significantly increase our waste diversion and reduce residual waste. Other benefits include the avoidance of greenhouse gas (methane) emissions, generated when SSO waste goes to landfill and the opportunity for nutrients to be returned to the soil via application on gardens or farmland.

Waste audits from across the County (both depot and curbside programs) found that, on average, 41% of garbage being sent to landfill is organic material. In our Municipality, the figure is a little more difficult to attain, however, waste audits of the Buckhorn transfer station (2011) and the Cavendish Transfer station (2012) found that the garbage being sent to landfill was comprised of approximately 51% household organic waste. It was determined that the majority of this organic

waste could have been diverted through existing diversion programs, including the SSO program at our Buckhorn site, the Leaf & Yard waste diversion program, and the backyard composting program. Several options for enhancing SSO diversion are explored below.

The environmental Certificates of Approval already allow for SSO to be added to all of our transfer stations.

6.2.1.1 SSO OPTION 1 - WORK WITH COUNTY TO EXPAND DEPOT PROGRAM

SSO is currently diverted through a depot system at the Buckhorn Transfer station only, with the organic waste being taken to the Harper Road compost facility in Peterborough. A new compost facility, slated to open at the PCCWMF, will replace the current Harper Road compost facility which is scheduled for closure in 2016. The new site will accept mainly Leaf and Yard waste, but a small allotment of its capacity has been set aside for SSO. All current SSO programs in the County, including the Buckhorn Transfer station, are expected to remain in place. Assuming that additional processing capacity is available in future years, the County plans to open SSO programs in each of our remaining three transfer stations, with timing as follows: Bobcaygeon (2017), Cavendish (2018), and Crystal Lake (2019).

Adding the SSO Depot program to those sites would increase our diversion by an estimated 5% - 6%. Implementation costs would be absorbed through the County's Waste Management Reserve Fund, and operating costs would be included in the County levy. This option would take place in the short and medium term.

6.2.1.2 SSO OPTION 2 – INVESTIGATE ADDING OUR OWN PROGRAM AT CRYSTAL LAKE AND CAVENDISH

As an alternative to waiting until 2018 and 2019 to add SSO to Cavendish and Crystal Lake sites, respectively, this option entails adding our own SSO depot program to those sites and hauling the organic waste to a private, government-approved compost facility.

Implementation of this program would require the purchase and installation of two depot (i.e. Molok™) bins per site. Total cost of implementation is estimated at $24,000. Ongoing operational costs would include tipping fees and trucking the waste to an approved site; the total of these two activities is estimated at $20,000 to $25,000 annually.

Adding an SSO depot program to Crystal Lake and Cavendish transfer stations would increase our diversion rate by an estimated 2%. This would be a short-term option.

6.2.1.3 SSO OPTION 3 - INCREASE PARTICIPATION IN BACKYARD COMPOSTING

Backyard composting allows residents to compost certain types of organic kitchen waste at home, without having to transport it to one of our transfer stations.

This SSO option involves working with the County to develop and launch a stronger educational program to promote increased use of backyard

composters and digesters, particularly around ways to avoid attracting wildlife. Implementation and operational costs would be minimal as the "Garbage to Garden" program that supplies residents with composters and digesters is subsidized by the County.

As good compost needs a small amount of "brown" items such as newspaper, paper towels, and leaf and yard waste, backyard composting also has the potential to reduce the amount of these materials going to landfill.

This option would increase our overall diversion rate by an estimated 2%.

6.2.1.4 SSO OPTION 4 – INVESTIGATE FEASIBILITY OF MUNICIPAL COMPOST FACILITY

Through the creation of our WMP, it was discovered that there is no compost facility with available SSO capacity open in the entire Kawarthas or Haliburton region. The closest facility with the capacity to process our SSO is a private composting centre in Courtice, Ontario (approximately 90 km away), operated by Miller Waste. As such, there may be an opportunity to establish a facility in our Municipality, which would be central to many communities needing one.

This SSO option entails completing a funded study to determine the feasibility of building and operating such a facility in our Municipality, either on our own, or in partnership with a private sector operator. The study would not only review the waste related benefits and costs, but also the economic benefits for our community.

Funding for a feasibility study should be sought through the Federation of Canadian Municipalities' Green Municipal Fund – Waste Sector Funding program. This option would best be considered in the medium term once the SSO capacity of the new, planned Bensfort Road compost facility can be determined.

6.2.2 *BRUSH, LEAF AND YARD WASTE – ADD PROGRAM TO CAVENDISH AND CRYSTAL LAKE SITES*

Brush, Leaf and Yard waste are part of organic waste and currently make up about 10% of the entire waste stream and account for about 20% of our diverted waste. As with household organics, the decomposition of this material creates greenhouse gases when disposed of in a landfill. Brush, Leaf and Yard waste, although not particularly heavy, is rather unwieldy and can take up a large volume of space in a landfill. Therefore, in the interest of prolonging landfill life, it is best to divert this material to a composting program.

Our contractor has recently completed the required noise studies on the chipping of this waste stream at our Cavendish and Crystal Lake sites, and both fall within acceptable limits. As such, we are clear to reinstate the program at both transfer stations.

Adding Brush, Leaf and Yard waste to these transfer stations would result in additional grinding and hauling costs, estimated at $20,000 annually. The chipped waste would be used for restoration work on former quarry sites.

This option would increase our diversion rate by approximately 1%.

6.2.3 *MUNICIPAL HAZARDOUS & SPECIAL WASTE*

Municipal Hazardous and Special Waste (MHSW) is a waste stream that is not particularly large in terms of volume or weight, but can nevertheless be harmful to human health and the environment if not disposed of correctly. An enhanced MHSW program was the second most requested diversion program identified during the development of our WMP.

MSHW currently accounts for 2% of our diversion rate. Previous audits of the Buckhorn and Cavendish sites indicated that garbage sent to landfill is comprised of 1.2% and 1.8% MHSW respectively. Thus, enhancing our MHSW program has a diversion potential of 1-2%.

MHSW programs are relatively expensive to operate, and the stewardship funding for this waste stream dictates the total hours available to the County to offer the service. With these limited resources in mind, several options are explored below.

6.2.3.1 MHSW OPTION 1 – PARTNER WITH ADJACENT MUNICIPALITIES TO HOLD SPECIAL COLLECTION DAYS

This option involves partnering with adjacent municipalities to hold two special MHSW collection days. These events would be held in areas serviced by our Crystal Lake and Cavendish sites, as these areas do not currently have an MHSW option available.

Approved private contractors would be utilized for these events, which would be held in a location that was convenient for both communities. All operational costs would be split between the two Municipalities, thereby keeping the costs moderate to low.

This option would increase our diversion rate by an estimated 0.5% - 1.0%. This option is seen as a short-term action; and initial discussions with the Township of Minden Hills are already underway.

6.2.3.2 MHSW OPTION 2 – DETERMINE THE FEASIBILITY OF MOBILE HAZARDOUS WASTE STATION

This option entails determining the feasibility of a MHSW collection system that is mobile, and therefore can be moved between Transfer stations and other municipally-owned locations for special collection events. Such a system recently received MOECC approval for the County of Wellington, Ontario. The Mobile Waste Unit travels to various waste sites and municipal properties for collection, where it can stay for up to a month before moving on to a new location. It can also be made available for special events as needed.

Funding for a feasibility study may be available from FCM's Green Municipal Fund. This option is seen as a medium to long term opportunity. There may be interest from adjacent Municipality to partner on this endeavour.

6.2.3.3 MHSW OPTION 3 – ADD LIMITED HAZARDOUS WASTE OPTIONS TO ALL TRANSFER STATIONS

This option would entail adding collection containers at all transfer station for a limited number of MHSW materials that do not require

special staffing. Stewardship Ontario's Orange Drop program allows municipalities to have semi-permanent containers for 'safer' MHSW items such as fluorescent tubes, spent batteries, and empty propane tanks.

Other than the required ECA amendment, this program is one that would be easily implementable in our Municipality. Operating costs would be negligible as the program is essentially self-serve. Items would be stored in their collection bins until a nearby special collection day occurs, at which time the items can be shipped out with other MHSW materials collected that day. There also exists the possibility that stewardship revenue may be generated from certain items.

The estimated impact on our diversion rate would be an increase of less than 1%. The Township of Algonquin Highlands, to our north, successfully operates this type of program and may be able to provide additional information. This option is seen as a short-term opportunity.

6.2.4 *WASTE ELECTRONICS AND ELECTRICAL EQUIPMENT - ADD TO CRYSTAL LAKE AND CAVENDISH TRANSFER STATIONS*

Waste Electronics and Electrical Equipment (WEEE), much like MHSW, is not a waste stream that generates a large volume or weight, but carries with it negative environmental impacts if sent to landfill. Many WEEE items contain internal batteries and other components that can leak hazardous chemicals into the environment. Laptops with internal batteries and older desktop computers and television sets with cathode ray tubes are common culprits.

The stewardship revenue associated with recycling waste electronics makes a WEEE diversion program an easy choice. It is expected that adding the WEEE program to our Crystal Lake and Cavendish sites would be welcome in those communities, although the our overall diversion rate would increase by less than 1%. Despite the small impact on overall diversion. I would be a net revenue generator for our Municipality, and would be easily implementable as our current WEEE contractor, GEEP, is able to provide bins and haulage of this material.

This option is seen as a short-term opportunity, and its implementation would require an ECA amendment for both sites.

6.2.5 *MATTRESSES – LAUNCH OUR OWN SPECIAL COLLECTION DAYS*

Though a mattress recycling program was one of the top requested disposal programs in our resident survey, but they represent a challenge on many fronts: they take up a significant amount of space in landfills, they are very heavy when wet, and they are cumbersome to dispose of. As such, many municipalities (including ours) have banned mattresses from their landfills and transfer stations.

That being said, up to 90% of the materials in most mattresses can now be recycled[31]. Wooden components can be chipped and used as chipboard or mulch, polyurethane foam can be recycled as insulation fibre or incinerated to generate energy, and metal components can be melted down to create new wire. In recent years

there has been growth in mattress recycling programs, and they are currently accepted for recycling at the PCCWMF for a $10 fee.

This option involves launching our own special collection days for mattresses and would entail providing each transfer station with two different days per year when mattresses would be accepted, for a fee. These mattresses would be stored for the day in the rental trucks, and then transferred to the PCCWMF for recycling. The fee would be designed to cover all costs associated with the program, including truck rental, staffing, transportation, and recycling.

The estimated impact on our diversion rate would be less than 1%. The cost for implementing and running the program would be minimal due to the fee being charged.

Discussions with the County indicate a willingness to assist in covering a small portion of the program costs. This option is seen as a short-term opportunity.

6.2.6 *HARD PLASTICS – ADD SEASONAL PROGRAM TO BUCKHORN AND BOBCAYGEON SITES*

Hard plastic recycling has been included in past Environment Days, and has shown a steady increase in total weight collected over the past three years. In 2015, at the Buckhorn event, approximately 1 tonne was collected in a single day.

This option entails supporting the County's plan to add hard plastics collection to our Buckhorn and Bobcaygeon sites on a seasonal basis (July through September), beginning in 2016. It is estimated that this service would have a low impact on diversion (less than 1%), but would also be low cost, easy to implement and be widely accepted by our residents.

It should be noted that the implementation of this program by the County is market dependant.

6.3 WASTE MANAGEMENT OPTIONS – TRANSFER STATION OPERATIONS

6.3.1 *AMEND OUR ENVIRONMENTAL CERTIFICATE OF APPROVAL FOR ALL TRANSFER STATIONS*

A number of the options reviewed in the development of our WMP require transfer station ECA amendments. We will amend the ECA for each transfer station to reflect updated site features and design, as well as proposed changes to operations and programs.

Our amendment applications will be made following close discussion with the County in order to understand their proposed waste management strategy and program additions/modifications. Each amendment application will cost approximately $2,500 which includes an allocation for third-party consultant assistance, if required. This will be completed in the short-term.

6.3.2 *WASTE PASS SYSTEM – IMPLEMENT FULL PAY-AS-YOU-THROW*

'Pay-As-You-Throw' (PAYT) is designed to provide residents with a financial incentive to reduce waste and increase diversion, while aiding our Municipality in covering the actual cost of the

waste program. Implementation can utilize 'bag tags' that can be purchased from the Municipality, or simply require payment of a flat fee per bag at the transfer station gate.

Numerous studies have shown that municipalities introducing PAYT programs generally see reduced landfill use and increased diversion rates (ranging from 10% - 50%)[32]. The increased diversion also results often results in increased stewardship revenue, and decreased landfill tonnage translates into lower haulage costs.

In 2012, we moved to a partial PAYT system, whereby residents were limited to 52 bags of landfilled waste per year, and paid $1.00 for each additional bag. We now propose to move to a full PAYT system whereby no free bags are provided, and residents pay for each bag of waste sent to landfill. The proposed fee will be $2.00 - $3.00 per bag, in line with the average price in Ontario Municipalities.

With approximately 125,000 bags of landfilled waste collected in 2014, a PAYT fee of $2.00 per bag would translate into over $200,000. This new revenue stream will enable us to potentially lower our tax levy related to waste management.

Implementation of this program would entail comprehensive staff training in cash management, and possibly equipment to support the exchange of money for garbage disposal.

The impact on diversion is estimated to be 10% - 20%.

This option is considered a medium term opportunity, to allow time for enhancement of our current diversion programs, and to research and implement the payment system. A strong communications plan would be implemented leading up to this change.

6.3.3 *DEVELOP A FORMALIZED STAFF TRAINING PROGRAM*

Our transfer station staff members represent the face of our Municipality and are often the only personal interaction that residents have with us. Thus, effective training of our team represents a significant opportunity to not only achieve our waste management goals, but also to improve our municipal brand. Training is currently offered by both our staff and the County, but these are voluntary. This option would entail developing and launching a mandatory training program, in partnership with the County.

Such a program should include the following components:

- Health & Safety
- WHMIS
- Customer Service Training
- Review of Standard Operating Procedures
- Review of Key Waste Performance Metrics
- County Programs including: Depot Attendants Day and All Staff Training Day (current & new diversion programs)

Our training program will work to ensure that our team is delivering the transfer station experience in a positive and customer friendly manner. This will involve a combination of training, monitoring, and corrective action when necessary.

Development and delivery of the program would require staff time, but overall would be of minimal

cost. The option would play a support role in achieving our waste management objectives, and represents a short-term opportunity.

6.3.4 *IMPROVE TRANSFER STATION SITE CONDITIONS*

The overall appearance of our sites and our staff has an impact on our residents' experience when they visit our transfer stations. Similar to developing a formalized training program, continually improving our site conditions will help achieve our waste management goals and enhance our municipal brand. Several areas of opportunity were noted during the development of our WMP.

6.3.4.1 OPTION 1 – ENSURE THE SITE IS WELL-MAINTAINED, ORGANIZED, AND CLEAN

Keeping each site well-maintained, organized, and clean is not only for aesthetic purposes, but it also encourages transfer station users to put waste in the appropriate place, thereby reducing contamination and improving diversion. This should be a part of new staff training and included in transfer station Standard Operating Procedures.

6.3.4.2 OPTION 2 – IMPROVE SIGNAGE

In a similar fashion, easy-to-read, concise, and well-placed signage also has the potential to improve site operations and encourage users to divert waste and reduce contamination. This option entails the removal of unnecessary or extraneous signage. An effort should also be made to fix all remaining signage and ensure that signage is in an optimal and effective location. Handwritten signage should also be discouraged while emphasis on personal interaction should be encouraged.

6.3.4.3 OPTION 3 - ESTABLISH CONSISTENT STAFF ATTIRE

Our transfer station staff members are representatives of our Municipality, and their attire should reflect that. While personal protective equipment must be adhered to, this option involves the establishment of acceptable clothing guidelines, and the addition of our municipal logo to a visible portion of their attire, where possible. A consistent and branded look conveys both professionalism as well as authority.

6.3.5 *ENHANCE SCREENING PROTOCOL*

Enhanced screening entails a more thorough inspection of waste entering into the transfer station site to ensure that it's going to the right place. The face utilize a transfer station system in our community (versus curbside pick-up) represents perhaps our biggest opportunity to increase our diversion rate as we deal face-to-face with most, if not all, of our residents on a regular basis.

The cost of this option would be minimal and be limited to costs associated with annual training and regular support and monitoring. Given the fact that the new County waste by-law will also include enhanced screening, there is an opportunity to partner with them to develop and deliver the training program. Our initial conversations with the County indicate a willingness to work together. The estimated impact on our diversion rate is 8%. Social acceptance of the enhanced screening program may be a challenge. However, with effective staff training on the screening process, and education and advanced notice for our residents, the negative reaction will be minimized.

This option represents a very significant short-term opportunity.

6.3.6 *REINSTATE CLEAR BAG POLICY*

Coupled with the enhanced screening would be the re-introduction of a clear bag policy, which would allow our transfer station staff to see what is headed for landfill and educate the property owner on opportunities for diversion.

Clear bag requirements have proven to be successful in increasing the capture rate of recyclables and organics, and decreasing waste sent to landfill. Studies have shown recycling to increase by a minimum of 9%, and garbage to decrease by a minimum of 24%.

Prior to introduction of this program, local retailers that carry garbage bags should be informed of the pending clear bag requirement, to ensure they have stock on hand. In addition, we will provide ample notice on the implementation of this program in order to allow residents to use up their supply of black garbage bags.

In order to alleviate the privacy concern associated with clear bag use, we may allow a "privacy bag" (such as a grocery store bag) to be placed inside the clear bag for items the residents may not wish to display. There would be no cost to the Municipality to implement this change, but the diversion and environmental impact would be very positive.

6.3.7 *REVIEW THIRD-PARTY SCRAP METAL CONTRACT*

Under the existing scrap metal contract, there is no revenue generated from the scrap metal collected at our transfer stations, but the revenue from this waste stream forms part of the payment structure for our third-party waste hauler. While prices for scrap metal have fallen in recent years, they remain high from a historical perspective. As such, a review of the contract for its potential to ensure that it is structured in our Municipality's best interest should be undertaken.

This option is being explored strictly from a financial perspective. It will not impact our diversion rate or the environmental impact of the program. However, given the fact that this contract also includes additional services (Construction & Demolition waste, Brush, Leaf & Yard waste), the overall net impact must be taken into consideration.

6.3.8 *DEVELOP STANDARD OPERATING PROCEDURES*

Currently each of our sites operates in a slightly different manner, which makes it difficult to rotate our staff between sites, and to ensure a consistent experience for our residents. A simple set of Standard Operating Procedures (SOPs) will help rectify this situation and raise the level of service provided by our transfer station team. The following list of themes will form part of our SOP.

- Opening & Closing Process
- Recordkeeping & Reporting
- Acceptable & Non-Acceptable Waste Streams
- Regular Site Responsibilities
- Greeting Property Owners
- Proper Attire
- Dealing with Bears
- Screening Protocol
- Handling of Payments
- Emergency / Contact Information
- Dealing with Hazardous Materials (including spills)

This option has the potential to indirectly improve our diversion rate by supporting an enhanced screening process. The cost to implement this option would be limited to additional staff time required to create the SOP. This option is considered a short term opportunity.

6.3.9 *COMPLETE FEASIBILITY STUDY TO BUILD NEW CENTRALIZED, FULL-SERVICE TRANSFER STATION*

One longer term option contemplated during the development of our WMP was the construction of a new, centralized transfer station that would offer all diversion services year-round and that would have proper weigh scales,

This option may entail a reduction in the operating hours and services provided at our four existing transfer stations, or even the closure of one or more of them altogether. In addition, the benefits and feasibility of such a facility would be directly impacted by the pending changes to our provincial waste legislation.

Given the significance of this change, we propose to conduct a feasibility study on the construction of such a facility. Funding for the study would be sought from the Federation of Canadian Municipalities' Green Municipal Fund (GMF). The GMF funds feasibility studies for waste management projects.

The anticipated benefits of a new facility would include reduced operating costs and increased diversion due to availability of more diversion options. It is proposed that this study would take place in the longer term of our WMP to allow time

for the impacts of the new provincial waste legislation to be taken into account.

6.3.10 *REDUCE HOURS OF OPERATION*

Each of our transfer stations has different operating hours. During the summer months, our Bobcaygeon site has the most operating hours during the week (42 hours) of any site, followed by Buckhorn (33.5 hours), Crystal Lake (27 hours) and Cavendish (25 hours).

However, our experience over the past three years has shown our Buckhorn site to be the busiest in terms of vehicle count and bags collected, followed by Bobcaygeon, Crystal Lake, and Cavendish.

Given these figures, we could reduce the summer operating hours at the Bobcaygeon transfer station by one day per week and not impact service. The result would be approximately $8,500 in annual savings, which could be applied to other diversion programs. There would be no anticipated negative impact on our diversion rate. The change may require an amendment to the site's ECA.

Other changes to hours will include:

- Summer Sundays - All transfer stations: 11am – 6pm
- Monday – Cavendish and Crystal Lake: 8am – 12pm
- Wednesday - Crystal Lake: 8am – 4pm

The above changes are based on transfer station productivity and/or safety of staff and residents (i.e. avoiding being open after dark).

6.3.11 *INVESTIGATE BREAKDOWN OF COUNTY WASTE LEVY*

At 38% of our total waste management costs, the County levy is our largest annual expense item. Given its significance we should work closely with the County to review the individual items that make up the levy and their relative proportions. Gaining a better understanding of the make-up of the levy would assist in strengthening our relationship with the County and allowing us to work together to achieve our waste management objectives in a financially viable manner.

This is considered a short term opportunity that could impact other waste management decisions.

6.4 WASTE MANAGEMENT OPTIONS - PROMOTION AND EDUCATION

6.4.1 *DEVELOP AND SELL COTTAGE RENTAL KIT*

Cottage rental kits can ease the challenges associated with renters attempting to use our transfer stations. These kits would include such items as: a one-time pass for the transfer station, a free tipping pass for one bag of garbage, a map of all transfer station locations, a listing of hours of operation and disposal fees, a clear bag for their waste, additional bags for Blue Box materials, a pamphlet describing all diversion programs, and contact information so as to provide access to answers to any potential questions.

These kits should be priced to ensure the program is cost neutral, and as such there would be negligible cost to our Municipality. In addition, they should be made available at all transfer stations,

the Municipal office, as well as select commercial businesses.

The impact on diversion of this program is difficult to determine, but would likely be between 0.5% and 1.0% given the education component. This option is recommended to be implemented in the short-term.

6.4.2 *PERFORMANCE DATA – INCREASE FREQUENCY OF WASTE AUDITS*

Waste audits provide extremely valuable information in terms of tracking the performance of our waste programs, and identifying potential additional waste diversion opportunities.

This option proposes that we complete an audit on each of our transfer stations on an annual basis. We would continue to work with the County to complete these waste audits, but also consider partnering with local post-secondary institutions (e.g. Fleming College, Trent University) in order to keep costs down and to provide students with "real world" experience.

This option would provide us with a baseline for our WMP, and allow us to track our progress going forward. There will be no direct impact on waste diversion itself will result, but the data will be used to inform our residents of our progress and our opportunities, and may indeed inspire greater diversion actions. Initial discussions with Fleming College are promising.

It is recommended that this option be implemented in the short-term.

6.4.3 *PERFORMANCE DATA – INCREASE SHARING OF PERFORMANCE RESULTS WITH RESIDENTS*

Increased sharing of our waste management performance data with our residents - in an easy to understand manner - is a recommendation of this WMP. This would include not only key statistics, but also information on the total cost to operate our waste management program.

As we work to create a "We're All In This Together" waste culture, the sharing of this type of information will be a key factor in its success. Opportunities to share this information include our website, inserts into property tax notices, municipal or Mayor's newsletter, and presentations at cottage association meetings.

Statistics to be shared include: annual diversion rate, total waste generated, total waste sent to landfill, total waste diverted, and a breakdown of diverted waste volumes, and a characterization of the make-up of our landfilled waste.

6.4.4 *IMPROVE AWARENESS OF RETAILER TAKE-BACK PROGRAMS*

Ontario's stewardship programs exist so that producers of waste (manufacturers) contribute towards the cost to dispose of their product and/or packaging at the end of its useful life.

While these programs form part of our waste management services, some are also delivered at the point of purchase, through retailer take-back programs, whereby a retailer allows consumers to bring back certain items that have reached end-of-life for recycling, reuse, or proper disposal.

The Ontario Tire Stewardship (OTS) program is a great example. Under this program, consumers can drop off up to four used r scrap tires free of charge at any registered collection location. Registered collectors include tire retailers, municipalities, and private waste management companies.

This option entails greater promotion of existing retailer take-back programs both within our Municipality, and in adjacent municipalities and those larger markets, such as the Greater Toronto Area, which are home to many of our seasonal residents.

6.4.5 *INCREASE AWARENESS OF ENVIRONMENT DAYS*

The County's Environment Days have been very well received in our community, as 42% of residents surveyed say that they have attended one in the past three years. This option entails building on the success of these events to generate even greater participation, by working closely with the County to increase awareness.

6.4.6 *ENHANCE MUNICIPAL COMMUNICATIONS RE WASTE MANAGEMENT*

A number of comments received through the transfer station user survey and the draft plan public review pertained to improving our waste management communication. While the County maintains a waste management promotion and education (P&E) strategy, it tends to be more general, as it needs to be applicable to all of its member municipalities.

This option entails enhancing our own P&E strategy, looking for greater use of electronic and social media, as well as capitalizing on opportunities at local events and local venues. It will involve increasing our email database of those interested in waste management updates, including greater contact with our cottage, road, and ratepayer associations. In addition, we will also work closely with the County to leverage their promotion and education program wherever possible.

This option is seen as a short term opportunity that will continue throughout the duration of the Plan.

6.4.7 *DEVELOP AND IMPLEMENT AN EDUCATION PROGRAM TARGETING PROPER RECYCLING OF BLUE BOX ITEMS*

In late November 2015 we completed a waste audit of each of our transfer stations. While the final waste audit report was not complete at the time, we did note a very significant proportion of Blue Box items in the landfilled waste. In response, this option involves developing and implementing an education program targeting proper recycling of Blue Box items.

This option is seen as a short-term opportunity that will continue throughout the duration of the Plan.

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SECTION SEVEN

SUMMARY OF OPTIONS

7.0 SUMMARY OF OPTIONS

The options outlined throughout Section 6.0 were evaluated using the following criteria:

- **Diversion Potential** (how much additional waste diversion could result from the option);
- **Economic Feasibility** (the costs or savings of the option);
- **Environmental Impact** (the option has a positive effect on the environment);
- **Social Acceptance** (whether the option would be accepted or used by the public); and
- **Ease of Implementation** (how easy or difficult it would be to implement the option).

The options were scored on a scale of 1 to 4. Table 11 describes the rating system for scoring the options. A summary of the evaluation results are provided in Tables 12, 13 and 14 with full result details included in Appendix E.

Table 11 - Evaluation Scoring Criteria

Criteria	Score Range (1-4)			
	1 Poor	2 Fair	3 Good	4 Very Good
Diversion Potential	<1%	1% - 3%	4% - 10%	>10%
Economic Feasibility	High cost or low cost-effectiveness	Moderate cost additional to current program	Little to no additional cost to current program	Option will result in cost savings
Environmental Impact	No positive impact	Minor positive impact	Moderate positive impact	High positive impact
Social Acceptance	Would be disliked by public	Public would have no opinion	Public would have little opinion	Public would favour option
Ease of Implementation	Difficult	Moderate effort required	Minimal effort required	Easy

Table 12 – Summary of Evaluation Results - Enhanced Diversion Programs

Option Name & Description	Projected Impact of Program	Priority	Timeline
SSO - Increase Use of Back Yard Composting/Digesting	2%	High	Short
Brush / Leaf & Yard - Add at Crystal Lake & Cavendish	1%	Moderate	Short
MSHW - Add Limited Collection at All Transfer stations (batteries, propane cylinders, fluorescent bulbs)	1%	Moderate	Short
WEEE - Add at Crystal Lake & Cavendish	<1%	High	Short
Hard Plastic - Add to Buckhorn & Bobcaygeon (Seasonally)	<1%	Moderate	Short
SSO - Work with County To Grow Depot Program	5% - 6%	Moderate	Medium
MSHW - Partner with Adjacent	1%	Moderate	Medium
MSHW – Determine the Feasibility of a Mobile Hazardous Waste Station	1%	Moderate	Long
Mattresses - Launch Own Special Collection	<1%	Moderate	Medium
SSO - Feasibility Study - Municipal Compost Facility	4%	Moderate	Long
SSO – Investigate Adding Our Own Program to Crystal Lake & Cavendish	2%	Moderate	Long

Table 13 – Summary of Evaluation Results – Operations Enhancements

Option Name & Description	Projected Impact of Program	Priority	Timeline
Amend ECAs for all Transfer Stations	Indirect	High	Short
Improve Transfer Station Site Conditions	Indirect	Moderate	Short
Reduce Hours of Operation	Indirect	Moderate	Short
Investigate Breakdown of County Waste Levy	Indirect	Moderate	Short
Waste Pass Alternatives – PAYT	10-20%	High	Medium
Develop Formalized Staff Training Program	Indirect	Moderate	Medium
Enhance Screening Protocol	8%	High	Medium
Review 3rd Party Scrap Metal Contract	Indirect	Moderate	Medium
Develop Standard Operating Procedures	<1%	Moderate	Medium
Reinstate Clear Bag Policy	5%	Moderate	Medium
Complete Feasibility Study for New Centralized, Full Service Transfer station	Indirect	Low	Long

Table 14 – Summary of Evaluation Results – Education & Promotion Programs

Option Name & Description	Projected Impact of Program	Priority	Timeline
Develop & Sell Cottage Rental Kit	<1%	Moderate	Short
Performance Data - Increase Frequency of Waste Audits	Indirect	Moderate	Medium
Performance Data - Increase Sharing of Results with Residents	Indirect	Moderate	Medium
Improve Awareness of Retail Take-Back Programs	Indirect	Moderate	Medium
Improve Awareness of Environment Days	<1%	Moderate	Medium
Enhance Municipal Communications re Waste Management	Indirect	High	Short
Develop and Distribute a List of Local Companies that Participate in Retailer Take-Back Programs	Indirect	Moderate	Short
Develop and Implement an Education Program Targeting Proper Recycling of Blue Box Items	2%	High	Short

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SECTION EIGHT

YEAR 1 WASTE MANAGEMENT ACTION PLAN

8.0 YEAR 1 WASTE MANAGEMENT ACTION PLAN

Based upon our review of the options, we have developed our Year 1 Waste Management Action Plan, which will run from January to December, 2016 and will include the following actions:

Municipality of Trent Lakes Year 1 Waste Management Action Plan January - December 2016			
Goal	**Action**	**Timing**	**Responsibility**
Increase waste diversion and reduce residual (landfill) waste	Add WEEE to Crystal Lake and Cavendish transfer stations	June 2016	Public Works Manager
	Launch our own mattress collection day program	May/June 2016	Public Works Manager
	Add Brush, Leaf & Yard waste program to Crystal Lake and Cavendish transfer stations	June 2016	Public Works Manager
Improve the efficiency of our waste management program	Reduce summer operating hours at Bobcaygeon by one day per week	May 2016	Public Works Manager
	Amend the ECA for each of our transfer stations	June 2016	CAO
	Develop standard operating procedures for transfer stations	January 2016	CAO
Enhance waste education for our residents	Increase frequency of waste audits	January 2016	County / MTL
	Develop & sell Cottage Rental Kit	April 2016	CAO
	Increase the sharing of performance data with residents	December 2016	CAO
	Implement education program targeting proper Blue Box	February 2016	County / MTL

GLOSSARY OF TERMS

Bag Tag	A clearly identifiable sticker approved for sale by resolution of the Council of the Municipality and used to indicate that a fee has been paid for the disposal of the tagged waste.
Best Practices	Waste system practices concerning diversion programs that result in the attainment of provincial and municipal material diversion goals in the most cost-effective way possible.
Blue Box	A plastic container, often blue in colour, for conveying acceptable recyclable materials. Also refers to a municipal curbside or transfer station recycling program.
Capture Rate	The amount of materials diverted from the waste stream for recycling expressed as a percentage of the total quantity generated of those materials.
Co-mingled	Recycling programs where a number of different materials are mixed together, not collected separately.
Composting	The controlled microbial decomposition of organic matter, such as food and yard wastes, in the presence of oxygen, into humus, a soil-like material. Compost can be used in vegetable and flower gardens, hedges, etc.
Construction & Demolition Waste (C & D)	Solid waste produced in the course of residential, commercial, industrial, or institutional building construction, demolition or renovation (e.g. lumber, concrete, brick, plaster, glass, stone, drywall, wire, paint, etc.).
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.
Disposal	Final placement or destruction of wastes. Disposal is typically accomplished through the use of approved sanitary landfills or incineration with or without energy recovery.
Diversion	The process of reducing, recycling, or reusing materials with the purpose of keeping waste out of landfills.

Diversion Rate	The percentage of waste diverted from landfill through means of diversion programs (Blue Box, composting, etc.). The diversion rate is determined by dividing the total quantity of waste diverted by the total amount diverted and disposed. Also known as the waste diversion rate.
Environmental Certificate of Approval (ECA)	A license or permit issued by the Ministry of Environment and Climate Change for the operation of a waste management site/ facility.
Extended Producer Responsibility (EPR)	A policy to shift the responsibility of a product's life cycle away from the municipality to the producers and to provide incentives for producers to consider the environmental impacts in the selection of materials and the design of their product(s).
Federation of Canadian Municipalities (FCM)	A national organization that represents the interests of municipalities in Canada.
Green Municipal Fund (GMF)	A funding program established by the Federation of Canadian Municipalities to support municipal sustainability initiatives, including waste management projects and studies.
Hazardous Waste	Any residual hazardous materials which by their nature are potentially hazardous to human health and/or the environment, as well as any materials, wastes or objects assimilated to a hazardous material. Hazardous waste is defined by Ontario Regulation 347 and may be explosive, gaseous, flammable, toxic, radioactive, corrosive, combustive or leachable.
Landfill	An approved, engineered site/facility used for the long-term or permanent disposal of waste.
Municipal Hazardous or Special Waste (MHSW)	Includes the following materials that are considered hazardous waste materials generated from the municipal sector (paints, solvents, adhesives, pesticides, acids/bases, aerosols, fuels and batteries). Also sometimes referred to as Household Hazardous Waste.
MOLOK™	A patented type of container used to hold source separated organics.
Ontario Electronic	The Industry Funding Organization (IFO) for Waste Electrical and Electronic Equipment. Companies that are designated as stewards for Waste Electrical and Electronic

Stewardship (OES)	Equipment can discharge their legal obligations under the Waste Diversion Act by registering, reporting and paying fees to OES.
Ontario Tire Stewardship (OTS)	The Industry Funding Organization established to develop a diversion program for used tires. Companies that are designated as stewards for used tires can discharge their legal obligations under the Waste Diversion Act by registering, reporting and paying fees to OTS.
Organic Waste	Waste of animal or plant origin, typically food, yard waste, and paper. It is what feeds a compost site.
Pay As You Throw / User Pay	A program in which every individual bag or container of waste to be disposed of is paid for directly by the resident, commonly by the purchase of bag tags.
Promotion & Education Materials (P&E)	Materials prepared and distributed by a municipality to help promote the proper participation in waste management and waste diversion programs.
Recyclables	Any material destined for recycling, often through the Blue Box program. Includes materials such as: glass, metal food and beverage cans, aluminum foil, rigid shell plastic, containers, newspaper, cardboard, fine paper, boxboard.
Source Separated Organics (SSO)	This includes residential organic waste such as food waste and non-recyclable paper that is segregated for composting or other organic waste processing. Some municipalities have widened the definition of SSO to include diapers, sanitary products and pet waste.
Stewardship Ontario	The Industry Funding Organization (IFO) that operates the Blue Box (recycling) and Orange Drop (municipal hazardous & special wastes) programs.
Transfer Station	A depot-style location where residents of a Municipality may come to dispose of their wastes; residents generally separate wastes into designated areas. Accumulated wastes are transferred to a disposal site or diversion facility.
Waste	A general term that describes all waste generated including “garbage,” recyclables, organic waste, leaf and yard waste, MHSW, and WEEE.
Waste Audit	Exercise of determining the quantity and composition of waste which is disposed.

Waste Diversion Ontario (WDO)	A non-crown corporation created under the Waste Diversion Act (WDA) on June 27, 2002. WDO was established to develop, implement and operate waste diversion programs for a wide range of materials (Blue Box Waste, Used Tires, Used Oil Material, Waste Electrical and Electronic Equipment and Municipal Hazardous or Special Waste) under the WDA.
Waste Electrical and Electronics Equipment (WEEE)	Any broken or unwanted electrical or electronic appliances including computers, phones and other items that have reached the end of their usable life.
Waste Management Plan (WMP)	A plan designed to help an organization, such as municipality, achieve goals and best practices in the area of waste management.
Waste Stream	The waste output of a community, region, or facility. Total waste can be categorized into different waste stream components (e.g., organic waste, construction waste, household hazardous waste, or white goods).
White Goods	Refers to larger home appliances (e.g. refrigerators, washing machines, etc.) that are often finished in white enamel. It is becoming more common for these items to have different finishes, however the name still refers to these types of appliances.

Appendix A

Summary of Transfer Station User Survey

Summary of Transfer Station User Survey

As part of the stakeholder engagement activities associated with the development of the WMP, we undertook a Transfer station User Survey. A total of 465 surveys were completed, of which 45% were seasonal residents and 55% were year-round residents. Of those surveyed the vast majority (97.4%) were residential property owners, while 2.2% were commercial and the remainder were vacant property owners. This indicates a fairly accurate representation of the true demographics of our Municipality.

Of significant interest to our WMP was the fact that 18% of our seasonal residents indicated that they were likely to become year-round residents in the next 5 years, while an additional 24% indicated "possibly". This indicates a continuation of the shift from seasonal to permanent residency in our Municipality, meaning more waste being disposed of year-round as opposed to seasonally. This could result in an increase in waste tonnages over time.

We asked our Transfer station users if they were satisfied with our current waste management services. The average rating for this question fell between 'okay' and 'satisfied'. Many of our users selected 'very satisfied' (38.26% of all users surveyed). There were very few responses indicating that our users are unhappy or unsatisfied with the level of service we provide.

The majority of those surveyed (69%) indicated that they did not want curbside garbage and Blue Box pickup, with many expressing concerns about attracting wildlife (including bears), and others expressing concerns about pickup on fire routes and cottage roads, particularly in the wintertime. Many users did not want to see an increase in taxes and were satisfied with transporting their waste to the Transfer station.

In terms of distance travelled, the largest group residents (45.1% of those surveyed) have to travel between 5 and 10 kilometres. The next largest proportion of residents (29.6%) must travel between 0 and 5 kilometres. A smaller portion (23.1%) had to travel between 10 and 20 kilometres, while a very small subset (2.2%) had to travel over 20 kilometres. This indicates that our transfer stations are well-placed in the Municipality to service our population.

We also asked our users if they would like to see a change in our Transfer station arrangement. The majority of those surveyed indicated that they would like to see us maintain our current system of four Transfer stations with their current services.

We asked Transfer station users which diversion programs they use most often. Blue Box recycling is the most often used program, followed by the popular Re-Use Centre and scrap metal programs. The Re-Use Centre is a new service; however it is receiving great feedback from users.

Many of our residents (38.5% of all users surveyed) compost in their back yard, with an additional portion (13.4%) indicating that they compost seasonally. Many of the users surveyed that do not compost (48.0%) expressed interest in composting at home but had concerns about attracting animals to their property, particularly bears.

We also asked users that backyard composted about what materials they used in their composter. The majority of those who compost in their backyards (53.6%) indicated that they composted food waste as well as leaf and yard waste. This mix of material is essential for the proper operation of a composter. 14.8% indicated that they only compost food scraps, and an additional 31.6% indicated that they only compost leaf and yard waste.

Appendix B

Tipping Fee Schedule

Trent Lakes Waste Transfer Stations

Program / Category		Maximum Load Size 2 yards^3 (per visit)		
Household Garbage	Garbage Bag 26 X 36 inches (66 cm X 91 cm)	Valid **Garbage Bag Usage Card** must be presented for disposal of 52 standard size (26 X 36 inches) garbage bags per year at no charge. Standard size garbage bag (26 X 36 inches or 66 cm X 91 cm) **$1.00 per bag**. Larger or commercial sized garbage bag **$2.00 per bag**.		
	Yard Waste	**Free** disposal at all Transfer Stations		
	Const. Demolition Material (mixed)	**$5 minimum Charge**	**$35 per yd^3**	
	Shingles & Drywall	**$10 minimum Charge**	**$45 per yd^3**	
	Furniture	Roll of carpet/flooring, kitchen/dining chair **- $5 per item** Sofa, sofa chair, dresser/armoire, table, hutch, sports equipment - **$10 per item**		
	Boats/RV	$100 up to 12 ft (3.65 m), each additional 3 ft (1 m) or part thereof $75. RVs are banned from disposal at transfer stations unless the interior has been stripped of all mixed material. Aluminum boats are **Free** under scrap metal.		
	Mixed Loads	Sorted (recyclable material removed)	**$35 per yd^3**	
		Unsorted (contains recyclable material)	**$45 per yd^3**	
	Non-specific Item	**$5** per small item	**$10** per large item	
Green Bin Composting	Organic Composting	**Free** disposal of kitchen /organic waste - Buckhorn Transfer Station is the only station accepting compost waste. Backyard Composting is encouraged. Contact Peterborough County 705-775-2737 esinfo@county.peterborough.on.ca for more information.		
Brush	Brush	**Free** disposal at the Bobcaygeon and Buckhorn Transfer Stations – maximum diameter stem/branch is 100mm (4 inches)		
HHW	HHW	**Free** disposal - Buckhorn Transfer Station only during HHW hours (or 400 Pido Rd. Peterborough)		
Blue Box Program	Fibres	**Free** disposal at all Transfer Stations		
	Containers	**Free** disposal at all Transfer Stations		
Tire Stewardship Program	Tires	**Free** disposal at all Transfer Stations (maximum 4 tires per load) **$5.00 charge per tire if tire is still mounted on rim.**		
Metal Recycling	White Goods Appliances	**Free** disposal at all Transfer Stations **$20.00 charge for Freon removal for refrigerators, freezers, A/C Units, dehumidifiers and water coolers.** All doors on refrigerators and freezers must be removed before disposal.		
	Scrap Metal	**Free** disposal at all Transfer Stations		
WEEE	Electronics	**Free** disposal – at Bobcaygeon and Buckhorn Transfer Stations		

****Mattresses only accepted at Bensfort Waste Site as of January 1, 2015 – $10/item Peterborough Waste Management Facility 1260 Bensfort Rd**

All Loads Brought to the Transfer Station Must be Tarped/Covered.

Appendix C

Summary of Existing County of Peterborough Waste & Recycling By-Laws

EXISTING COUNTY BYLAW	SUMMARY
Bylaw 14-095	• Bans the following materials from disposal at the Peterborough County-City Waste Management Facility (PCCWMF): ○ Recyclable materials (those collected in the City of Peterborough Blue Box Collection program) ○ Box springs & Mattresses ○ Clean wood waste ○ Drywall ○ Green waste ○ Scrap metal ○ Tires • Establishes tipping fees for disposal at the PCCWMF as follows: ○ Garbage: load of 100 kg or less ($5.00 flat rate); load over 100 kg ($90.00/tonne); asbestos ($200/tonne) ○ Recyclable materials: load of 100 kg or less (free); load over 100 kg ($45/tonne) ○ Tires: free ○ Appliance containing Freon: $15 per appliance
Recycling Bylaw 46-1989	• Stipulates that each shall provide at least 1 depot for the collection of materials as set forth in Schedule A; be responsible for the maintenance, operation, and supervision of containers while at the depot; and ensure that the recyclable materials are of a type and standard required by the City and its recycling plant • Stipulates how various costs (operational costs, capital costs, etc.) are to be paid for by municipalities
Disposal Bylaw 21-1991	• Authorizes the County to assume the following waste management powers for all the local municipalities forming part of the County: ○ To establish and maintain systems for the disposal of garbage and other waste ○ To acquire land in any local or in territory without municipal organization for the purpose described above ○ To enter into agreement with one or more municipalities to provide for the joint

	management and operation of garbage disposal services.
Ban Bylaw 11-1996	• Stipulates that the following materials are banned from landfill sites and transfer stations within the County of Peterborough: ○ Old Corrugated Cardboard (OCC), except corrugated cardboard that has been contaminated by oil, grease, or other material that rends OCC un-usable for recycling purposes ○ Aluminum and steel cans ○ Glass bottles and jars ○ Newsprint, catalogues, books, egg cartons ○ Any other material acceptable in the recycling stream

Appendix D

Proposed County of Peterborough Waste Bylaw

The Corporation of the County of Peterborough

By-law No. 2015 - XX

A By-law to encourage waste reduction and to cooperatively implement municipal solid waste practices within the County of Peterborough and to repeal By-law Nos. 46-1989, 21-1991 and 11-1996

Whereas Section 11(3) of the Municipal Act, S.O. 2001 (hereinafter referred to as the "Act") provides that an upper-tier municipality may pass by-laws, subject to the rules set out in subsection (4) respecting matters relating to waste management;

And Whereas Section 391(1) of the Act authorizes a municipality to impose fees or charges;

And Whereas at the County Council Meeting of September 6, 1989, County Council passed By-law No. 46-1989, being a by-law to assume the power to implement a program to recover and recycle waste in the County of Peterborough;

And Whereas at the County Council Meeting of March 27, 1991, County Council passed By-law No. 21-1991, being a by-law to authorize the Corporation of the County of Peterborough to assume certain authority currently held by all of the local municipalities forming part of the County of Peterborough for municipal purposes with respect to the disposal of waste;

And Whereas at the County Council Meeting of February 7, 1996, County Council passed By-law No. 11-1996, being a by-law of the Corporation of the County of Peterborough to ban certain items from landfill sites and transfer stations within the County of Peterborough;

And Whereas at the County Council Meeting of December 7, 2011, County Council adopted the Municipal Waste Recycling Strategy (MWRS) dated November 25, 2011 as amended to provide for two or less bags per household limit per week;

And Whereas at the County Council Meeting of January 23, 2013, County Council endorsed the Waste Management Master Plan (WMMP) with a waste diversion goal of 60%;

And Whereas the County of Peterborough is working cooperatively with member Townships to update and implement waste management practices;

Now Therefore the Council of the Corporation of the County of Peterborough in Session duly assembled enacts as follows, that:

1. Definitions

a. **"approved container"** includes a containment unit for the collection of waste materials as defined or outlined in program guidelines or by-laws.

b. **"ashes"** includes the cooled solid residue of any household fuel after such fuel has been consumed by fire and includes soot, but shall not include ashes which accumulate as a result of building construction or demolition.

c. **"backyard composting activities"** includes diversion of organic food materials and yard trimmings by composting them in own yard through controlled decomposition of organic matter by bacteria and fungi into a humus-like product.

d. **"bag limit"** shall mean the number of approved containers allowed for waste materials as defined or outlined in program guidelines or by-laws.

e. **"bag tag"** includes single use tags issued by a Township and/or the County and affixed to acceptable garbage containers.

f. **"by-law" or "by-laws"** except where indicated otherwise, includes this By-law and any amendments thereto including any Schedules forming any part of this By-law and any amendments thereto, as enacted by the Council from time to time.

g. **"by-law enforcement officer"** includes a by-law enforcement officer or any other person authorized to enforce the by-laws, and includes a police officer.

h. **"Certificate of Approval" or "Provisional Certificate of Approval" or "Environmental Compliance Approval"** for the purposes of this By-law means a Certificate issued by the appropriate Provincial or Federal agency permitting the Township and/or County to operate a waste management system or waste disposal site and related activities

i. **"clean wood"** includes untreated lumber and wood products such as pallets and raw lumber, but does not include painted wood, treated wood, paneling, pressboard or similar products.

j. **"collection contractor"** includes a company, person, corporation or partnership performing collection and haulage of waste under contract with a municipality.

k. **"commercial waste**" includes waste generated from industrial, commercial, and institutional facilities outside the jurisdiction of O. Reg. 103/94 IC&I Source Separation Programs.

l. **"construction or demolition debris"** includes waste which results from the erection, alteration, or demolition of any structure or part thereof, including earth or stone from excavations.

m. **"contamination"** means that amount of non-program materials allowed in a waste stream for processing.

n. **"controlled waste"** is outlined in Schedule B of this By-law.

o. **"County"** means The Corporation of the County of Peterborough.

p. "**diversion"** is the prevention and reduction of generated waste through source reduction, recycling, reuse, or composting (does not include waste-to-energy).

q. **"dwelling" or "household**" means a unit consisting of one or more rooms designed for use as a single housekeeping establishment.

r. **"garbage container"** is a an approved container for the storage and collection of garbage. One container shall mean one standardized size of garbage bag of dimensions of approximately 24 inches x 36 inches (61 cm x 91 cm) or 17 imperial gallons (77 L).

s. **"garbage or disposed materials"** means discarded material other than:

   a. recyclable materials;
   b. bulky items as defined in Schedule A of this By-law;
   c. household hazardous waste;
   d. waste electronics and electrical equipment as defined in Schedule A of this By-law;
   e. source separated organics (where organics collection programs exist); and
   f. controlled waste as defined in Schedule B of this By-law; and
   g. prohibited waste as defined in Schedule B of this By-law.

t. **"Goods exchange day"** means a designated day when residents may place usable unwanted materials at collection points for removal by other members of the public.

u. **"Grasscycling"** is the process of recycling lawn clippings by leaving them on lawn to cycle nutrients.

v. **"hazardous waste" or "biohazardous" or "household hazardous waste" or "Municipal Hazardous and/or Special Waste (MHSW)"** includes any substance for household or commercial use that is dangerous, corrosive, flammable,

poisonous or explosive, including, but not limited to, those items listed in Schedule A to this By-law, and any other similar material.

w. **"industry supported stewardship program"** is a producer and/or manufacturer of a product or package that provides funding support for end of life management of materials.

x. **"leaf and yard material"** is listed in Schedule A of this By-Law.

y. "**organic" or "green bin material" or "source separated organics**" as listed in Schedule A of this By-law.

z. **"pathological waste or medical waste or biomedical waste"** means tubing, intravenous bags etc. used as part of home care. It includes biomedical waste, whether solid or liquid, including but not limited to: any material which may be hazardous or dangerous; anything designated as pathological waste under R.R.O. 1990 Regulation 347 General Waste Management of the Environmental Protection Act; and any other waste determined by the County to be pathological waste.

aa. **"pet waste"** means feces from any household pet including, but not limited to, dogs, cats, and birds and also includes all material that has come into direct contact with the feces and all material contaminated with the feces.

bb. **"prohibited waste" or "non-collectable waste"** includes waste as outlined in Schedule B of this By-Law.

cc. **"recyclable materials"** as set out in Schedule A in this By-law.

dd. **"reuse"** refers to the action of taking something and using it again.

ee. **"set-out"** refers to the total weight of garbage containers as determined by the Township in order to meet Health and Safety requirements as well as annual allowance of disposed materials (see Schedule C).

ff. **"scavenge" or "salvage"** includes to sort through and collect materials from recyclable materials, leaf and yard materials, household hazardous waste, bulky items, white goods or garbage, that has been placed out for collection or deposited at a waste disposal site without permission.

gg. **"scrap metal"** includes but is not limited to metals including: bicycles, bed frames, fencing/posts, filing cabinets, hot water tanks, sinks, nuts/bolts/nails/screws, tire rims, desks, shelves, lawnmowers, siding, automotive parts, pipe fittings, and barbeques.

hh. **"standards for acceptance"** means the type of materials suitable for management (for example: disposal and/or recycling) and may include an allowable contamination amount. The types of materials may be amended from time to time upon notification to all Townships.

ii. **"street"** means any public highway, road, lane, alley, square, place, thoroughfare or way within the County of Peterborough.

jj. **"Township"** means any one of the lower-tier municipalities forming the County of Peterborough for municipal purposes, namely:

1. the Township of Asphodel-Norwood
2. the Township of Cavan Monaghan
3. the Township of Douro-Dummer
4. the Township of Havelock-Belmont-Methuen
5. the Township of North Kawartha
6. the Township of Otonabee-South Monaghan
7. the Township of Selwyn
8. the Municipality of Trent Lakes

kk. **"waste disposal site" or "depot" or "transfer station"** includes any area of land designated as such to be used for the waste as approved by the Ministry of the Environment and Climate Change.

ll. **"waste" or "solid waste" or "municipal solid waste"** includes recyclable materials, household hazardous waste, waste electronic or electrical equipment, source separated organics, leaf and yard material, bulky items, and garbage.

mm. **"white goods"** includes scrap items that include but not limited to stoves, fridges, refrigerators, freezers, washers and dryers.

2. Interpretation Rules

a. The words "include" and "including" are not to be read as limiting the meaning of a word or term to the phrases or descriptions that follow.

b. Statutes: References to laws in this By-law are meant to refer to the statutes, as amended from time to time that are applicable within the Province of Ontario.

c. Severability: If a court or tribunal of competent jurisdiction declares any portion of this By-law to be illegal or unenforceable, that portion of this By-law shall be

considered to be severed from the balance of the By-law, which shall continue to operate in full force and effect.

3. Reuse Activities - In order to reduce waste disposed, reuse activities are to be promoted and encouraged:

a. Each Township shall:
i. Provide at least one depot for residential reuse and/or;
ii. Participate in an annual Goods Exchange Day and/or;
iii. Promote local establishments involved in the activities of reuse.

b. The County shall:
i. Promote reuse activities of Townships;
ii. Promote establishments involved in the activities of reuse;
iii. Coordinate reuse activities through County events and/or other facilities.

4. Recyclable Materials - In order to recover recyclable materials as defined in Schedule A, Part 1:

a. Each Township, for materials as set forth in Schedule A, Part 1, a and b, shall:
i. Provide at least one depot (seasonal or year-round depending on capacity) for the collection of recyclable materials. Additional depots may be required by the County at additional cost to the Township.
    1. These materials will be collected through contracts or agreements with the County in a manner to be arranged with the Township;;
ii. Be responsible for the maintenance of the site [as set out in section 4 (a) (i)], operation and supervision of recyclable material collection at the depots with respect to residents and/or contractors;
    1. Ensure site is maintained to provide convenient loading and unloading on a year round basis and it shall be sufficiently large enough to accommodate all infrastructure needed. Grading may also be required.
    2. Ensure road access to containers is constructed and maintained to a satisfactory level to allow entrance, movement, and exit on a year round basis.
iii. Ensure that the recyclable materials at depots meet standards of acceptance required by the County and/or industry-funded organization, and/or applicable legislation, and/or applicable processing facilities;
    a. Recyclable materials from depots which do not meet the standards for acceptance may be sorted or may be returned to the Township of origin and that Township will be responsible for any cost or charges to the County, in addition to any extra costs incurred by the County in

transporting, disposing of or making the material comply with the standards (as applicable).

iv. Establish and enforce by-laws that will encourage and maximize recycling.

v. With assistance from the County, be responsible for ensuring associated staff and collection contractors are aware and trained annually, or as often as required, on recyclable materials as the standards of acceptance may be amended from time to time.

b. The County shall:

i. Enter into agreements, establish and enforce terms and conditions for collection, acceptance, haulage, transfer, processing, and marketing services at curbside and/or depot for recyclable materials (see Schedule D).

ii. When warranted, coordinate the purchase of recycling equipment and materials in order to provide to each Township with a uniform system of recyclable material collection throughout the County;

1. Provide adequate notification and training when recyclable materials change.

iii. Recover maintenance and capital costs (including acquiring and replacing containers) and expenses in the administering of County associated recyclable materials programs by either:

1. The general levy, according to the traditional apportionment process, based on discounted equalized assessments and/or
2. As mutually agreed through fees charged directly to specific Townships.

iv. The County shall retain ownership (where applicable) of all containers, equipment and materials purchased for the collection and transportation of recyclable materials and shall insure them against third party liability while they are in the care and control of the County.

1. Each Township shall insure the said containers, equipment and materials in the care and control of the Township, its servants, agents and contracts or ratepayers, are insured and that the County is named insured on the policy of insurance.

c. For “Other Recyclables” (Schedule A, Part 1, section c):
   i. Townships may wish to set up, supervise, staff, and manage material collection at depots independently or in cooperation with the County. This may include acquiring, contracting, operating, and/or maintaining equipment. Such services shall not impede, replace or interfere with the County.
   ii. Townships may wish to recover costs associated with “Other Recyclables” from resident’s directly, and/or in partnership with the County and/or from industry supported stewardship programs.
   iii. Townships shall provide ongoing communications and information to the County regarding other recycling initiatives in order to be included in the Township Waste reporting system.

5. Municipal Hazardous and/or Special Wastes (MHSW) - pose risks to human health and the environment if they are not disposed of correctly. As such, provincial legislation and environmental compliance approval permits necessitates special consideration in the management of these materials. Therefore,

1. Each Township shall:
   i. Operate all waste management activities in a manner in which all waste materials are screened for MHSW
   ii. Direct MHSW (Schedule A, Part 2a) for collection in designated areas
   iii. Not accept MHSW materials for disposal and will direct to nearest available collection depot and/or event
   iv. Promote, support, and assist the County system for MHSW collection

2. The County shall:
   i. Operate MHSW collection depots and/or events in a cost-effective and strategic manner in order to maximize residential collection opportunities throughout the County
   ii. Promote the County system for MHSW collection

6. Waste Electronics and Electrical Equipment (WEEE) contain precious metals, base metals, toxic metals, plastics and glass components which can be recovered if not disposed. As such, provincial legislation and environmental compliance approval permits necessitates special consideration in the management of WEEE. Therefore,

1. Each Township shall:
   i. Operate all waste management activities in a manner in which waste materials are screened for WEEE

ii. Direct WEEE (Schedule A, Part 2b) for collection in designated areas.
iii. Not accept WEEE material for disposal and will direct to nearest available collection depot and/or event
iv. Promote, support, and assist the system for WEEE collection

2. The County shall:
   i. Operate WEEE collection depots and/or events in a cost-effective and strategic manner in order to maximize residential collection opportunities throughout the County
   ii. Promote WEEE collection

7. Organics Diversion – Organic material diversion and composting helps to recycle nutrients and organic matter, reduces greenhouse gases, and extends capacity of waste disposal facilities.

1. Each Township shall:
   i. Establish a diversion program to manage leaf and yard materials and/or;
   ii. Promote, support and assist County programs for the management of organic materials, including Backyard Composting Activities (BYC) and;
   iii. Promote residential Grasscycling

2. The County shall:
   i. Promote Backyard Composting activities (BYC)
   ii. Maximize residential Organics collection opportunities in areas throughout the County in a cost-effective and strategic manner
   iii. Promote residential Grasscycling

8. Waste Disposal

1. Each Township shall:
   i. Ensure that all disposed materials meet the standards for acceptance by the waste disposal facility as set forth in Schedule B.
      1. Ultimately depot materials may be returned to the Township of origin and that Township will be responsible for any cost or charges to the County, in addition to any extra costs incurred by the County in transporting, disposing of or making the material comply with the standards.
   ii. Ensure that all contracts and agreements for disposal meet the standards for acceptance by the waste disposal facility as set forth in Schedule B.

iii. Charge fees to residents for the disposal of Bulky items as listed in Schedule A.
iv. Ensure that any Township owned and operated facility or property (for example: municipal offices, trail, community centre, etc.) has equal public access to recycling as to disposal with assistance from the County as requested.

2. The County may:
    i. Limit Township levied disposed waste at the County disposal facility to two (2) garbage set-outs or less per week per household and four (4) commercial waste set-outs or less per week by January 1, 2016.
    ii. Establish annual fees according to Schedule C for each Township. The fees will vary based on weight of wastes disposed with due consideration of adjusted seasonal population influxes and other economic considerations. Annual fees for disposed materials, in excess of the estimated annual allowance, will come into effect on January 1, 2018.
    iii. Carry out, commission, research, monitor, study, and analyze waste collection and treatment programs and services.
    iv. If directed, cooperatively enter into agreements and contracts with Townships and collection contractors for the provision of waste collection and treatment programs and services, including the continuation of existing programs and services.
    v. be responsible to establish and maintain new systems for the disposal of garbage and other refuse;
    vi. acquire land in any local municipality for purpose described in paragraph (v) or;
    vii. enter into agreements‘ with one or more municipalities to provide for the joint management and operation of garbage collection and/or disposal systems.

9. Restrictions/Prohibitions

1. No person shall scavenge, salvage, pick-over, interfere with, remove or scatter any waste at any waste site or at street unless authorized by the Township or the County.

10. Permits/Approvals

1. Each Township is responsible for securing any necessary permits and /or approvals from applicable Ministries including but not limited to: Certificates of Approval and/or Environmental Compliance Approvals. When applying for

permits, Townships shall involve the County. The County may assist this process in order to ensure consistency of waste management programs.

11. Force and Effect

    1. Each Township and/or the County is responsible for the enforcement of this by-law within its municipal boundary and creating local by-laws that encourage waste reduction. Where provisions of this by-law conflict with the provision of other Township by-laws, the provision of this by-law shall prevail.

12. Committee

    1. The County will coordinate a committee of Township representatives that will meet regularly in order to provide ongoing waste management communications and enhanced program cooperation with respect to monitoring, research, operations and promotions.

13. Review

    1. This By-law shall be reviewed by County Council, with input from Townships, in conjunction with updates to the County Waste Management Master Plan and/or when necessary.

14. Schedules - Attached hereto and forming an integral part of this By-law are the following schedules:

    1. Schedule “A” – Municipal Solid Waste Materials
    2. Schedule “B” – Recyclable Material, Controlled and Prohibited Waste
    3. Schedule “C” – Annual Allowance of Disposed Materials

15. This By-law shall come into force and effect on the date of final passing.

16. The following County of Peterborough By-laws are hereby repealed:

    1. By-law No. 46-1989 passed by County Council on September 6, 1989.
    2. By-law No. 21-1991 passed by County Council on March 27, 1991.
    3. By-law No. 11-1996 passed by County Council on February 7, 1996.

17. That this By-law shall be commonly called the “County Waste Management By-law**”.**

Read a first, second and third time and passed in Open Council this XXth day of XX, 201X.

J. Murray Jones Warden

c/s

Sally Saunders Clerk

Schedule A - Municipal Solid Waste Materials

In this By-law:

1. “Recyclable Materials” includes:

    a. Blue box “recyclable containers” (emptied and rinsed) includes but is not limited to:

        (i) food and beverage glass bottles and jars;
        (ii) metal food and beverage cans;
        (iii) aluminium foil and trays;
        (iv) #1 (PET) plastics, #2 (HDPE) plastics, #3 (PVC), #4 (LDPE) plastics, #5 (PP) plastics, and #7 (OTHER PLASTIC) plastics and consisting of bottles, containers, trays, tubs, lids and film, but not including motor oil containers; bale twine, and toys;
        (v) polycoat milk and juice cartons;
        (vi) tetrapak drinking boxes;
        (vii) empty and dry paint, stain and coating cans with lid removed;
        (viii) aerosols (empty); and
        (ix) any other container designated by the County to be a recyclable container.

    b. Blue box “recyclable fibre” includes but is not limited to:

        (i) newspaper and insert flyers
        (ii) magazines, catalogues and telephone directories
        (iii) household paper, including junk mail, writing and computer paper and envelopes;
        (iv) paper bags;
        (v) fibre egg cartons
        (vi) paper rolls such as the inserts for toilet paper and paper towels;
        (vii) boxboard and waxed boxboard;
        (viii) hard and soft cover books (hard covers removed);
        (ix) paper cups;
        (x) greeting cards and non-foil gift wrap;
        (xi) “recyclable cardboard” includes, clean, unwaxed corrugated cardboard and
        (xii) any other fibre designated by the County to be recyclable fibre

c. “Other” recyclable materials also includes but is not limited to:

(i) tires;
(ii) scrap metal and Freon-removed white goods;
(iii) leaf and yard materials;
(iv) mattresses;
(v) drywall and clean wood;
(vi) other construction and demolition debris (optional);
(vii) #6 Polystyrene (optional);
(viii) boat wrap (optional);
(ix) bale wrap (optional);
(x) carpet and underlay (optional);
(xi) durable plastics (optional);
(xii) any other item designated by the County and/or PCCWMF to be recyclable.

2. The following materials are accepted for the purposes of recycling or reclamation and/or appropriate disposal at designated depots or events:

a. MHSW and/or “household hazardous waste” (HHW) includes any household product, material or item labelled as “corrosive” or “toxic”; “reactive”; “explosive”; “oxidizing”; “poisonous”; “infectious”; and or “flammable”; including but not limited to:

(i) Aerosols (with contents);
(ii) antifreeze;
(iii) automotive fluids (all);
(iv) batteries (all) including: car/vehicle/boat batteries and dry-cell;
(v) cosmetics/make-up;
(vi) fertilizers;
(vii) fuel/gasoline;
(viii) fire extinguishers;
(ix) flammable liquids and solids;
(x) fluorescent light bulbs (compact and tubes);
(xi) halogenated pesticides;
(xii) ignitable gas cylinders;
(xiii) inorganic acids, bases, cyanides, and oxidizers;
(xiv) isocyanides;
(xv) medications (all);
(xvi) mercury switches;
(xvii) non-basic fire suppressants;
(xviii) non-ignitable gas cylinders;

(xix) non-PCB light ballasts;
(xx) non-halogenated pesticides;
(xxi) oil/motor-oil;
(xxii) oil-filters;
(xxiii) organics oxiders;
(xxiv) paint and stain and paint sludge;
(xxv) pet care products;
(xxvi) pool chemicals:
(xxvii) propane cylinders and small tanks (50kg/100lb max)
(xxviii) pharmaceuticals;
(xxix) sealants and glues;
(xxx) sharps (syringes/lancets)
(xxxi) soap and toiletries
(xxxii) thinners
(xxxiii) any other item designated by the County to be “MHSW”

b. “waste electronic and electrical equipment” or WEEE includes:

(i) televisions;
(ii) computers
(iii) desktop monitors;
(iv) printers;
(v) computer components;
(vi) photocopiers;
(vii) telephones;
(viii) tape and disk players;
(ix) VHS/DVD players;
(x) cameras;
(xi) ink jet cartridges;
(xii) cell phones and PDAs;
(xiii) any other item designated by the County to be WEEE

3. “Organic” or “green bin” or “ source separated organics” means compostable organic material including raw and cooked food waste and may include but is not limited to:

(i) kitchen or food discards fruit, vegetable and general table scraps, meat and fish/shellfish products, dairy products, eggs and egg shells, herbs, nuts and seeds, sugars and spices, confectionery products, sauces, bones, pet food, bread, grains, rice, pasta, flour, coffee grounds and tea bags.
(ii) solidified cooking oils and cooked or raw grease and fats

(iii) paper fibres: soiled paper towels, tissues, paper plates, coffee filters, soiled paper food packaging items such as boxboard, cardboard, newspaper, wax paper, and other paper fibre packaging;
(iv) pet waste (no clay-based litter)
(v) ashes (cool)
(vi) brown paper bags or County-approved “Compostable” or “Biodegradable” bags
(vii) Any other item determined by the County from time to time to be organic material

4. “Leaf and Yard material” includes but is not limited to:

(i) leaves;
(ii) limited amounts of grass clippings (10% total volume);
(iii) garden roots and cuttings;
(iv) hedge and shrub trimmings;
(v) brush cuttings;
(vi) twigs and branches;
(vii) Christmas trees;
(viii) other plant material; and
(ix) Any other item determined by the County from time to time to be leaf and yard material.

5. “Bulky items” means large household items which include but are not limited to:

(i) plastic patio furniture;
(ii) pianos and other large musical instruments;
(iii) toilets;
(iv) sinks;
(v) furniture;
(vi) mattresses (see above);
(vii) carpet and underlay and (see above);
(viii) any items so designated by the County from time to time

Schedule B - Recyclable Material, Controlled and Prohibited Waste

Waste generated only in the County of Peterborough and transferred to the County/City disposal facility must adhere to the Corporation of the City of Peterborough By-law regulating the disposal of waste for the Peterborough County-City Waste Management Facility - PCCWMF(07-027, 09-108, and any future amendments).

The following notes are taken from the general provisions of the Corporation of the City of Peterborough by-law regulating disposed waste. The by-law in its entirety must be adhered to. The purpose of the section is to highlight provisions regarding recyclable materials, controlled and prohibited waste.

1. Any load containing more than 10% by volume of recyclable materials may be refused.

2. "Controlled waste" is prohibited from acceptance for disposal at waste transfer stations as it requires special handling. Inquiries regarding disposal may contact the Peterborough County/City Waste Management Facility. Controlled waste includes but is not limited to:

(i) asbestos, dry or slurry
(ii) Contaminated soil

3. "prohibited waste" is non-acceptable waste materials at solids waste transfer stations and disposal facilities for landfilling and includes but is not limited to:

(iii) recyclable materials (see Schedule A) including "recyclable containers" and "recyclable fibres", and other recyclable materials;
(iv) dangerous, hazardous or toxic waste;
(v) household hazardous waste (MHSW);
(vi) waste electronics and/or electrical equipment (WEEE)
(vii) pathological waste;
(viii) manure originating from agricultural activity;
(ix) any waste in liquid form (not solid and which exhibits evidence of free water, or other liquids, whether or not contained) including grease and grease trappings;
(x) Sludge or any product from a Waste Water Treatment Plant; and
(X) any other item or thing designated as prohibited or controlled waste by the County.

Schedule C - Annual Allowance of Disposed Materials

In order to promote waste reduction and encourage participation in all municipal solid waste management programs, County Council will determine an "Annual Allowance of Disposed Materials" for each Township.

This will allow the County to recover costs associated with managing waste materials at the Peterborough County City Waste Management Facility (PCCWMF or disposal facility) in excess of waste limits established and reviewed by County Council.

An annual allowance and associated fees for disposed materials will be calculated and recommended to County Council every year, as part of the County budget process, for previous annual tonnages received at the County disposal facility from each Township.

The following calculation will be used:

Annual allowance at PCCWMF = A x B x C

Where,

A = Total number of household equivalents[1] and applicable commercial properties

B = two (2) garbage set-outs per household per week of collection and four (4) commercial waste set-outs per week of collection

C = total kilograms per garbage set-out[2]

A fee per tonne of material exceeding the annual allowance will be charged to applicable Townships.

[1] Household equivalent = number of permanent households as determined by MPAC and seasonal households are calculated as 50%, or half, of a permanent household.

[2] Total kilograms of garbage to be reviewed and reported annually based on local/provincial waste audit information and/or waste statistics for residential and commercial sector, and consideration of Waste Management Master Plan program implementation alignment.

Schedule D - Guidelines for Blue Box Recycling

1. **Blue Box Set out Limits**

   a. Residential: no limit

   b. Commercial: 4 blue boxes for containers, 5 blue boxes or bundles of fibres unless otherwise authorized by the County of Peterborough and/or collection contractor

2. **Recyclable Materials**

   a. Accepted: Items in Schedule A, 1 (a) and 1 (b)

   b. Unacceptable Materials: Items in Schedule A, 2 to 5 and Schedule B

3. **Curbside Collection set-outs must:**

   a. **Be sorted into 2 Streams in an approved container:**
      - **i. Fibres**
        1. Loose, boxes broken down, bags in a bag tied
        2. Cardboard and/or boxboard may be bundled no larger than 30”x30”x8” (not applicable for commercial set-outs)
      - **ii. Containers**
        1. Loose, empty and rinsed of food residue,
        2. all types allowed in one box

   b. Use Blue Boxes
      - i. Clear bags may be used for overflow and sorting rules apply as above
      - ii. Clear bags may be used on private roads and/or for seasonal residents and sorting rules apply as above
      - iii. At the discretion of the County of Peterborough (mainly for commercial) 90 gallon carts may be purchased for set out, sorting rules above apply

   c. Set out by 7:30am or 7:00am in North Kawartha
      - i. Collection times are not guaranteed, recycling may be collected at any time during the day

   d. Have in accessible location
      - i. Within 1 metre of the curb or travelled roadway or as determined by the collection contractor and/or the County of Peterborough
      - ii. Blue Boxes or clear bags may be placed in a Bear Bin with appropriate flagging system to inform the collection contractor that there are materials for collection

iii. Located on the right hand side of the laneway when approaching the roadway for easy visibility by the collection contractor in all seasons
iv. Obstructions such as trees, bushes, grass, parked vehicles and snow banks are the responsibility of the resident
v. At the discretion of the collection contractor and/or the County of Peterborough, on property collection for commercial may be arranged

4. Depot Collection bins must:

a. **Be Sorted into 2 Streams - Fibres and Containers:**
   i. **Fibres**
      1. Loose, boxes broken down, bags in a bag tied
      2. Separate bin may be available for film plastic bags
      3. No bags of material in bin
   ii. **Containers**
      1. Loose, empty and rinsed of food residue
      2. All types allowed in the containers bin
      3. No bags of material in bin

Appendix E

Options Inventory Evaluation

APPENDIX E - Options Inventory Evaluation

Strategy Category	Option Name & Description	Diversion Potential		Practicality					Overall Ranking		
		Overall Potential for Diversion	Projected Impact of Program	Diversion Potential	Economic Feasibility	Environmental Impact	Social Acceptance	Ease of Implementation	Total	Priority	Timeline
Enhanced Diversion Programs	SSO - Increase Use of Back Yard Composting/Digesting	12%	2%	2	4	4	3	4	17	High	Short
	Brush / Leaf & Yard - Add at Crystal Lake & Cavendish	6%	1%	2	2	2	3	3	12	Moderate	Short
	MSHW - Add Limited Collection at All Transfer Stations	1%	1%	2	3	3	3	3	14	Moderate	Short
	WEEE - Add at Crystal Lake & Cavendish	<1%	<1%	1	4	4	4	3	16	High	Short
	Hard Plastics - Add to Buckhorn & Bobcaygeon (Seasonally)	<1%	<1%	1	4	3	3	4	15	Moderate	Short
	SSO - Work with County To Grow Depot Program	23%	1%	2	2	4	3	3	14	Moderate	Medium
	MSHW - Partner with Adjacent Municipality	1%	1%	2	3	4	3	2	14	Moderate	Medium
	MSHW - Feasibility Study re Possible Mobile Hazardous Waste Station	1%	1%	2	4	2	3	2	13	Moderate	Medium
	Mattresses - Launch Own Special Collection	<1%	<1%	1	3	4	4	3	15	Moderate	Medium
	SSO - Feasibility Study - Municipal Compost Facility	23%	4%	3	4	2	2	1	12	Moderate	Long
	SSO - Investigate Adding Our Own Program to Crystal Lake & Cavendish	23%	3%	2	2	3	3	2	12	Moderate	Long
Operations Enhancements	Amend ECAs for All Transfer Stations	Indirect	Indirect	1	4	4	4	4	17	High	Short
	Improve Site Conditions - Maintenance, Signage, Attire	Indirect	Indirect	1	4	2	4	4	15	Moderate	Short
	Reduce Hours of Operation	Indirect	Indirect	1	4	2	2	4	13	Moderate	Short
	Investigate Breakdown of County Waste Levy	Indirect	Indirect	1	4	1	4	4	14	Moderate	Short
	Waste Pass Alternatives - Implement PAYT	10-20%	10-20%	4	4	4	2	2	16	High	Medium
	Formalized Staff Training - Develop Training Manual	Indirect	Indirect	1	3	2	2	4	12	Moderate	Medium
	Improved Screening Protocol	8%	8%	3	4	4	2	3	16	High	Medium
	Review 3rd Party Scrap Metal Contract	Indirect	Indirect	1	4	1	4	4	14	Moderate	Medium
	Develop Standard Operating Procedures	<1%	<1%	1	3	1	3	3	11	Moderate	Medium
	Re-Instate Clear Bag Policy	5%	5%	3	4	3	2	4	16	Moderate	Medium
	Complete Feasibility Study - Centralized Transfer Station	Indirect	Indirect	1	2	2	2	1	8	Low	Long
Education & Promotion	Develop & Sell Cottage Rental Kit	<1%	<1%	1	3	4	4	4	16	Moderate	Short
	Performance Data - Increase Frequency of Waste Audits	Indirect	Indirect	1	3	3	3	3	13	Moderate	Medium
	Performance Data - Increase Sharing of Results with Residents	Indirect	Indirect	1	3	3	4	3	14	Moderate	Medium
	Improve Public Awareness of Retail Take-Back Programs	Indirect	Indirect	1	3	3	4	3	14	Moderate	Medium
	Improve Public Awareness of Environment Days	<1%	<1%	1	4	3	4	3	15	Moderate	Medium
	Implement Education Program Targetting Blue Box Items Specifically	2%	2%	2	4	3	4	3	16	High	Short
	Enhance Municipal Waste Management Communication	Indirect	Indirect	1	4	3	4	3	15	High	Short

Endnotes

[1]Source:http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/hlt-fst/pd-pl/Table-Tableau.cfm?LANG=Eng&TABID=1&T=301&SR=1476&RPP=25&S=82&O=A&CMA=0&PR=0

[2] Source: of Trent Lakes Annual Submissions to the WDO Datacall
[3] Source: http://www.wdo.ca/partners/municipalities/municipal-datacall/
[4] Source: Federation of Canadian Municipalities
[5] Source: Federation of Canadian Municipalities
[6] Source: Waste Diversion Ontario. 2014. Data Report #1: 2013 Blue Box Tonnage Highlights (Residential). <www.wdo.ca/files/4914/1719/3046/2013_Blue_Box_Tonnage_Highlights_Residential_DR1.pdf>
[7] Source: Genivar Consultants. 2010. Blue Box Recycling Program Best Practice Assessment Report: Township of Kilalloe, Hagarty, and Richards. CIF #262. <http://cif.wdo.ca/pdf/reports/262/262_report.pdf>
[8] Source: Trow. 2010. A Residential Blue Box Waste Recycling Strategy for the Town of Fort Frances. <http://fort-frances.com/sites/default/files/Fort%20Frances%20Strategy.pdf>
[9] ibid.
[10] Source: Stewardship Ontario. 2007. Blue Box Program P&E Review – Final Report. <http://216.119.79.78/rkn/pdf/praxis_final_report.pdf>
[11] Source: Stewardship Ontario. 2005. Research Report: Identifying Best Practices in Municipal Blue Box Promotion and Education. <http://stewardshipontario.ca/wp-content/uploads/2013/03/Identifying-Best-Practices-in-Municipal-BB-PE.pdf>
[12] Source: *Best Practices for Rural Depot Recycling* by Waste Diversion Ontario, 2006
[13] Source: *Evaluation of Best Practices of Rural Recycling Depot Programs* by SGS Lakefield Research Limited, 2006
[14] Source: exp.Services Inc. 2012. Town of Gananoque – Long Term Solid Waste Management Strategy. <http://cif.wdo.ca/projects/documents/306-Gananoque_Final_Report.pdf>
[15] Source: Stewardship Ontario. 2008. *The Use of Clear Bags for Garbage as a Waste Diversion Strategy: Background Research on Clear Garbage Bag Programs across North America*. <www.niagararegion.ca/government/committees/pdf/Quinte%20Clear%20Bag%20Report.pdf>
[16] ibid,
[17] Source: Crawley, C. September 13, 2011. Memorandum to Chair and Members of the Waste Management Advisory Committee. Subj: Clear Bag for Garbage Update. Appendix 1. <www.niagararegion.ca/government/committees/pdf/Appendix%20I%20-%20Municipalities%20Clear%20Bag%20Pilot%20Details.pdf>
[18] Source: Crawley, C. September 13, 2011. Memorandum to Chair and Members of the Waste Management Advisory Committee. Subj: Clear Bag for Garbage Update. <www.niagararegion.ca/government/committees/pdf/WMAC%20Clear%20Bag%20Update%20Sept.%2013-11.pdf>
[19] Source: Association of Municipal Recycling Coordinators. 2006. Analysis of User Pay System Costs in Ontario. E&E Project 191. <http://216.119.79.78/rkn/pdf/191_final_report.pdf>
[20] Source: User Pay Program Implementation Guide, E&E # 126 <www.stewardshipontario.ca/bluebox/pdf/eefund/reports/126/126_report.pdf> as cited in http://cif.wdo.ca/pdf/reports/297-OVWRC_Final_Report.pdf
[21] Source: exp.Services Inc. 2012. Town of Gananoque – Long Term Solid Waste Management Strategy. <http://cif.wdo.ca/projects/documents/306-Gananoque_Final_Report.pdf>
[22] Source: exp.Services Inc. 2012. Town of Gananoque – Long Term Solid Waste Management Strategy. <http://cif.wdo.ca/projects/documents/306-Gananoque_Final_Report.pdf>
[23] Source: County of Oxford Draft Waste Management Strategy. 2014. Appendix A – Genivar Report. Oxford County Integrated Waste Management Plan. <www.oxfordcounty.ca/Portals/15/Documents/wasteManagement/2014/Strategy/Appendix%20A%20-%20GENIVAR%20Report%20Oxford%20County%20Integrated%20Waste%20Management%20Plan.pdf>

[24] Source: exp.Services Inc. 2012. Town of Gananoque – Long Term Solid Waste Management Strategy. <http://cif.wdo.ca/projects/documents/306-Gananoque_Final_Report.pdf>
[25] Source: Golder Associates. 2014. Township of Lanark Highlands: Integrated Waste Management Plan. <www.lanarkhighlands.ca/Services/DocumentsAndPDFs/2014%20LH%20INTEGRATED%20WASTE%20MANAGEMENT%20PLAN%20FINAL.pdf>
[26] Source: Household Hazardous Waste Facts. <www.h-gac.com/community/recycling/documents/household_hazardous_waste_facts.pdf
[27] Source: United States Environmental Protection Agency. 2014. Proper Disposal of Household Hazardous Wastes. <http://water.epa.gov/polwaste/npdes/swbmp/Proper-Disposal-of-Household-Hazardous-Wastes.cfm>
[28] Source: County of Peterborough Waste Management By-Law Presentation to Townships June 2015
[29] Source: Proposed Waste Reduction and Resource Recovery Policy Framework. April 2015. PowerPoint Presentation by the Ministry of the Environment and Climate Change.
[30] Source: 2014 MTL Submission to WDO Datacall
[31] Source: David Suzuki Foundation
[32] Source: http://cif.wdo.ca/pdf/reports/513.2-EWSWA-WRSFinalReport.pdf