

**City of St. Thomas
Integrated Waste
Management Master Plan
Final Report**

October 2011

Submitted by:



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Glossary of Terms and Acronyms

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.

Blue Box: A plastic container, often blue in colour, for conveying acceptable recyclable materials. Also refers to a municipal curbside recycling program.

Bi-Weekly Collection: The collection of material set out at curbside one day every two weeks.

Capture rate: The total quantity of a waste that is diverted for recycling as a percentage of the total quantity of that waste generated.

C of A: A certificate of approval outlining license operating parameters of a waste management facility.

C&D: Construction and Demolition Wastes that are derived from construction and demolition processes and of sufficient size, volume or weight that would make it unsuitable for its disposal in curbside waste bags or blue box containers. Often included in the definition of IC&I waste.

CCF: Central Composting Facility

CIF: Continuous Improvement Fund

EA: Environmental Assessment

EAA: *Environmental Assessment Act*

EPA: *Environmental Protection Act*

EPR: Extended Producer Responsibility is a framework to work towards the goal of zero waste. EPR means that product manufacturers are responsible for the full life cycle costs associated with their products including the environmental costs of production and managing the product at the end of its life, whether that be for reuse, for recycling, or safe disposal.

Garbage: Black/green bag or reusable container of waste set at the curb for disposal in the landfill.

GAP: Generally Accepted Principles

Green Cart Program: Diversion of organic wastes including food waste, non-recyclable paper and sometimes including diapers, sanitary products and pet waste. Term often used interchangeably with SSO.

HDPE: High density polyethylene plastic bottles and jugs commonly used for containing detergents.

hshld: household

HHW: Household Hazardous Waste. Also sometimes referred to as Municipal Hazardous or Special Waste (MHSW).

IC&I: Industrial, Commercial & Institutional. Waste generated from industrial processes or commercial or institutional activities.

IWMMP: Integrated Waste Management Master Plan

Kg: The metric weight measurement of Kilogram.

Markets: Persons, corporations, organizations or partnerships willing to purchase or accept in exchange for a fee, recyclable material processed through or at a recycling facility.

MHSW: Municipal Hazardous or Special Waste. 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 (HHW).

MOE: The provincial Ministry of the Environment responsible for regulations governing waste management practices.

MR: Multi-Residential buildings which contain multiple self-contained residential dwelling units (typically greater than 6 units).

MRF: Material Recovery Facility. This is a facility where recyclable materials from the Blue Box are sorted prior to sending to market.

OBB: Old boxboard (post-consumer).

OCC: Old corrugated cardboard (post-consumer).

OES: *Ontario Electronic Stewardship* is the Industry Funding Organization (IFO) for Waste Electrical and Electronic Equipment. Companies that are designated as stewards for Waste Electrical and Electronic Equipment can discharge their legal obligations under the Waste Diversion Act by registering, reporting and paying fees to OES.

Organic Waste: Wastes including food waste, non-recyclable paper streams and leaf and yard wastes. All of these wastes can be diverted away from landfill disposal to composting at a centralized composting facility.

OTS: Ontario Tire Stewardship is the Industry Funding Organization (IFO) 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.

P&E: Promotion and Education materials prepared and distributed by a municipality to help promote the proper participation in waste management and waste diversion programs.

PAYT/User Pay: Pay as You Throw. Defined as a program in which every individual unit, bag or container set out for collection is paid for directly by the resident, commonly by the purchase of bag tags. Other examples of user pay systems would be the utility based system and the subscription based system.

PET: Polyethylene terephthalate. A plastic bottle or container commonly used for carbonated beverages and water.

Recyclables: Materials diverted in the Blue Box program or other municipal recycling programs.

Recycling Depot: A designated location within a municipality where recyclable material (Blue Box, organics, scrap metal, clean lumber, etc.) can be dropped off into segregated bins.

SF: A residential single family detached housing unit.

Stewardship Ontario: Is the Industry Funding Organization (IFO) established to develop diversion programs for both the Blue Box and MHSW Programs.

Stewards: Businesses that produce or import products that are sold to consumers that include packaging and/or end of product life wastes.

SSO: Source Separated Organics. 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.

Tonne: 1,000 kilograms. This is equivalent to approximately 2,200 pounds.

tpy: tonnes per year

Waste: A general term that describes “garbage”, the refuse that is directed to disposal.

Waste Diversion rate: Waste diversion rate is the percentage of waste diverted from landfill through means of diversion programs (Blue Box, composting, etc). Waste

diversion rate is determined by dividing the total quantity of waste diverted by the total amount diverted and disposed.

Waste Recycling Strategy: Is used to plan effective and efficient recycling programs by forecasting waste and recyclable material generation, planning how to optimize recycling of identified materials and implementing and monitoring the plan to improve overall Blue Box capture rates and performance.

WDA: *Waste Diversion Act*

WDO: Waste Diversion Ontario (WDO) which is 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.

WEEE: Waste Electrical and Electronics Equipment. This includes any broken or unwanted electrical or electronic appliances including computers, phones and other items that have reached the end of their usable life.

Zero Waste: the philosophy of taking a cradle-to-cradle approach to managing waste where "industry has to redesign products and processes to reduce waste before it is made, as well as designing products for greater reuse."

Executive Summary

The City initiated this 20 year (2011-2031) Integrated Waste Management Master Plan (referred to as the Plan or IWMMP) to recalibrate and reinvigorate its current waste management system as well as plan for the future. The Plan focuses on wastes managed by the City (i.e. residential and limited industrial, commercial and institutional).

In 2007, the Ministry of Environment published a Policy Statement on Waste Management Planning, outlining the framework for waste management in Ontario. The Policy Statement provides the waste management sector with direction and guidance in developing a more consistent waste management strategy, identified by the following guiding principles:

- Commitment to meeting the 60% diversion rate from final disposal
- Cooperation between the public and private sectors to realize cost savings and maximize the efficiencies
- Consideration of the triple bottom line; economic, social and environmental impacts
- Avoid waste disposal capacity issues
- Management of waste as close to the sources as possible; and
- Open and transparent decision making

This IWMMP will be a tool which City Council can reference when developing policies, guidelines and best practices for the short and long term benefit of the City's Waste Management program. Embedded within this Plan is a specific Waste Recycling Strategy for Blue Box waste. This is required by WDO as part of best practices and can help the City maximize Blue Box funding.

This plan intends to help the City meet sustainable waste management objectives and protect the environment. The program was developed in the following ways:

- Reviewing the existing waste management system including waste disposal and waste diversion;
- Reviewing waste composition and diversion potential;
- Consulting with the public;
- Estimating future waste disposal and diversion requirements;
- Reviewing and evaluating a number of waste diversion systems;
- Reviewing and evaluating a number of waste disposal options; and
- Recommending a planned waste management system.

It is **recommended** that the City to strive to meet the Provincial diversion goal of 60%. It should be able to accomplish this goal by reinvigorating and recalibrating its existing waste management programs.

Of concern in the short term is the City's current waste diversion rate of about 38%. It is **recommended** that a staged approach be taken to reach the Provincial target. It is **recommended** that the first stage be to attain a 50% waste diversion goal and that this goal be attained by **1 January 2014**. Most notably by optimizing and reinvigorating existing diversion programs by the distribution of kitchen catchers for organic waste and the distribution of additional recycling boxes free of charge or at cost on an ongoing basis.

To meet the City's long range waste management needs it is **recommended** that stage 2 of the plan be implemented by **1 January 2016**. This will assist the City to meet a 60% waste diversion goal. To reach this goal it is recommended that the City retender the collection contract and look for capacity at regional processing facilities for recycling, organics and waste as well as study the feasibility of a City owned or joint municipally owned Recycling Depot/Transfer Station.

During public consultation some residents indicated that they would like to strive for a 70% waste diversion goal. This is a very aggressive goal. It is **recommended** that this goal be revisited once the 60% waste diversion goal has been met.

In general, this increased emphasis on waste diversion will mean that capacity and convenience for waste disposal will need to be reduced but increased for waste diversion.

The City once led the Province in waste diversion. This Plan investigated ways to bring back waste diversion to previous levels and sets out a strategy for waste management over the next twenty years. The City has all the required programs to help it attain a high waste diversion rate. Through a recalibration and reinvigoration of its existing waste management programs the City should be able to approach if not exceed a 60% waste diversion target. The overall focus of this Plan has been to reduce the amount of waste directed to landfill and increase the amount of waste diverted.

1.0 Introduction

The City of St. Thomas has a long history of waste diversion. In the 90's the City was a leader having implemented an innovative and ground breaking three stream (i.e. Green Cart, Blue Box and waste) curbside collection and waste management program. This included the 1994 launch of the first Green Cart program in Ontario and arguably in Canada.

For many years, the City's waste management was contracted to the local and family operated Green Lane Environmental Group Ltd. This company helped bring the City to the environmental forefront through the development of recycling and composting facilities to process much of the City's divertable material. In addition, the Green Lane Environmental Group Ltd. owned and operated a private landfill that handled the City's residual waste.

The Green Lane landfill and eventually all of their waste management companies were sold to various parties starting in 2007. These parties continue to collect, receive and process St. Thomas' various wastes.

Today, the three stream waste management program is still intact. BFI Canada Inc. (BFI) undertakes all waste collection and is under contract until February 2014. Wastes continue to go to the Green Lane Landfill, now owned and operated by the City of Toronto. Green Cart waste goes to the Orgaworld Composting Facility, in London. Recyclables are processed at the BFI Materials Recovery Facility, in London.

In the intervening years, the City's waste diversion rate has sagged from a high of about 60% in the mid to late 1990s to the current diversion rate of about 38%.

The City recognized this and now has dedicated staff in place to help oversee the waste management and waste diversion programs. A significant part of the staff's responsibility is to help bring back waste diversion to its previous levels and re-establish St. Thomas' place as a waste diversion leader.

The City initiated this 20 year (2011-2031) Integrated Waste Management Master Plan to recalibrate and reinvigorate its current waste management system as well as plan for the future. The Plan focuses on wastes managed by the City (i.e. residential and limited industrial, commercial and institutional).

There were a number of key questions that were addressed as part of Plan development including:

1. Is it feasible and what would be required for the City to achieve the provincial goal of 60% waste diversion rate?
2. Is it desirable and feasible for the City to aim for a 70% waste diversion rate?

The answers to the following questions helped answer the key questions:

3. Can existing programs be recalibrated and reinvigorated or are completely new programs required?

4. What types of new programs could be added to the current waste management system that could improve waste diversion; and
5. Should the current system of contracting out most waste management continue or is it prudent for the City to assume greater direct management of its wastes?

This Plan was developed by:

- Reviewing the existing waste management system including waste disposal and waste diversion;
- Reviewing waste composition and diversion potential;
- Consulting with the public;
- Estimating future waste disposal and diversion requirements;
- Reviewing and evaluating a number of waste diversion systems;
- Reviewing and evaluating a number of waste disposal options; and
- Recommending a planned waste management system.

1.1 Documents used to Develop the Plan

There are a number of key Provincial and other documents that played a critical role in the development of this Plan.

Ontario's 60% Waste Diversion Goal – A Discussion Paper

In 2004, the Minister of the Environment announced a 60% waste diversion goal by 2008 for the Province of Ontario. The Ministry of the Environment's (MOE) June 2004 document, "Ontario's 60% Waste Diversion Goal – A Discussion Paper," outlined some of its goals with regard to diversion targets and how to reach them (MOE, 2004).

Policy Statement on Waste Management Planning: Best Practices for Waste Managers

In June 2007, the MOE released a "Policy Statement on Waste Management Planning: Best Practices for Waste Managers." (MOE, 2007). The MOE maintains its 60% waste diversion target but without a target year. As well, it proposes to compel all municipalities to prepare a Municipal Waste Management Plan. According to this document the scope of municipal waste management plans includes residential wastes and industrial commercial and institutional (IC&I) and construction and demolition (C&D) waste collected by the municipality.

The following principles should be considered when completing the Plan:

1. Environmental protection is a shared responsibility.
2. Integrated waste management systems that reflect local circumstances are in place.
3. Diversion of materials from final disposal is maximized in consideration of the provincial 60% diversion target, including the creation of incentives where appropriate.
4. Public and private sectors cooperate, where possible, to realize cost savings and maximize efficiencies.
5. Waste management choices consider economic, social and environmental costs.

6. Investment in infrastructure is made to accommodate growth.
7. Waste is managed as close to the source of generation as possible.
8. Producer responsibility is incorporated into waste reduction and management.
9. Decision-making is open and transparent.
10. Informed citizens support waste management choices and participate in waste management programs.
11. Maximum value from waste is recovered from the waste stream (see Figure 1. The Waste Value Chain). This concept essentially rearticulates the 3Rs hierarchy of Reduce, Re-use and Recycle.
12. Innovative waste management technologies and approaches are incorporated as appropriate to local circumstances to achieve sustainable solutions.

This Plan was prepared using the template outlined in this document.

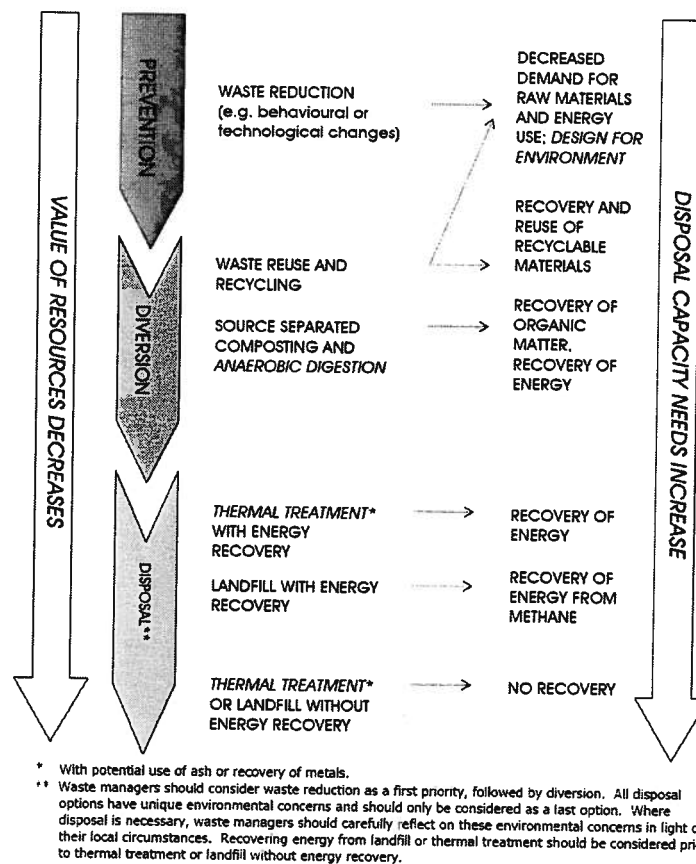


Figure 1. The Waste Value Chain

Toward a Zero Waste Future: Review of Ontario's Waste Diversion Act, 2002

In 2002, the Ontario government passed the *Waste Diversion Act, 2002*. The WDA is Ontario's main legislation to "promote the reduction, reuse and recycling of waste for the development, implementation and operation of waste diversion programs." To date, four program plans have been approved by the Minister, the Blue Box Program Plan (BBPP), Municipal Hazardous & Special Waste (MHSW), Waste Electronics & Electrical Equipment (WEEE) plans and a Used Tires Diversion Program.

The document "Toward a Zero Waste Future: Review of Ontario's Waste Diversion Act, 2002" (MOE, 2008) highlights some of the Province's thinking with regard to waste management in Ontario.

The document proposes two key principles as being central to Ontario's future waste management system:

Zero Waste philosophy means taking a cradle-to-cradle approach to managing waste where "industry has to redesign products and processes to reduce waste before it is made, as well as designing products for greater reuse."

Extended Producer Responsibility (EPR) is a framework to work towards the goal of zero waste. EPR means that product manufacturers are responsible for the full life cycle costs associated with their products including the environmental costs of production and managing the product at the end of its life, whether that be for reuse, for recycling, or safe disposal.

From Waste to Worth: The Role of Waste Diversion in the Green Economy

The document "From Waste to Worth: The Role of Waste Diversion in the Green Economy" (MOE, 2009) is the follow up document that encompasses and summarizes public consultation efforts related to the *Waste Diversion Act, 2002* review.

Key proposed changes to Ontario's waste diversion framework include:

- Outcomes-based individual producer responsibility;
- More clarity for the concept of diversion;
- Development of a long-term schedule for diversion;
- Development of effective oversight;
- Support producer responsibility; and
- Transitioning existing programs.

As of November 2010 no decision had been made by the Provincial government on these proposed changes to the *Waste Diversion Act, 2002*.

Guidebook for Creating a Municipal Waste Recycling Strategy

The City receives partial funding to operate a Blue Box collection and processing program from Waste Diversion Ontario (WDO). This funding comes from stewards (i.e. manufacturers and first importers) that create the packaging waste that ends up in the Blue Box. Each year the City must complete a data call and provide the WDO

with data on its Blue Box program. The WDO aims to have municipalities improve the capture rate and reduce costs of their Blue Box program. The WDO promotes a number of Best Practices to meet these ends. The WDO through its Continuous Improvement Fund provides funding to municipalities to complete a Waste Recycling Strategy. This Plan was partially funded by the CIF and their “Guidebook for Creating a Municipal Waste Recycling Strategy” (CIF, 2010) was used to help prepare this Plan. The Waste Recycling Strategy is embedded in this Plan.

Blue Box Program Enhancement and Best Practices Assessment Project

A Blue Box best practices project was commissioned by the WDO and resulted in the “*Blue Box Program Enhancement and Best Practices Assessment Project*” (KPMG, 2007). Best Practices were defined as “waste system practices that affect Blue Box recycling programs and that result in the attainment of provincial and municipal Blue Box material diversion goals in the most cost-effective way possible.” The report summarizes best practices gleaned from research undertaken of various recycling programs. This document was used to help shape the Waste Recycling Strategy aspect of this Plan.

1.2 Stated Problem

A review of the current waste management system helped identify some issues/challenges including:

- Low capture rate of Blue Box and Green Cart wastes;
- Unreliable processing capacity for Green Cart wastes;
- Disposal capacity possibly running out as soon as 2024;
- Lack of City capacity in terms of human resources and assets for its waste management program meaning that it relies almost solely on private sector waste management companies for all of its waste management requirements; and
- Waste management contracts with private sector do not include the flexibility to make adjustments to improve waste disposal or waste diversion during the term of the contract without incurring additional costs.

A problem statement was developed to help guide current waste management issues that the Plan addresses:

The City was leader in waste diversion in the Province from the mid to late 1990s. They were the first municipality in Ontario to implement a Green Cart program. For many years all of the City’s waste management needs (collection and processing) have been met by private waste management companies. While this has served the City well it has meant that the City has had little capacity through human resources and assets to manage its own wastes. In the intervening years this has meant that it has become increasingly difficult for the City to evolve its waste management program and keep pace with waste diversion. While the City’s long-term waste disposal capacity appears stable until at least 2024 this 20 year Plan sets in place strategies to reduce reliance on waste disposal by regaining waste diversion

through existing programs and the possible implementation of new waste diversion programs, thereby allowing the City to reassume its status among Ontario's leaders in waste diversion.

1.3 Goals and Objectives

The goal of this Plan is to set out the means to ensure secure waste disposal and waste diversion opportunities.

Waste Disposal

- Ensure long-term waste disposal capacity.

Waste Diversion

- To meet the Provincial waste diversion goal of 60%;
- To consider Zero Waste principles;
- To address Best Management Practices as set out by Waste Diversion Ontario (WDO) for Blue Box collection as embodied in a Waste Recycling Strategy; and
- To consider striving to work towards a waste diversion rate of 70%.

1.4 Area that the Plan will Cover

This Plan covers the City of St. Thomas within its municipal boundaries.

The Study considered the following wastes:

- Residential Curbside waste, Green Cart waste, Blue Box and waste collected and processed on behalf of the City by a private contractor;
- Other recyclable wastes including Municipal Household Special Waste (MHSW) and Waste Electrical and Electronic Waste (WEEE)
- Waste generated by municipal operations; and
- IC&I and Construction and Demolition (C&D) waste collected by the municipality.

2.0 Current Waste Management System

To develop the Plan a good understanding of the City's Current Waste Management System is required.

The current system consists of:

- Curbside waste collection and disposal;
- Curbside recycling program;
- Curbside composting program; and
- Transfer station (depot).

The City currently does not collect or process any of its waste streams. This is all undertaken by a private sector contractor.

The following sections present a detailed overview of the City's waste management programs.

2.1 Waste Management By-law

The City approved a Waste Diversion and Curbside Collection By-law (94-2010) in June 2010. It sets out requirements for the management of wastes by single family residences, multi-residential buildings and the IC&I sector. This includes minimum requirements for waste management and requirements, for presentation of wastes at the curb including a requirement to participate in diversion programs. A number of penalties for non-compliance are described.

2.2 Waste Disposal

The City does not own its own landfill. Currently it has a contractual arrangement with the City of Toronto to take its waste to the Green Landfill until 2019. However, due to a Certificate of Approval obligation the City can take waste to this landfill until it closes (earliest estimate is 2024). A new contract with the City of Toronto will need to be negotiated in 2019.

Single Family

Single family residential waste collection is undertaken weekly. Households are limited to two "free" bags/cans/bundles per week at the curb. Additional bags can be placed at the curb but a bag tag must be purchased for this purpose. The waste contractor (BFI) retains all revenue from bag tags.

BFI undertakes all waste collection. Wastes are tipped at the City of Toronto owned Green Lane Landfill.

Multi-residential

In most cases, multi-residential waste collection is undertaken by private sector contractors that make arrangements directly with building owners/property managers. Waste is taken to landfills (Canada and US) and possibly energy from waste facilities (US) for final disposal. The City does not track waste disposal from this sector. There are a few properties that are allowed to participate in the curbside program due to site limitations.

IC&I

An IC&I facility (i.e. building unit) can place up to seven (according to Waste By-law 94-2010) "free" bags of waste at the curb for collection if the property is on an existing residential route. Bag tags may be purchased for additional bags. BFI undertakes all waste collection. Wastes are tipped at the Green Lane Landfill, now owned and operated by the City of Toronto.

IC&I owners/property managers (i.e. those not on a residential collection route or those not participating in residential program) have the option of making arrangements directly with private sector contractors to provide a waste collection bin and collect

this waste for disposal. Waste is taken to landfills (Canada and US) and possibly energy from waste facilities (US) for final disposal. The City does not track or receive data regarding waste disposal from these IC&I facilities.

2.3 Waste Diversion

2.3.1 "Blue Box" Program

Single Family

The City offers a two stream (paper, containers) recycling collection program to its residents (Photo 2.1).



Photo 2.1 Blue Box Collection

Blue Boxes (and other containers used for recycling) are emptied on garbage day on a bi-weekly basis. Blue Box collection occurs on the opposite week as Green Cart collection. BFI undertakes all Blue Box collection. Recyclables are processed at the BFI Materials Recovery Facility (in London).

Table 2.1 depicts acceptable Blue Box materials as well as recycling instructions.

Table 2.1 Acceptable Blue Box Materials and Recycling Instructions

Blue Box- Paper	Blue Box-Containers
Newspapers Flyers Boxboard (cracker, cereal boxes) Fine paper Envelopes Magazines Telephone Books Cardboard (flattened and bundled no larger than 24" x 24")	Metal Food & Beverage Cans Glass Jars and Bottles #1 & #2 Rigid Plastic Containers Aluminum Pie Plates and Foil
Instructions	

Cardboard bundled and placed on top or beside Blue Box. Or placed loose into a separate Blue Box.	Place rinsed and loose into Blue Box. Please remember to remove caps and lids Wine and Spirit bottles and containers can be returned to The Beer Store for deposit (although they will be collected from the curb)
Set-out Requirements	
Boxes must be to curbside by 7:00am on your collection day Boxes must be within 1 meter (3 feet) of the travelled portion of the road Box and contents cannot weigh more than 20kg (45lbs) Residents may use containers that are not City issued Blue Boxes as long as they are easily identifiable as recyclable material and meet all other guidelines	

Multi-residential

Multi-residential buildings (apartment and condominiums) have the option to recycle using carts. There are separate carts for paper and containers with allowable materials that mimic the single family Blue Box program (see Table 2.1). BFI undertakes this cart collection. Recyclables are processed at the BFI Materials Recovery Facility (in London).

To date this program was voluntary and not all apartments and condominiums participate. The Waste By-law 94-2010 makes it mandatory to participate in the program.

The City initiated a study in early 2010 to assess current multi-residential recycling and take measures to further improve this program. This includes the provision of additional recycling carts for some multi-residential buildings, in-unit containers to help residents recycle and revised promotions and education materials. This project is expected to conclude in 2011.

Ontario Regulation 103/94 prescribes IC&I source separation programs, including for multi-residential buildings.

They are required to have source separation programs in place for:

- Aluminium food or beverage cans (including cans made primarily of aluminium);
- Glass bottles and jars for food or beverages;
- Newsprint;
- Polyethylene terephthalate bottles for food or beverages (including bottles made primarily of polyethylene terephthalate);
- Steel food or beverage cans (including cans made primarily of steel); and
- The categories of waste that are collected or accepted by the Blue Box waste management system, if any, of the municipality where the building is located.

Although Ministry of Environment (MOE) enforcement has increased in recent years not all multi-residential buildings are in compliance with these requirements.

IC&I

The City collects commercial recyclables, primarily in the downtown core. This includes twice weekly collection of waste and weekly collection of recyclables. All properties are

eligible under the current contract to participate in recycling, on the same day as the residential Blue Box waste is collected, as long as the properties are able to meet the standard set out requirements. Overall participation is very low.

IC&I recyclables collection is also undertaken by private sector contractors that make arrangements directly with IC&I owners/property managers. Recyclables are likely taken to one of a number of materials recovery facilities (MRFs) in south western Ontario.

Source separation programs for prescribed recyclables are mandatory for businesses and institutions that exceed the following thresholds:

- Retail Shopping Establishments and Complexes Total floor space > 10,000 m²
- Large Construction and Demolition Projects Total floor space > 2,000 m²
- Office Buildings Total floor space > 10,000 m²
- Restaurants >\$3,000,000 gross sales
- Hotels and Motels >75 Units
- Hospitals Class A, B or F Hospital
- Educational Institutions >350 enrolment
- Large Manufacturing Establishments >16,000 hours of employment/month

According to Ontario Regulation 102/94 these businesses must undertake/update an annual Waste Audit and Waste Reduction Work Plan.

Furthermore, Ontario Regulation 103/94 prescribes industrial, commercial and institutional source separation programs.

Although enforcement has increased in recent years many businesses are not in compliance with these requirements.

2.3.2 Organics

Single Family

The City offers a Green Cart organics collection program to its residents (Photo 2.2).

Green Carts are emptied on garbage day on a bi-weekly basis. In some cases Green Carts are co-collected (with garbage) (Photo 2.3).



Photo 2.2 Green Carts



Photo 2.3 Co-collection of Green Cart with Garbage

Table 2.2 depicts acceptable organic materials as well as Green Cart instructions.

Table 2.2 Acceptable Organic Materials and Green Cart Instructions

Acceptable Organic Materials
<ul style="list-style-type: none">• Leaves• Yard Waste• Brush (no longer than 40cm(15in.) and have a diameter no larger than 5cm (2in.)• Flowers (fresh or dried)• Fruits & Vegetables• Grains (pasta, bread, cereal)• Dairy Products (cheese, yogurt)• Pet Waste & litter• Coffee Grounds & Filters• Tea Bags• Egg Shells• Meat (including bones)• Soiled Pizza Boxes• Paper drink trays• Used tissues and paper towel
Set-out Requirements
<ul style="list-style-type: none">• Cart must be to curbside by 7:00am on your collection day• Cart must be within 1 meter (3 feet) of the travelled portion of the road• The lid of the cart must be completely closed• Cart and contents cannot exceed 100 lbs• Only material in the 64 gallon Green Cart will be collected. Excess organic material outside of the cart in bags/bundles will not be collected• Material should be loose inside the cart. Plastic bags will not be accepted• Only bags with the Biodegradable Products Institute logo will be accepted

Green Cart waste goes to the Orgaworld Composting Facility (in London).

The City collects leaves in the fall for a three week period (first three weeks of November). Only material placed out in paper bags. This material is typically processed at a local (London) leaf and yard waste composting facility.

Multi-residential

Multi-residential buildings (apartment and condominiums) have the option to divert organic materials using the same carts used by single families (except these carts would be in a centralized location). The uptake of the Green Cart for the multi-residential sector is very low (about three properties).

IC&I

All properties are eligible under the current contract to participate in the Green Cart program, on the same day as the residential Green Cart waste is collected, as long as the properties are able to meet the standard set out requirements. Overall participation is very low.

Green Cart collection can also be undertaken by private sector contractors that make arrangements directly with IC&I owners/property managers. Green Cart materials are likely taken to one of a number of composting facilities in south western Ontario.

It is assumed that the uptake of organic material diversion through the Green Cart is very low.

2.3.3 BFI Transfer Station

BFI, the city's waste contractor, operates a transfer station that accepts the following materials:

- Household garbage;
- Recyclables (Photo 2.4);
- Large items (e.g. furniture) (Photo 2.5);
- White goods (e.g. appliances);
- Scrap metal (Photo 2.6);
- Tires;
- Construction and Demolition wastes (C&D);
- Brush;
- Municipal Household Special Waste (MHSW) (limited); and
- Waste Electrical and Electronics Equipment (WEEE).

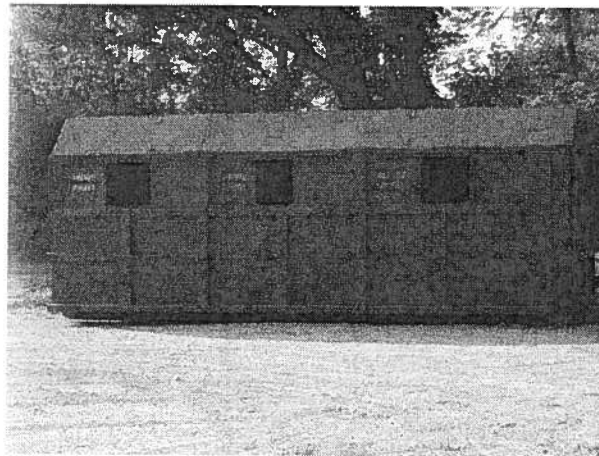


Photo 2.4 Recycling at the BFI Transfer Station

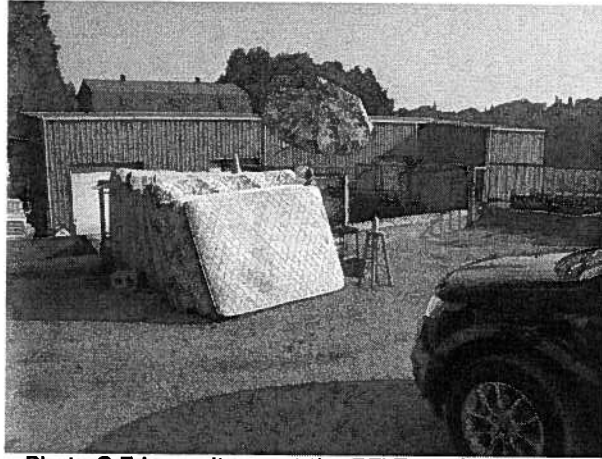


Photo 2.5 Large Items at the BFI Transfer Station



Photo 2.6 Scrap Metal at the BFI Transfer Station

Except for garbage, construction and demolition material and large items all waste is diverted from landfill.

The transfer station is available to residents and the IC&I sector. With the exception of divertable material such as MHSW, WEEE, and Blue Box material, user fees apply for all wastes received at the transfer station.

3.0 Current Disposal and Diversion

The waste generated in the City comes from three sectors:

- Residential (Single family and Multi-Residential);
- Institutional, Commercial and Industrial (IC&I); and
- Construction and Demolition (C&D) activities.

The waste under the City's control comes largely from the residential sector with small amounts of Blue Box and Green Cart waste from the IC&I sector. The focus of this Plan is for wastes that are under the City's control.

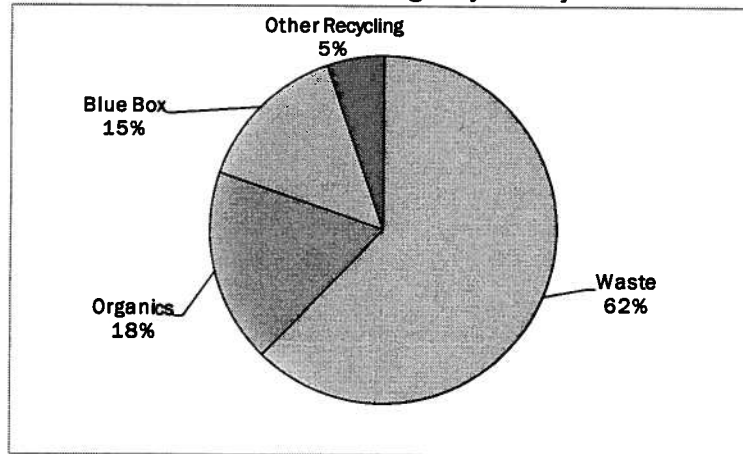
Table 3.1 depicts overall residential waste disposed and diverted from 2007-2009 that is managed by the City. Figure 3.1 depicts the proportion of different waste streams managed by the City and its residents.

Table 3.1 Waste Disposal and Diversion Managed by the City 2007- 2009

	2007	2008	2009	Average
Single Family Households	11,949	12,077	12,077	12,034
Multi-residential Households	3,791	3,831	3,831	3,818
Households	15,740	15,908	15,908	15,852
Population	36,775	37,168	37,168	37,037
Disposal				
	tonnes/year			
Curbside Collection	8,090	8,279	8,008	8,126
Residential Drop-off ¹	350	350	350	350
Sub-total	8,440	8,629	8,358	8,476
Diversion				
Recyclables	2,087	1,935	1,863	1,962
Organics	2,805	2,328	2,269	2,467
HHW ³	8	8	4	7
Residential Drop Off ¹	350	350	350	350
Residential Deposit Return ²	192	135	205	177
Residential On-Property ³	0	179	399	193
Total Residential Waste Diverted	5,442	4,936	5,090	5,156
Total Residential Waste Generated	13,882	13,565	13,448	13,632
Residential Waste Generated				
kg/capita/year	377	365	362	368
Diversion Rate (%)	39	36	38	38

1. BFI estimates 700 tonnes/year dropped off by residents. No break down on amount diverted. Assumed 50% diverted.
2. From Waste Diversion Ontario (WDO) Datacall. Used 2008 data for 2009 data (which was not available).
3. From WDO Datacall.

Figure 3.1 Break Down of Wastes Managed by the City and its Residents



3.1 Current System Costs

Table 3.2 depicts the annual costs of waste management as managed by the City.

Table 3.2 Summary of Annual Costs

	2007	2008	2009	2010
Contract Price	\$2,002,192	\$2,112,599	\$2,111,362	\$2,182,000
Fuel Surcharge	\$16,000	\$28,850	\$21,000	\$18,000
Royalty	\$22,000	\$35,733	\$38,000	\$30,000
Total	\$2,042,199	\$2,179,190	\$2,172,371	\$2,232,010
Tonnes Managed	13,882	13,565	13,448	13,136
\$/tonne	\$147.11	\$160.65	\$161.53	\$169.91
Households (all)	15,740	15,908	15,908	16,709
\$/household (all)	\$129.75	\$136.99	\$136.56	133.58
Population	36,775	37,168	37,168	37,566
\$/capita	\$55.53	\$58.63	\$58.45	\$59.42

It costs approximately \$2.23 million for the City to manage residential waste annually.

This works out to about \$165/tonne of wastes generated by residents that are managed by the City. It should be noted that the City also disposes about 3,100 tonnes/year of sludge and this is included in the total costs.

The annual cost of waste management is on average about \$134/household. It should be noted that multi-residential households receive only recycling and organic collection services from the City and are not eligible for curbside collection of waste under the current waste management contract with BFI.

The annual cost for single family households is estimated to be between \$150-\$160/year.

On a per capita basis, residents of the City pay about \$58/year for waste management services.

Finally, the “tonnes managed” in Table 3.2 also includes wastes received at the Transfer Station, for most of which residents are charged a fee. The amount of revenue generated at this facility is unknown. This means that the above costs are slightly underestimated.

4.0 Data Analysis

4.1 Comparison with Provincial Averages

It is useful to understand how St. Thomas' waste generation and diversion compares to Provincial averages.

Table 4.1 presents an overview of Ontario waste generation, diversion and disposal as calculated from the Statistics Canada report *Waste Management Industry Survey: Business and Government Sectors- 2006* (Statistics Canada, 2008).

Table 4.1 Overview of Ontario's (2006) Waste Generation, Diversion and Disposal

	Residential	IC&I	Total
	kg/capita		
Diversion	119	70	189
Disposal	292	530	822
Total	411	600	1,011
Diversion Rate (%)	29	12	19
Diversion Rate (%) St. Thomas ¹	38		

1. Average using 2007-2009 data

On this basis about 41 % of all waste is generated by the residential sector and about 59% by the IC&I sector. About 63% of all waste diverted is done so by the residential sector with about 37% diverted by the IC&I sector. About 35% of waste disposed in landfill is done so by the residential sector with about 65% disposed by the IC&I sector. In short the residential sector generates less waste but diverts more waste than the IC&I sector.

As noted in Table 4.2 the City's residential waste generation rate is estimated to be 368 kg/capita which is considerably less than the Ontario average. Furthermore, the City's residential diversion rate of 38% is considerably higher than the provincial residential average.

On this basis Table 4.2 depicts an estimate of waste generation, diversion and disposal using residential data from the City of St. Thomas and Statistics Canada, 2008 data for the IC&I sector.

Table 4.2 Overview of St Thomas' (2007-2009) Waste Generation, Diversion and Disposal

	Residential	IC&I ¹	Total
	kg/capita		
Diversion	139	70	197
Disposal	229	530	746
Total	368	600	943
Diversion Rate (%)	38	12	21

1. Used data from Statistics Canada to estimate (Statistics Canada, 2008)

About 36% of waste is generated by the residential sector with the balance generated by the IC&I sector. About 65% of waste diverted is done so by the residential sector with the balance diverted by the IC&I sector. About 29% of waste disposed is done so by the residential sector with the balance disposed by the IC&I sector.

There is little IC&I data available. It is therefore assumed that the City meets the Provincial average in terms of waste generation, diversion and disposal. There is nothing to suggest from available data that the IC&I sector is above or below average in terms of waste diversion.

Mindful that IC&I data is estimated using the Provincial average, St. Thomas has an overall waste diversion rate of 21% and this is marginally higher than the Provincial average of 19%. This marginally higher average is driven by the residential sector.

The Provincial waste diversion goal is 60%. To achieve this goal about 566 kg/capita would need to be diverted annually. This is almost three times what is currently diverted and would entail diverting another 369 kg/capita annually.

It should be noted that this Plan pertains to all wastes collected by the municipality.

The MOE's "Policy Statement on Waste Management Planning: Best Practices for Waste Managers" notes that any planning is to include residential wastes and industrial commercial and institutional (IC&I) and construction and demolition (C&D) waste collected by the municipality (MOE, 2007). The City collects essentially residential wastes with small amounts of IC&I wastes. It is this waste stream that is the focus of this Plan.

On this basis an estimated further 82 kg/capita would need to be diverted annually.

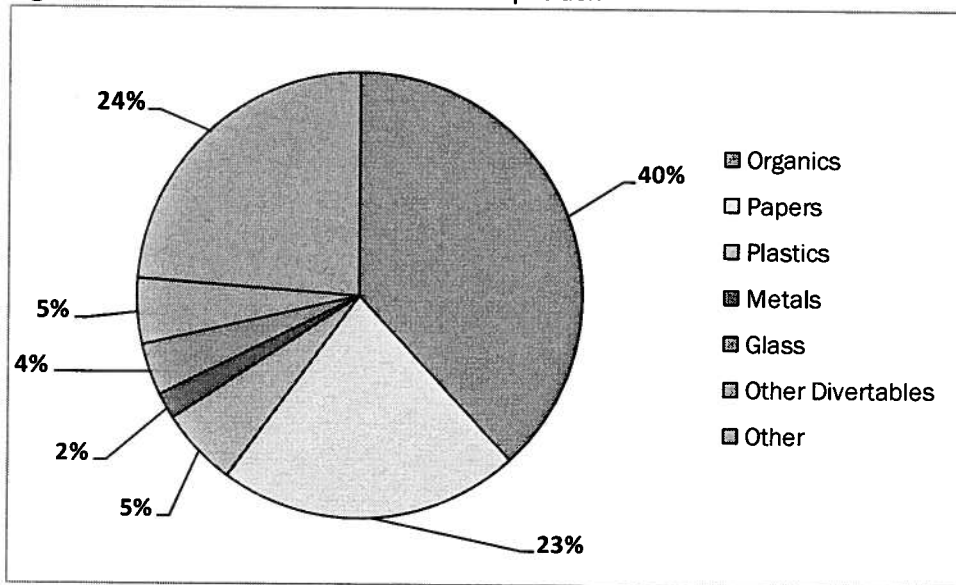
4.2 Waste Composition and Diversion Potential

It is useful to understand St. Thomas' estimated waste composition to develop an understanding of additional waste diversion opportunities.

4.2.1 Residential Waste Composition

A number of residential waste audits have been undertaken by Stewardship Ontario. Using the results from similarly sized municipalities the waste composition for residential waste in the City was estimated. Figure 4.1 depicts the estimated residential waste composition.

Figure 4.1 Estimated Residential Waste Composition



The capture rate is the total quantity of a waste that is diverted for recycling as a percentage of the total quantity of that waste generated.

$$\text{Capture Rate [\%]} = \frac{\text{Waste Diverted}}{\text{Waste Generated}} \times 100$$

A capture rate can be used as a measure of the success of a recycling and/or reuse program. A higher capture rate is indicative of less reusable or recyclable waste being sent to landfill.

Table 4.3 and Figure 4.2 present an overview of waste diversion and current diversion rate. It is clear that organic waste and then Blue Box waste diversion contribute the most to overall waste diversion in St. Thomas.

As depicted in Table 4.3 overall the capture rate of Blue Box materials is about **41%** and for Green Cart about **45%** with the balance presently being landfilled. Overall it is estimated that about **50%** of wastes for which there are diversion programs are being captured.

Figure 4.2 shows the breakdown of current waste diversion (i.e. **38%**), with the largest contributors to waste diversion being organic waste and Blue Box material.

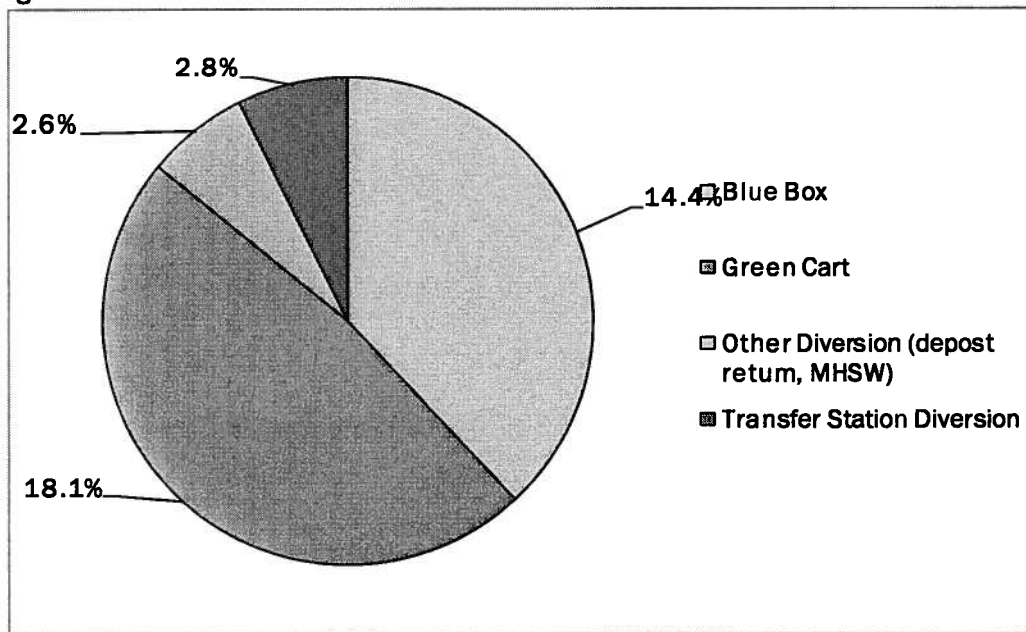
Table 4.3 Overview of Current Waste Diversion (2007-2009)

Residential Waste Stream and Waste Diversion	Tonnes Diverted	% of Total Waste	Total Generated	Capture Rate
Total Waste Generated	13,632	100%		
Waste Diversion				
Blue Box				
Papers (ONP, OMG, OCC, OBB and fine papers)	1,402	10.3%	3,135	44.7%
Metals (aluminum, steel, mixed metal)	177	1.3%	818	21.6%
Plastics (containers, film, tubs and lids)	206	1.5%	273	75.6%
Glass	177	1.3%	545	32.4%
Blue Box Subtotal	1,962	14.4%	4,771	41.1%
Green Cart	2,467	18.1%	5,453	45.2%
Transfer Station Waste Diversion¹	350	2.6%	350	100.0%
Other Diversion (depost return, MHSW)²	377	2.8%	682	55.3%
Total material diverted	5,156	37.8%	10,224	50.4%

1. Estimate. Exact data unavailable

2. From WDO Datacall

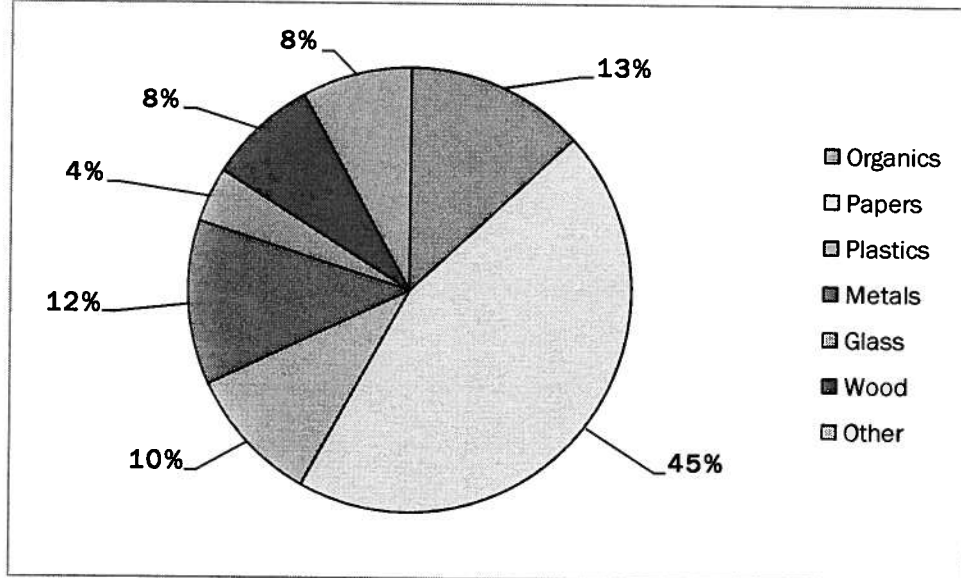
Figure 4.2 Overview of Current Waste Diversion



4.2.2 IC&I Waste Composition

IC&I waste composition was estimated in RIS International 2005. Figure 4.3 depicts the estimated IC&I waste composition.

Figure 4.3 Estimated IC&I Waste Composition



There is very little data available about the IC&I sector in St. Thomas in terms of waste generation and waste diversion.

The 3Rs Regulations, made under the Environmental Protection Act, in 1994 were made among other things to promote waste diversion among the IC&I generators in the Province.

The Regulations that pertain directly to the IC&I sector include:

- Ontario Regulation 102/94: Waste Audits and Water Reduction Work plans;
- Ontario Regulation 103/94: Industrial, Commercial and Institutional Source Separation Programs; and
- Ontario Regulation 104/94: Packaging Audits and Packaging Reduction Work plans.

Not all of the IC&I sector is subject to these Regulations.

Table 4.4 depicts the various thresholds at which these Regulations come into effect. The regulations target mostly larger IC&I generators.

These regulations require these generators to carry out waste audits and develop waste reduction work plans and prescribe source separation requirements. The regulations prescribe source separation requirements for business of different sizes.

The enforcement of these regulations has in general been very poor. In fact many businesses were not even aware of these regulations. However, in recent years the Ministry of the Environment (MOE) has dedicated ten enforcement officers to carry out an ongoing enforcement effort across the Province.

In general there are some businesses that are proactive and follow these regulations and undertake other initiatives to voluntarily work towards minimizing their environmental impact.

Other businesses will follow these regulations if they have been visited by the MOE and issued a letter to comply with these regulations.

In St. Thomas the 3Rs regulations only apply to larger facilities. Additional initiatives would need to be implemented to stimulate further waste diversion in the IC&I sector.

Table 4.4 Generators Designated Under Ontario's 3 R's Regulations (O.Reg 102/94; 103/94 and 104/94).

IC&I Category	Requirements to Carry Out Source Separation and Develop Waste Reduction Plans Under Ontario 3Rs Regulations
Hospitals	Applies to any public hospital classified as group A, B or F. Does not apply to nursing homes or homes for the aged.
Hotels and motels	Applies to hotels or motels with more than 75 units and located in a local municipality that has a population of at least 5,000.
Office Buildings	Designated if it has at least 10,000 square metres of floor space for use as offices and located in a municipality that has a population of at least 5,000.
Restaurants	Restaurants are designated if gross sales for all restaurants operated by the owner in Ontario were \$3 million or more in any of the two preceding calendar years. Applies to owner's restaurants in municipalities that have a population of at least 5,000. If the restaurant is in a designated retail shopping establishment or complex, office building, hotel or motel, hospital or campus the owner of the designated establishment is responsible for implementing a source separation program.
Retail Shopping Establishments	Designated if it has at least 10,000 square metres of floor space and located in a municipality that has a population of at least 5,000. For example a department store in a mall can ensure compliance by participating in the program operated by the owner of the mall.
Retail Shopping Complexes	Designated if it has at least 10,000 square metres of floor space of establishments (parking not included) and located in a municipality that has a population of at least 5,000. The owner may allow tenants to implement their own program but it must meet the regulations.
Educational Institutions	Applies to operator of an educational institution with more than 350 person enrolled.
Large Manufacturing Establishments	Does not apply if during the two preceding calendar years there was no calendar month in which the hours worked by the persons employed at the site exceeded 16,000 hours and the owner is able to demonstrate this fact.
Large Demolition Projects	A demolition projects must implement a program if it consists of more than one or more buildings under demolition with a total floor space of at least 2,000 square metres. Indoor parking is included in the floor space calculation. The person responsible is the general contractor for the project.
Multi-Unit Residential Buildings	The building must implement a source separation program if the building contains six or more dwelling units and is located within a local municipality that has a population of at least 5,000. It does not include institutions that provide medical care or prisons. Owners must include materials collected in the local municipal Blue Box recycling program.
Large Construction Projects	A construction project must implement a program if it consists of more than one or more buildings under

4.3 Comparison with Other Municipalities

Table 4.5 presents a comparison with other similar municipalities using 2008 summarized Waste Diversion Ontario (WDO) datacall information (WDO, 2008). (Note: This is the most recent fully summarized data. 2009 data is expected later in 2010.). Results

for waste generated, waste diverted and waste disposed are presented in ascending fashion (i.e. from low to high).

There are a number of municipalities that are similar in size to St. Thomas. It is useful to understand their waste diversion programs and waste diversion. Table 4.6 depicts the waste management programs of each of these municipalities.

Table 4.5 Municipal Comparison (2008 WDO datacall GAP data)

Municipality	Total Residential Waste Generated	Rank	Total Residential Waste Diverted	Rank	Total Residential Waste Disposed	Rank
	kg/capita	Ascending	kg/capita	Ascending	kg/capita	Ascending
City of Brockville	354	2	147	3	207	3
City of Cornwall	431	5	105	1	326	6
Town of Orangeville	403	4	202	6	202	2
City of Owen Sound	433	6	179	4	254	5
City of Stratford	369	3	182	5	188	1
City of St Thomas	350	1	127	2	223	4

From this analysis it is clear that St. Thomas generates a relatively low amount of waste but that it diverts a relatively low amount and disposes a relatively high amount of waste.

The municipalities that diverted more waste than St. Thomas had one of the following:

- Full User Pay (i.e. all bags/containers subject to tag); and
- One “free” bags/containers per week.

The City of Cornwall, which does not appear to have a bag limit, tellingly had the worst diversion rate of these communities.

The City of St. Thomas is the only municipality in this grouping that has a full Green Cart program.

A closer analysis of Blue Box and Green Cart was undertaken to help identify challenges and opportunities regarding waste diversion. Waste diversion rates were calculated from WDO Datacall (WDO, 2009) using Generally Agreed Principles (GAP) analysis. The GAP analysis accounts for wastes diverted minus assumed levels of contamination in the diverted waste streams. GAP waste diversion rates are typically lower than municipally calculated diversion rates because estimated contamination is subtracted from overall diversion.

Table 4.6 Municipal Program Comparison

Municipality	Disposal		Diversion					Diversio n Rate
	Waste	Blue Box	Organics	Municipal Household Special Waste	Waste Electrical and Electronics Equipment	Other		
City of Brockville	Weekly collection 1 bag/container "free" Additional bag/containers \$2.50 Waste can also be dropped off at transfer station (tipping fee) Large items collected (\$10 tags)	Weekly collection Collection of Fibre and Containers on alternating weeks	Leaf and yard waste drop off depot	Annual Collection Day (depot) Hardware store drop-off (2)	Year round drop off depot	Metal & Appliance Drop-off (fee)	42	
City of Cornwall	Weekly collection Do not appear to have bag limit Waste can also be dropped off at landfill (fees)	Weekly collection Collection of Fibre and Containers on alternating weeks	Leaf and yard waste collection (spring and fall) Encourages backyard composting	Monthly collection day (April-November, depot)	Monthly collection day (April-November, depot)	White goods collection discouraged. Must purchase \$25 tag	24	
Town of Orangeville	Weekly collection 1 bag/container "free" Additional bags/containers \$2.00 Waste can also be dropped off at transfer facility (fees) Large items collected (\$15 tags)	Weekly collection "Free" Blue Boxes	Bi-weekly leaf and yard waste collection (spring to late fall) Encourages backyard composting	Annual Collection Days (depot)	Annual Collection Days (depot)	Metal Items collected (\$15 tags)	50	
City of Owen Sound	Bi weekly collection (4 bag/container limit) Weekly downtown core (3 bag/container limit) All bag/container subject to \$2 tag	Bi-weekly collection Monthly collection for cardboard Blue Boxes can be purchased Bi-weekly collection Blue Boxes can be purchased	Leaf and yard waste drop off at composting facility Encourages backyard composting	Annual Collection Days (8 Saturdays between April and October, depot)	Habitat for Humanity certified collection point	Not applicable	41	
City of Stratford	Weekly collection All bag/container subject to minimum \$2.25 tag Waste can also be dropped off at landfill subject to minimum \$2.50 cost Large items collected (\$10 tags)	Bi-weekly collection Blue Boxes can be purchased	Scheduled leaf and yard waste collection throughout year (late April to early January) Encourages backyard composting	Annual Collection Weeks (week in Spring; week in Fall, depot)	Accepted at landfill for recycling (fee)	White goods collection (\$22-\$40 tag)	49	
City of St Thomas	Weekly collection 2 bags/containers "free" Additional bag/containers \$1.75 Waste can also be dropped off at transfer station for \$1.75/bag Large items can be taken to transfer facility (fee)	Bi-weekly collection Blue Boxes can be purchased at the Transfer Station	Bi-weekly collection Green cart program for food waste, non recyclable paper and leaf and yard waste	Accepted at transfer station (fee, material limitations)	Accepted at transfer station	MHSW accepted at transfer station	36	

4.4 Blue Box Assessment

Blue Box

According to the WDO 2009 Datacall (WDO, 2010) the average capture rate in the Province for Blue Box wastes is 177 kg/hshld/year.

Waste Diversion Ontario (WDO) compares municipal performance in a number of municipal groupings. The City is included in the “Small Urban” grouping, with 22 other municipalities. Data for 2008 (most recent compiled data) (WDO, 2009) was analyzed for this municipal grouping.

As depicted in Figure 4.4 the City’s capture rate was relatively low when compared to the average of the Small Urban grouping. As noted in Table 4.3 the current capture rate for Blue Box materials is about **41%**. The target capture rate for the Small Urban grouping is **80%**.

Figure 4.4 Capture of Blue Box Materials (Paper Fiber, Plastic, Aluminum, Steel, Glass).

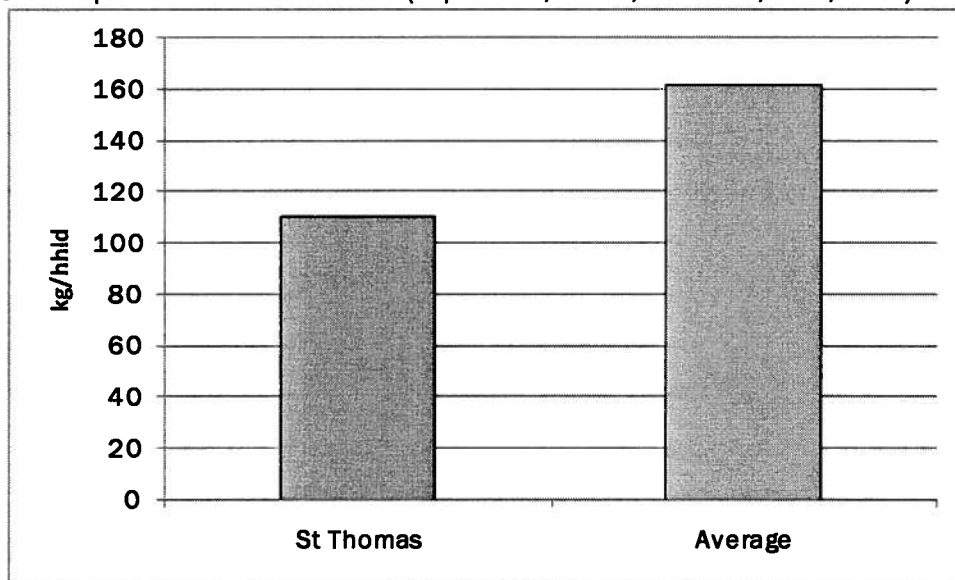


Figure 4.5 compares the St. Thomas capture of paper fibre, plastic, aluminum, steel and glass compared to the average for the Small Urban group (expressed as a percentage). It is clear that the capture of paper fibre and glass are considerably below average while the capture of plastic, aluminum and steel are similar to the average.

Figure 4.5 Comparison of Blue Box Capture- St Thomas vs. Small Urban Group

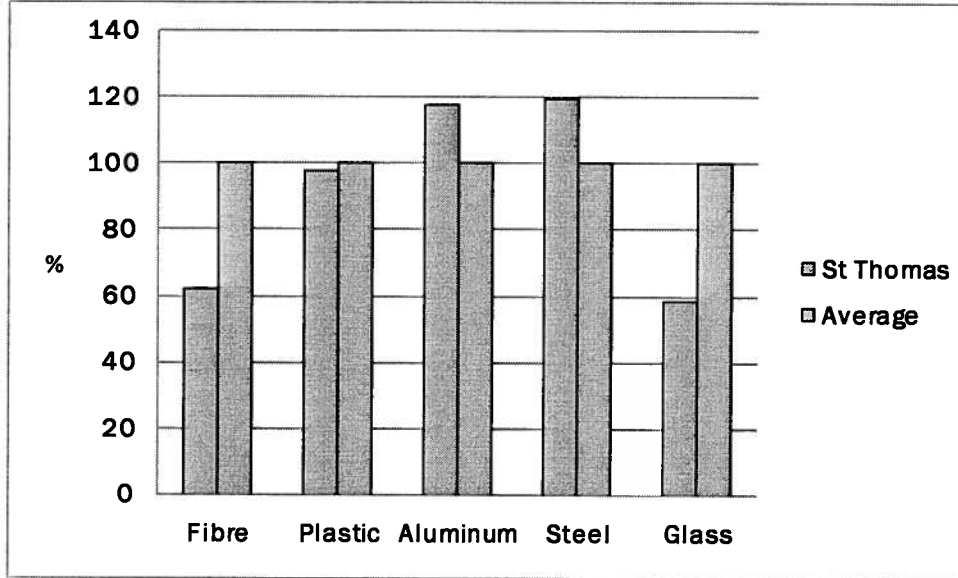


Figure 4.6a and 4.6b depict the proportion of these materials captured in St. Thomas versus the Small Urban Group. This further reinforces the relatively low amount of fibre captured in the St. Thomas Blue Box program.

Figure 4.6a Proportion of Various Streams in Blue Box- St Thomas

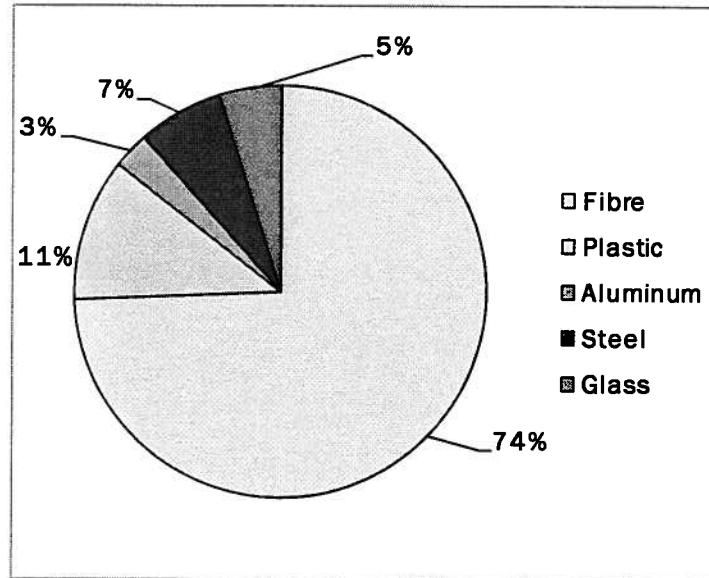
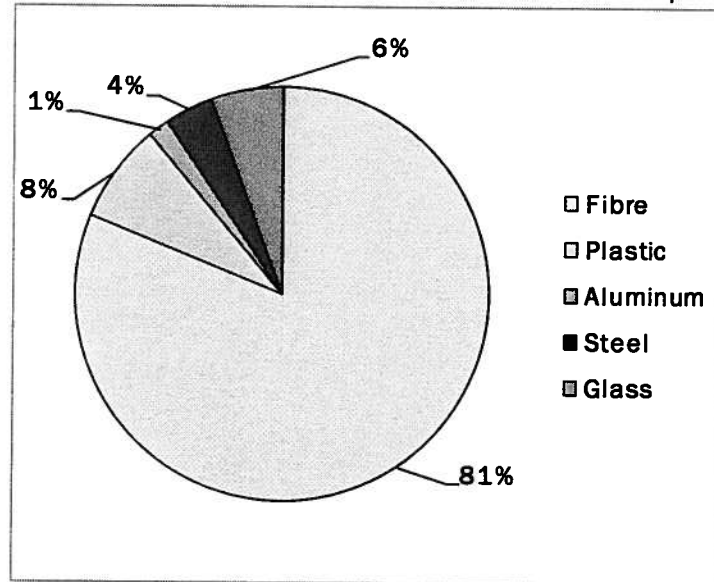


Figure 4.6b Proportion of Various Streams in Blue Box- Small Urban Group



In conclusion, to capture **80%** of Blue Box materials the City would require the additional capture of about 1,800 tonnes/year or about 146 kg/hhld. (i.e. single family households). This would contribute an additional 13.4 percentage points to overall waste diversion. This is summarized in Table 4.8. (Section 4.6).

It should be noted that the multi-residential sector recycling is presently quite low. The City is currently undertaking a project to improve recycling of this sector.

4.5 Green Cart Assessment

WDO Datacall results for 2009 were analyzed (WDO, 2010). Table 4.7 depicts the tonnes of leaf and yard waste and source separated organic waste (SSO) (i.e. food waste, non recyclable paper, other items) collected and the number of households with access to this service. On this basis, an average Ontario home with access to leaf and yard waste collection and/or Green Cart collection diverts about 139 kg of leaf and yard waste and 158 kg of SSO annually or up to about 300 kg/hshld if they have access to both services.

The Waste Diversion Ontario *Highlights of the 2009 Tonnage Datacall Organic Waste Diversion* (WDO, 2010) indicates that about 243 kg was collected from serviced (i.e. including households with depot service only) households.

Table 4.7 Overview of Curbside Organic Waste Diversion in Ontario (2008)

	Tonnes	Households	kg/household
Leaf and Yard Waste	387,791	3,143,978	123.3
Source Separated Organic Waste	346,876	2,205,528	157.3
			280.6

On that basis it is clear that annual organic waste collection of **240-280 kg/hshld** is achievable on an annual basis for a Green Cart program that includes leaf and yard waste, food waste and non-recyclable paper.

On average (2007-2009) the City annually diverts about 163 kg/hshld.

As noted in Table 4.3 the current capture rate of organic waste in St. Thomas' Green Cart program is about **45%**.

A target of **70%** capture rate is reasonable. On that basis an additional 1,300 tonnes/year or about **108 kg/hhld/year** (i.e. single family households) would need to be collected. This would contribute an additional **10.2** percentage points to overall waste diversion.

It should be noted that the multi-residential sector organics diversion is presently very low.

4.6 Other Diversion Assessment

The completed Plan also considers MHSW, WEEE, C&D wastes, tires and other reusable goods (e.g. bulky goods, textiles, reusables). WDO Datacall results for 2009 (WDO, 2010 reference) provides data on a number of other waste streams. Where relevant this is compared to City data.

MHSW

Approximately 11.9 million residents have access to MHSW recycling programs and a total of 17,096 tonnes were collected. This results in an average of 1.45kg/hshld (i.e. all households). The City presently captures an estimated 0.4 kg/hshld.

WEEE

WDO Datacall results for 2009 were analyzed (WDO, 2010). Approximately 4.13 million households have access to WEEE recycling programs and a total of 23,014 tonnes were collected. This results in an average of 5.6kg/hshld (i.e. all households). The diversion of WEEE commenced in 2010. To date there is no data.

C&D Wastes and Tires

There are limited opportunities to recycle C&D wastes and tires in the City.

Other Wastes

WDO Datacall results for 2009 were analyzed (WDO, 2010). WDO's list of other wastes includes: scrap metal, wood, drywall, brick and concrete, other C&D recyclables, tires, bulky goods, textiles and reusables. Approximately 4.57 million households have access to this type of recycling and a total of 116,000 tonnes were collected. This results in an average of 25kg/hshld (i.e. all households). In the City, about 700 tonnes/year is received at the transfer station. No data on actual diversion was available. It was estimated that about 50% or about 350 tonnes/year was diverted. This works out to about 23kg/hshld. There is some additional detail on waste diversion at transfer stations (i.e. Recycling Depots) in Table 7.8. Diversion can be as high as 100 kg/hshld.

4.7 Summary

Table 4.8 presents an overall summary of current and potential waste diversion in St. Thomas. It is clear that while diversion is reasonable there is considerable room for improvement.

Table 4.8 Overview of Current and Possible Future Waste Diversion

Waste/Resource Material	Composition (from sample audit)	Total Residential Waste Generated	Divertable Material In Waste Stream	Target Capture Rate	Material Available for Diversion	Material Currently Diverted	Material Remaining In waste Stream (tonnes)	Material Remaining In Waste Stream for Diversion (% of total waste stream)
	%	tonnes	tonnes	%	tonnes	tonnes	tonnes	%
Blue Box Materials								
Papers (ONP, OMG, OCC, OBB and fine papers)	23	13,448	3,093	80	2,475	1,402	1,072	8.0%
Metals (aluminum, steel, mixed metal)	2		269		215	177	38	0.3%
Plastics (containers, film, tubs and lids)	6		807		646	206	439	3.3%
Glass	4		538		430	177	254	1.9%
Blue Box Subtotal	35		4,707	3,766	1,962	1,804	13.4%	
Green Cart	40		5,379	3,766	2,467	1,298	9.7%	
Other Diversion ²	5			377			377	
Transfer Station Waste Diversion ¹	-					350		
Total Materials	80	13,448	10,086		7,531	5,156	3,102	23.1%
Current Diversion Rate								38.3%
Additional Diversion Rate								23.1%
Potential Future Diversion Rate								61.4%

1. Estimate. Exact data unavailable

2. From WDO Datacall

As previously noted, the current diversion rate is about **38%**. Achieving a Blue Box capture rate of **80%** would result in an additional 13.4 percentage points of waste diversion or total waste diversion of about **50%**. Achieving a Green Cart capture rate of about **70%** would result in an additional **9.7** percentage points of waste diversion or total waste diversion of about **60%**. Therefore by improving existing programs it is reasonable to assume that a 60% overall waste diversion rate could be achieved.

On the basis of the foregoing analysis and to achieve 60% waste diversion the following needs to be improved:

- Curbside single family household capture rate of Blue Box and Green Cart;

- Multi-family Blue Box (cart) and Green Cart programs;
- Waste diversion data tracking at Transfer Station;
- Additional “free” waste diversion opportunities at Transfer Station; and
- Improved capture of MHSW.

5.0 Projected Waste Management Needs

5.1 Population Build Out

The City’s population, housing and employment projections (2006-2026) are detailed in the City’s Official Plan Amendment (City of St. Thomas, 2007). This report projects that by 2026 the population of the City will be between 45,000 and 47,000 and that by 2031 the population will be about 48,000. This estimated change in population is depicted in Table 5.1.

On average it is estimated that the growth rate will be about 1.15% per year with a 1.46% growth rate until 2011 and then declining to 0.76% by 2031.

During this time the proportion of elderly people is expected to increase (from about 14 to 18% of the population) while the proportion of younger people is expected to decrease.

Table 5.1 Estimated Population of St. Thomas from 2011-2031

Year	Population
2011	38,820
2016	41,553
2021	44,107
2026	46,356
2031	48,145

5.2 Estimated Waste Generation

Figure 5.1 depicts estimated total waste generation for the Plan (i.e. 2011-2031). It is estimated that by 2031 approximately 17,500 tonnes/year of waste will be managed by the City, assuming no change in waste generation rates.

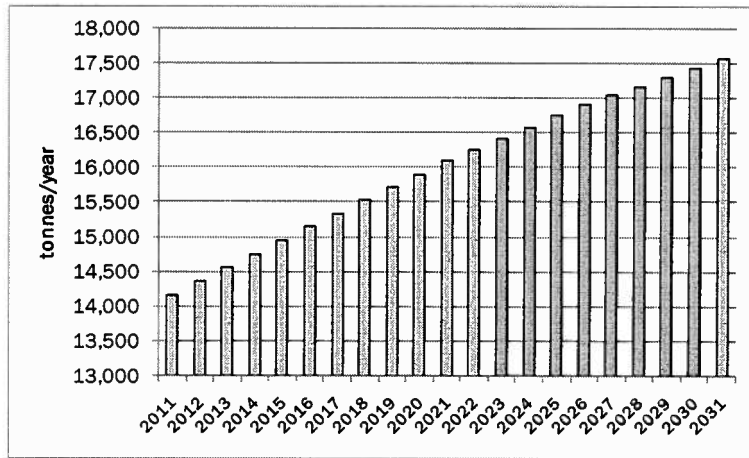


Figure 5.1 Estimated Waste Generation (2010-2031)

Waste generation has continued to increase across Canada, despite many programs and initiatives to encourage the reduction of waste generation and the use of waste diversion programs. If this trend continues then the estimate may be low. On the other hand implementation of various programs and initiatives by the City may result in a decline of overall waste generation. In any event, population growth and waste generation should be monitored annually. New waste generation projections should be calculated at least every five years.

Figure 5.2 depicts estimated annual tonnages of the various waste streams if the current waste diversion rate does not change. By 2031 about 11,000 tonnes/year of landfill space, 3,200 tonnes/year of composting or other processing capacity for Green Cart wastes and 2,500 tonnes/year capacity for Blue Box wastes would be required.

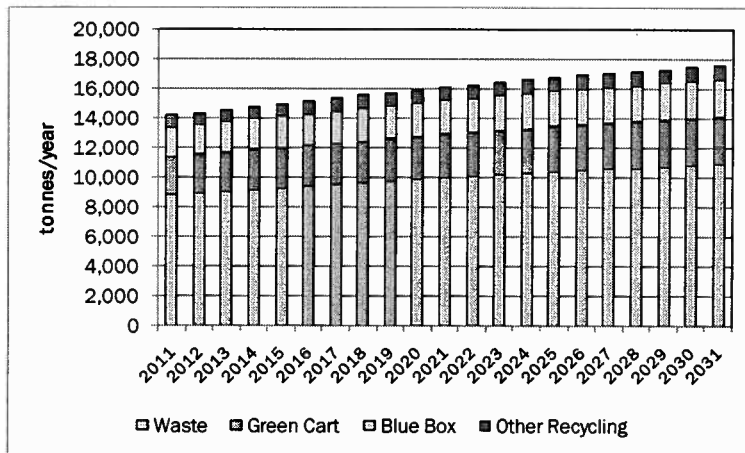


Figure 5.2 Estimated Waste Stream Generation (2010-2031) - 38% Diversion

As described in Section 4.7 increasing the capture rate of Green Cart wastes to 70% and Blue Box wastes to 80% will bring overall waste diversion to about 60%.

Figure 5.3 depicts estimated annual tonnages of the various waste streams if a 60% waste diversion rate was achieved by 2016. By 2031 about 6,800 tonnes/year



of landfill space, 4,900 tonnes/year of composting or other processing capacity for Green Cart wastes and 4,900 tonnes/year capacity for Blue Box wastes would be required.

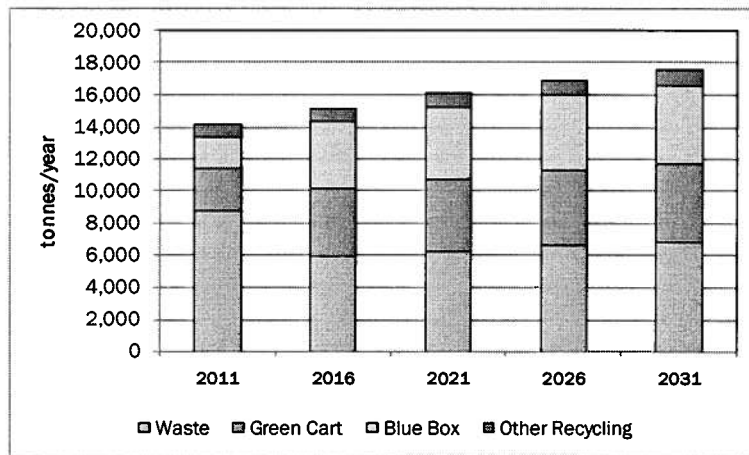


Figure 5.3 Estimated Waste Stream Generation (2011-2031) - 60% Diversion

Figure 5.3 depicts estimated annual tonnages of the various waste streams if a 70% waste diversion rate was achieved by 2020. By 2030 about 5,400 tonnes/year of landfill space, 5,900 tonnes/year of composting or other processing capacity for Green Cart wastes and 5,200 tonnes/year capacity for Blue Box wastes would be required.

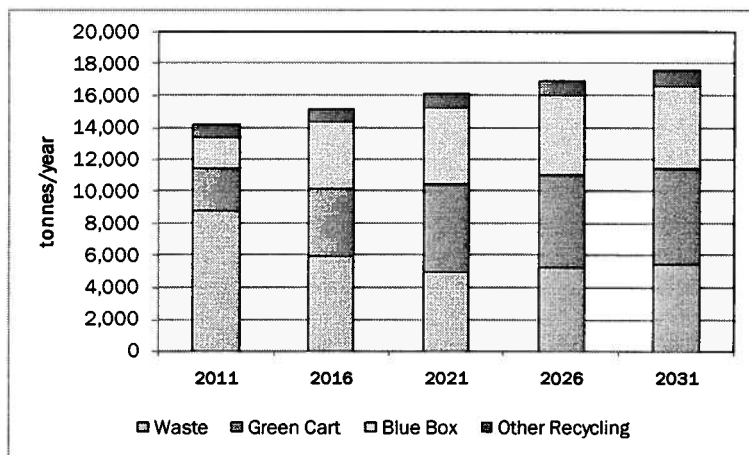


Figure 5.4 Estimated Waste Stream Generation (2011-2031) - 70% Diversion

5.3 Summary

Based on current waste generation rates and waste diversion rates by 2031 an estimated 17,500 tonnes/year of waste will be managed by the City.

The amount of infrastructure for collecting and managing these different waste streams will vary with the effort placed on waste diversion.

The Provincial waste diversion rate of 60% is a reasonable target. Table 5.2 depicts the estimated waste streams that would be collected. By 2031 it is estimated that

about 2,000 tonnes/year less landfilling capacity, but 2,300 more tonnes of Green Cart processing capacity and 2,800 more tonnes of Blue Box processing capacity will be required.

Table 5.2 Required Processing Capacities for Various Waste Streams- 60% diversion

	Waste	Green Cart	Blue Box	Other Recycling
tonnes/year				
2011	8,809	2,564	2,039	756
2016	5,914	4,216	4,216	819
2021	6,278	4,475	4,475	869
2026	6,598	4,703	4,703	914
2031	6,853	4,885	4,885	949

It is clear that additional processing capacity for waste diversion activities would be required if the City aimed for a 70% waste diversion rate.

6.0 Public Consultation Record

Public consultation included the following:

- Notification of this Study on the City’s web-site
- On-line survey
- Public information centre

Approximately 250 residents completed the on-line survey. A report summarizing this survey is included in Appendix 1.

A Public Information Centre (PIC) was held on 10 February 2011 from 7pm-9pm. The event was widely publicized in local newspapers (for three weeks) and by a City staff appearance on Rogers Television (shown multiple times). Six people attended the PIC which was held at Memorial Arena.

Key issues raised during the PIC included:

- Amount of garbage generated in the downtown core;
- Green carts can fill up during times of year when volume of leaf and yard waste is high (e.g. April-June; October-November);
- Only one green cart per household can be collected. This discourages the diversion of organic waste during times of peak generation;
- The quantity of items collected in the Blue Box is too narrow. The City should consider adding #4 and #5 plastic tubs and lids as well as milk containers and drink boxes.

Key solutions proposed during the PIC included:

- Aim for 60% waste diversion and eventually 70% waste diversion;
- Enhance current promotion and education materials for residents;
- Ongoing distribution of flyers and notices to all households on how to maximize diversion;
- Greater enforcement of recycling requirement spelled out in the City's Waste Diversion and Curbside Collection By-law;
- Allow residents to purchase a second green cart and/or place additional organic wastes at the curb for collection;
- Consider reducing collection of the green cart in the winter months (e.g. monthly) and transfer these collections to times of the year when the generation of leaf and yard waste is high;
- Purchase and distribute kitchen containers for food waste to residents to encourage the inclusion of kitchen wastes in the green cart program;
- Distribute kitchen containers with the Green Carts to new homes when they are built ;
- Consider distributing green carts in schools;
- Implement public space recycling; and
- Consider providing additional Blue Boxes for residents who want them.

The information gathered helped with the preparation of the Waste Diversion and Waste Disposal strategies and the planned Waste Management System.

7.0 Waste Diversion Plan Options

Currently about 13,632 tonnes/year of waste are managed by the City. The current diversion rate is about 38% and comes primarily from a Blue Box and a Green Cart program.

As noted in Section 1.3 the goals and objectives of future waste diversion are:

- To meet the Provincial waste diversion goal of 60%;
- To consider Zero Waste principles;
- To address Best Management Practices as set out by Waste Diversion Ontario (WDO) for Blue Box collection as embodied in a Waste Recycling Strategy; and
- To consider striving to work towards a waste diversion rate of 70%.

The focus of this waste diversion plan is on maximizing well-established waste diversion programs.

Embedded within this waste diversion plan is a Waste Recycling Strategy for Blue Box waste. A Waste Recycling Strategy is required by WDO as part of best practices and can help the City maximize Blue Box funding. The Continuous Improvement Fund (CIF) Guidebook for completing a Waste Recycling Strategy was used for this purpose. Some of the tables in this Guidebook were used to help with waste diversion planning of all waste streams.

Table 7.1 depicts the additional diversion required to meet various waste diversion milestones.

Table 7.1 Additional Waste Diversion Required to Meet Waste Diversion Milestones

Possible Waste Diversion Milestones	Additional Diversion	Total Diversion	Total Landfill
%	tonnes/year		
37.8	0	5,156	8,476
40	297	5,453	8,179
50	1,660	6,816	6,816
60	3,023	8,179	5,453
70	4,386	9,542	4,090

Table 7.2 depicts the additional diversion required on a household level (i.e. both single family and multi-family households) to meet various waste diversion milestones.

Table 7.2 Additional Household Waste Diversion Required to Meet Waste Diversion Milestones

Possible Waste Diversion Milestones	Additional Diversion		
	kg/hshld/year	kg/hshld/week	pounds/hshld/week
%			
37.8	0	0	0
40	19	0.4	1
50	105	2	4
60	191	4	8
70	277	5	12

Based on the analysis in Sections 2-4 it is clear that there are well established and mature waste diversion programs in the City but that they are not achieving their waste diversion potential. Furthermore there are some key opportunities to further expand the diversion of wastes including spring leaf and yard waste, fall leaves, construction and demolition wastes (C&D), and bulky (large) items.

The key factors to promoting waste diversion are:

- Increasing waste diversion capacity (e.g. Blue Boxes, Green Carts, Recycling depot) while decreasing waste disposal capacity; and
- Increasing convenience of waste diversion and decreasing convenience of waste disposal.

Table 7.3 summarizes a number of residential best practices that could be incorporated into future waste diversion programs. Table 7.4 depicts an evaluation of Waste Recycling Strategy Options and is adapted from the CIF Guidebook. The scores are meant to help identify possible initiatives to implement. Table 7.5 summarizes a number of IC&I best practices that could be incorporated into future waste diversion programs.



These foregoing Best Management Practices were used to help identify ways to strengthen current and identify possible new diversion programs, which were then used to develop a number of alternative waste diversion systems (Systems) for the City.

Table 6.3 Table of Residential Best Practices and Assessment of Applicability

	Overview	Potential impact on waste diversion	Cost to implement	Potential for City of St Thomas
General				
Promotion and Education program	Municipalities clearly promote and educate residents on waste management and waste diversion goals	Low-medium	Low	The City could add to and enhance its current P&E.
Incentive Programs	Some municipalities provide incentives to residents that are high waste diverters (e.g. City of Hamilton "Gold Box")	Low	Low	The City could reward its high performers. This could encourage others to divert more waste
Garbage				
Bi-weekly garbage collection	Reduces available waste volumes residents can place at the curb. Needs to be coupled with additional waste diversion opportunities	Medium	Low	Good potential Would help City reduce waste going to landfill Needs to be partnered with additional waste diversion opportunities
Full User Pay	Applies a user fee for each bag of waste placed at the curb	Medium	Low Would need to ensure sufficient revenue generated from bag tags.	Good potential The City already has a partial User Pay system (i.e. tag for third bag onwards). Town should consider removing waste collection and disposal from municipal taxes.

	Overview	Potential impact on waste diversion	Cost to implement	Potential for City of St Thomas
Use of Clear Bags	Residents would need to use clear bags for garbage	Medium	Low	Good potential Would require careful implementation. Would need to address resident privacy concerns
Blue Box				
Mandatory Recycling	By-law mandating recycling. Requires enforcement	Medium	Low	The City has already implemented. The key to success is enforcement.
Curbside bans or mandatory source separation	By-law mandating recycling. Requires enforcement	Medium	Low	The City has already implemented. The key to success is enforcement.
Weekly Collection of Blue Box	Blue Box would be collected weekly	Medium	Low-Medium	This would give residents additional recycling capacity and could result in additional capture of these wastes. This would likely be coupled with bi-weekly garbage collection.
Develop Recycling Depot	Allow for the receipt of additional materials	Low	Medium-High	City residents have access to Transfer Station operated by private contractor. The City could develop its own recycling depot.
Improved Recycling and Green Cart at Multi-Residential buildings	Allow for capture of more recyclables from Multi-Residential buildings	Low	Medium	The City has received funding to make improvements for Multi-Residential buildings. Multi-Residential buildings will receive weekly collection of recyclables starting in 2011.
Green Cart				
Ban food waste and leaf and yard wastes in garbage	Wastes (garbage) placed at curb that includes organic waste would not be collected	Medium	Low	This would help the City capture more organic waste. This is the "weighty" component in the total waste stream, thus creating a large leap in the City's overall diversion rate.

	Overview	Potential impact on waste diversion	Cost to implement	Potential for City of St Thomas
Expand Opportunities or Green Cart Collection	<p>Currently only one full Green Cart per collection is emptied.</p> <p>During peak generation periods some residents are not able to divert all organic wastes (i.e. especially leaves) for each collection.</p>	Medium	Low-Medium	The City would need to revise the current contract to include collection of all organic wastes placed at the curb for collection.
Grasscycling	Ban the collection of grass.	Low	Low	<p>The City would need to provide P&E information on grasscycling.</p> <p>This could result in a <u>reduction</u> of wastes collected.</p> <p>This waste is currently accepted in the Green Cart.</p>
Backyard Composting	Develop a backyard composting program.	Low	Low	<p>The City could encourage backyard composting through sale of composters at cost or lower.</p> <p>This could result in a <u>reduction</u> of wastes collected.</p> <p>The City would need to provide P&E information on backyard composting.</p>
Other				
Permanent Enviro Depot	City-owned Enviro Depot where residents and business can bring waste and various recyclables.	Medium	Medium-High	This could help divert considerably more wastes.

Table 6.4 Table of Blue Box Best Practices with Scoring

Suitable? Y/N	Description of Options/Best Practices (For more information: More information: Blue Box Program Enhancement and Best Practices Assessment Project Final Report, Volume 1)	Criteria (Score out of 5)							Total Criteria Score	Score x/100
		% Waste Diverted	Proven Results	Reliable Market/ End Use	Economically Feasible	Accessible to Public	Ease of Implementation			
Promotion and Outreach										
	Public Education and Promotion Program	1-3%	4	4	5	5	5	5	23	92
	Training of Key Program Staff	1-3%	4	4	5	4	5	5	22	88
Collection										
	Optimization of Collection Operations	0%	4	4	4	5	3	20	80	
	Bag Limits	3-5%	4	Na	4	4	3	15	75	
	Enhancement of Recycling Depots	3-5%	4	4	3	5	3	19	76	
	Provision of Free Blue Boxes	1-3%	4	4	4	5	5	22	88	
	Collection Frequency	3-5%	3	4	3	4	5	19	76	
	Broaden materials categories for Blue Box	1-3%	2	3	2	5	2	14	56	
Transfer and Processing										
	Optimization of Processing Operations	0%	4	4	5	5	5	23	92	
Partnerships										
	Multi-Municipal Collection and Processing of Recyclables	3-5%	4	4	4	5	4	21	84	
	Standardized Service Levels and Collaborative Haulage Contracting	3-5%	4	4	4	5	4	21	84	

Table 6.5 Table of IC&I Best Practices and Assessment of Applicability

	Overview	Potential impact on waste diversion	Cost to implement	Potential for St Thomas
General				
Promotion and Education program	Municipality promote and educate IC&I sector on waste management and waste diversion goals	Low-medium	Low	The City could add to and enhance its current P&E.
Mandatory Waste Audits and Recycling Plans	By-law mandating waste audits and recycling plans for all IC&I establishments that meet Provincial thresholds (i.e. O. Reg. 102/94). Requires enforcement	Medium	Low	Would require an enforcement officer.
Garbage				
Limit Curbside Collection of IC&I Waste	IC&I can currently put waste at the curb if on a residential collection route. The City could eliminate this service or couple it with mandatory Blue Box and Green Cart participation.	Low	Low	Low potential as current amounts collected are likely relatively low.
Blue Box				
Curbside bans or mandatory source separation	By-law mandating recycling. Requires enforcement	Medium	Low	The City has already implemented. The key to success is enforcement.
Ban Leaf and Yard waste in garbage	Ban the collection of leaf and yard wastes	Low	Low	The City would need to provide P&E information on location of drop-off depot at Landfill.
Green Cart				

	Overview	Potential impact on waste diversion	Cost to implement	Potential for St Thomas
Ban food waste and leaf and yard wastes in garbage	Wastes (garbage) placed at curb that includes organic waste would not be collected.	Medium	Low	This would help the City capture more organic waste.
Other				
Permanent Enviro Depot	City-owned Enviro Depot where residents and business can bring waste and various recyclables.	Medium	Medium-High	This could help divert considerably more wastes.

Four alternative Systems were developed:

- System 1: Status Quo;
- System 2: Existing System with Enhanced Capture of Blue Box and Green Cart Wastes;
- System 3: Reduce Weekly Bag/Container Limit for Waste and Addition of a Recycling Depot; and
- System 4: Full User Pay and Bi-Weekly Waste Collection.

These Systems have been developed sequentially. Each System adds on to the previous System and results in increased waste diversion.

7.1 System 1-Status Quo

System 1 is the existing system or Status Quo and includes the following components:

- Waste Diversion and Curbside Collection By-law with mandatory recycling requirement;
- Promotion and Education (P&E) program;
- Curbside collection of garbage;
- Curbside collection of recyclables (Blue Box);
- Curbside collection of organics (Green Cart);
- Limited fall curbside collection of leaves;
- Limited collection of recyclables from Multi-Residential buildings;
- Limited collection of wastes and recyclables from IC&I sector; and
- Drop-off of waste and recyclables (e.g. Blue Box Recyclables, Large items, White goods, Scrap metal, Tires, Construction and Demolition wastes, Brush, MHSW, WEE) at transfer station operated by private contractor.

Table 7.4 depicts the estimated waste diversion rate for this system, which is **38%**.

7.2 System 2- Enhanced Capture of Blue Box and Green Cart Wastes

This System is based on maximizing waste diversion of the City's existing waste management system. The focus is on implementing low cost best practices initiatives.

This System focuses on the following:

- All components of System 1;
- Upgraded Promotions and Education program;
- Partial enforcement of By-law;
- Distribution of Blue Boxes to single family households;
- Public Space Recycling
- Distribution of recycling carts to multi-residential buildings; and
- Improved capture of Blue Box waste to 65%; and
- Improved capture of Green Cart waste to 55%.

When implemented, this system will result in a waste diversion rate of approximately 50%.

1. Upgraded Promotions and Education Program

Current P&E is adequate in terms of how to dispose of and divert wastes. It provides education through instruction but does not promote the City's waste management program. It does not speak to the City's current goals or vision with regard to waste diversion.

To be successful, a waste management system requires a sound communications strategy, and one that results in a P&E program that supports all of the systems waste management components. A good communications program will allow stake holders to fully participate in waste reduction and diversion programs by raising awareness about the City's programs and overcoming barriers to participation. Additional waste diversion could be stimulated through the development of an enhanced and sustained P&E program. This would include an overhaul and redevelopment of existing P&E materials. The objective would be to promote the City's waste management program more effectively. An enhanced promotion and education program would go beyond the static use of brochures and online information by establishing a dialogue with residents to assess those barriers to participation and determine opportunities for improvement. Such a program may include:

- Face-to-face contact to promote specific programs, possibly at community events or by going door -to-door;
- Give-aways or discounts to help physical barriers to participation (ex. Compostable bags, mulching lawnmower blades)
- Interactive on-line waste forums and feedback forms and

- Community based social marketing approaches

New P&E material should spell out the City's commitment to waste diversion and include a "Call to Action" letting residents and the IC&I sector know how they can participate and contribute to meeting the City's waste diversion goals. This would also include specific information and instructions on how to participate.

A simple theme should be created that residents can relate to. An example of a simple theme would be using the additional pounds/week of waste diversion to meet waste diversion targets, described in Table 7.2.

The communication strategy should include a monitoring and evaluation component, which will allow program managers to adjust programming in response to program performance or other identified needs such as changes in materials collected, common contamination issues, feedback from residents or new priority issues.

The estimated annual cost for the waste systems education program is approximately \$18,000 (based on \$1.20 per household, which was identified as a best practice in the KPMG Blue Box Program Enhancement and Best Practices Assessment Project Final Report) which would see an annual increase of \$8,000 to the operations budget. There is an estimated one time capital cost of developing a communications strategy and upgrading current P&E tools including web design of approximately \$30,000.

2. Enforcement of By-law

A mandatory recycling by-law can be a useful tool to help support public education and outreach programs. Typically, most residents will recycle and compost if programs are convenient to use and if they know how to use them; however, by-laws provide regulators and property managers with the legal backing to further encourage waste diversion where needed. Enforcement should be carefully applied and only when required to correct repeated violations.

Residents need to be made aware that the current "Waste Diversion and Curbside Collection" By-Law includes a mandatory recycling requirement that prohibits the placement of recyclables in the garbage stream.

While the city currently has a by-law addressing the mandatory recycling, it is not actively enforced.

In System 2, it is recommended to encourage waste reduction through the enforcement of section 9 of by-law 94-2010 which defines size restrictions for waste items. This aspect of the bylaw can be enforced by the collector at the point of collection and will not cost the City any additional money.

Additional enforcement of this by-law should result in additional waste diversion into existing programs.

2. Public Space Recycling

Public spaces are recognized as an untapped source of potential waste diversion for municipalities. Public space includes parks, arenas, sport fields, the downtown corridor and special events. It is estimated that between 20-30% (by weight) of public parks waste is recyclable. Many Ontario parks and recreation facilities are beginning to offer waste diversion opportunities to parks users most commonly in the form of recycling, since the public perception of being “Environmentally Friendly” includes responsible management of waste at home, work and play. The City is long overdue in providing an outlet to encourage good diversion habits including on public properties away from each home. Since the collection of material is included in the current waste contract and is a daily operation activity for the parks department, the primary cost for implementing a public space recycling program is the capital purchase of the containers. There are several funds including the Continuous Improvement Fund that have potential available monies that could be used to offset the cost. It would be beneficial to make application to Additionally, it minimize the budget impact that such a large investment would have, the program could be implemented over a couple of years, targeting the downtown and the arenas in Year 1, parks and special events in year 2.

The estimated cost to replace the existing garbage cans with dual garbage and recycling in the downtown corridor could range from \$40,000-75,000, the arenas \$5,000- 10,000 and the parks \$80,000-\$100,000. An overall project capital cost of an estimated \$200,000.

3. Enhanced capture of Blue Box waste

The current capture rate of Blue Box material is approximately 41%. To incrementally move the capture of recyclables to 80% (i.e. WDO target for Small Urban grouping) a preliminary capture rate target of 65% has been set. As noted in Table 7.3 there are a number of best practice initiatives that can be used to improve the Blue Box capture rate including:

1. Upgrade P&E materials (described above);
2. Ensure relevant training of key program staff;
3. Provision of additional free Blue Boxes to all households (completed in 2010);
4. Provision of additional recycling infrastructure to multi-residential buildings (currently underway);
5. Provision of multi-residential units with small recycling containers that residents can use to take their recyclables to the recycling carts (currently underway); and
6. Ongoing provision of Blue Boxes and Recycling Carts as required.

Staff training to optimize Blue Box programs is readily available at a low cost to the City. Relevant City staff should be encouraged to attend this training on an ongoing basis.

The provision of additional recycling capacity (i.e. Blue Box) to each single family residence was completed in 2010 and was funded by the private sector waste contractor and the Continuous Improvement Fund.

Additionally, improvements to the multi-residential recycling infrastructure (i.e. carts and P&E information) began in 2010. The provision of additional recycling capacity should make it more convenient for residents to recycle.

The provision of additional recycling capacity should be ongoing. The City should maintain a supply of Blue Boxes and Recycling Carts and supply them to residents and multi-residential buildings at no cost or on a cost recovery basis.

This will need to be coupled with additional Promotion and Education materials to be effective.

Residents will also need to be made aware that the current “Waste Diversion and Curbside Collection” By-Law precludes them from placing recyclable wastes in with their garbage.

The estimated annual cost to make recycling boxes available to residents would be approximately \$5,000-7,000. Should the City choose to sell the boxes to the residents the annual expenditure would be compensated by the recoveries.

4. Enhanced capture of Green Cart waste

Currently about 2 million Ontario households have access to Green Cart programs (also known as green bin programs). Residents segregate food waste and non recyclable paper from the waste stream and place it in a green bin. Typically, the green bin is emptied on a weekly basis. Many municipalities also allow residents to top up the green bin with leaf and yard waste.

City residents have had access to a Green Cart program (which allows food waste and leaf and yard waste to be commingled) since 1994; however, the current capture rate of organic wastes is low. To be able to achieve a residential waste diversion rate of 60%, more organic wastes need to be diverted. Therefore, the capture rate of organic materials needs to be improved.

The current capture rate of Green Cart material is approximately 45%. The City should be able to move to a 55% capture rate (i.e. more typical capture rate) with some simple changes to the current system.

This can be met through the following initiatives:

1. Upgrade P&E materials (described above);
2. Provision of kitchen containers for diversion of food waste;
3. Collection of more than one Green Cart/Container per property as required and/or the collection of overflow leaf and yard wastes or increased frequency of collection; and
4. Provision of additional green cart infrastructure to multi-residential buildings (2011).

Kitchen containers were provided with the delivery of the green carts at the programs rollout in 1994, and many households no longer have the kitchen container. Subsequently, kitchen containers are not being provided with new Green Carts as they are distributed to new homes. It stands to reason that the lack of the smaller container impedes the diversion of food waste. The City should purchase kitchen containers and distribute them to residents who want them. This practice should continue on an ongoing basis.

Currently, a maximum of one Green Cart is emptied per single family household per bi-weekly collection period. This is a function of the current contract with the private sector waste contractor. This means that some organic wastes, especially leaf and yard wastes generated during peak times, are not being diverted. Although no waste audits have been completed it is likely that some of these wastes are landfilled.

This could be rectified through allowing additional collection of Green Cart wastes during peak seasons (i.e. April/May; October/November). One way to accomplish this and minimize costs would be to reduce the collection of the Green Cart in the winter (e.g. monthly collection from January-March) and transferring these collections to the peak season (e.g. weekly collection in May, June and November). In addition residents should have the opportunity to drop off excess leaf and yard wastes at the transfer station or other location at no cost.

The City started a limited collection of fall curbside residential leaf collection in 2009. It is **recommended** that the collection of this excess leaf and yard waste be included in any future waste management contracts, included as part of System 3.

The estimated cost to reintroduce the kitchen container for food waste is approximately \$5-7/hhld. The overall cost depends on the extent to which the City chooses to make the new containers available. At the very least, the City should commit to providing kitchen containers to the new homes as they are built which would carry an annual estimated cost of \$3,000. Should the City choose to redistribute the kitchen container to all existing households there would be an estimated onetime cost of \$100,000.

Table 7.6 depicts estimated cost implications to implement System 2.

Table 7.6 System 2 Cost Implications

	Estimated Costs	Comments
Promotions and Education Program	\$30,000 to upgrade Increase of \$8,000 annually to maintain	New costs to the City
Blue Boxes	\$60,000 (one time cost to purchase and deliver a new recycling box to every household) \$7000 annually(to make extra boxes available for sale to residents)	50% funding from each of private sector waste contractor and from the Continuous Improvement Fund (completed in 2010). Cost would be recovered through the sale of the boxes
Recycling Carts	\$40,000	50% funding from WDO's Continuous Improvement Fund(completed in 2010)
Public Space Recycling	\$125,000-\$200,000	Funding applications can be made to offset the cost
Kitchen Containers for collection of food waste	Up to-\$100,000 to relaunch \$5,000 annually to provide to newly constructed homes	
Spring Leaf & Yard Waste Collection	\$40,000	Negotiate with current private sector contractor or call a request for quotes
By-law enforcement	\$0	Enforce at the curb with collectors

The overall cost to implement all aspects System 2 is an increase to the Waste Management operating budget of \$60,000 and would require capital investments between \$180-330,000

7.3 System 3- Reduce Weekly Bag/Container Limit for Waste and Addition of a Recycling Depot

After the implementation of System 2 initiatives the capture rate of Blue Box material will be approximately 65% and Green Cart material will be approximately 55%.

To move the capture of recyclables to 80% (i.e. WDO target for Small Urban grouping) and 70% for Green Cart wastes a number of changes need to be implemented. These changes focus on making waste disposal more restrictive and at the same time making waste diversion more convenient.

This System focuses on the following:

- All components of System 1 and 2;
- Changes to waste collection including
 - Two bag/container per week limit
- Improvement of Blue Box collection and processing including:
 - Additional allowable materials in Blue Box;
 - Weekly collection of Blue Box wastes; and/or
- Establishing a Recycling Depot;
- Improved capture of Blue Box to 80%; and
- Improved capture of Green Cart to 70%.

When implemented, this system will result in a waste diversion rate of approximately 60%.

1. Set 2 Bag/Container Limit for Waste

Reducing bag/container limits is a best practice that can be used to induce waste diversion.

This initiative involves limiting single family residents to a 2 Bag/Container weekly limit. This is the same as the current system except that it would eliminate the ability to buy bag tags for additional bags of garbage.

To provide some flexibility to residents the City could provide them with an annual supply of 104 bag tags. Residents would be able to use this supply of bag tags as they see fit. The Municipality of Central Elgin uses this approach. They started out providing 104 tags/household/year and have reduced this by 5% in both 2009 and 2010. They now provide residents with 95 tags/household/year. Additional tags may be purchased by residents although the uptake of this is relatively low.

Given that City residents have access to the Green Cart it may be possible to further reduce this annual supply of tags in the future.

The goal of this initiative is to drive additional Blue Box and Green Cart wastes to their respective containers for collection.

For this initiative to be successful it is critical that single family residents have access to low or no cost Blue Boxes and that all organic waste placed at the curb is collected.

The estimated cost to implement this element would be related to administering the program including bag tag printing and distribution. The estimated annual cost is \$65,000 for printing and postage and a part time staff equivalent.

2. Improvement of Blue Box Collection and Processing

Expand Allowable Materials

The current Blue Box program is sufficient for the collection of paper fibre. However, it is more restrictive than many other Ontario programs for containers. In particular, the City only collects #1 and #2 plastics. Many Ontario municipalities collect a much wider range of plastics. It is recommended that at a minimum the City should consider adding #4 and #5 tubs and lids to their Blue Box program. The City should also consider adding milk/juice cartons and drink boxes to the Blue Box program. The City could negotiate the addition of these materials with its current or future waste contractor.

Should the private sector contractor not be willing to negotiate it is **recommended** that the City solidify pricing with another MRF and consider requesting its private sector waste contractor to deliver its recyclables to that MRF, if the costs are more favorable than current costs

Implement Weekly Collection of Blue Box

The City currently collects Blue Boxes on a bi-weekly basis. The City could change this to weekly collection. This provides single family residences with at least 100 litres/week of Blue Box capacity.

In terms of best practices the biweekly versus weekly collection is not unequivocal. On the one hand weekly collection sends a clear message that Blue Box collection is as important as garbage collection and the additional capacity can facilitate greater diversion. There is clearly a cost associated with the weekly collection of Blue Box waste. On the other hand a bi-weekly collection program can be effective provided there is sufficient capacity for residents to store two weeks of Blue Box wastes.

This should be included as part of the upcoming waste management tender to determine the costs. This can result in the capture of additional Blue Box materials. However, it is debatable whether it can result in more tonnes collected than a bi-weekly program (i.e. current program) with sufficient Blue Box capacity (i.e. residents supplied with enough Blue Boxes to hold all recyclables generated in a two week period). This type of initiative could be partnered with reduced garbage collection and should be considered when retendering in 2014.

It is assumed that providing additional Blue Box capacity through low or no cost Blue Boxes is less costly than additional curbside collection of Blue Box wastes.

City of London Regional Recycling Facility

The City of London Regional Materials Recovery Facility (MRF) will be operational by the fall of 2011. This regional facility is intended to create efficiencies of scale by

accepting recyclables from various municipalities. The MRF will accept a greater range of Blue Box materials (e.g. plastics) than is currently collected by the City. The City's processing fee would be dependent on the total tonnes received at the facility (i.e. higher tonnage means lower processing fees). The City would receive revenue back for its recyclables (the City currently receives no revenue). At the current (2011) market value for recyclables the City would receive a rebate. Bringing Blue Box materials to this MRF may help the City reduce its costs. It should be noted that the market value for recyclables fluctuates and there may be cases where there is no rebate. The City would assume some risk in terms the market value for recyclables.

3. Establish a Recycling Depot

There have been a number of concerns raised by residents of the current transfer station operated by the City's private sector waste contractor. While there are recycling opportunities, residents must pay fees to drop off most materials.

The City could establish its own Recycling Depot to allow residents to drop-off various wastes which can be diverted. It essentially would function as an overflow allowing residents to drop off excess recyclable waste that are collected curbside but also recyclable wastes that are not collected at the curb. The Recycling Depot would be open all year round. The specific opening times would be determined by the City but there should be access on at least a weekly basis.

A Recycling Depot could allow the following waste types:

- Blue Box;
- Green Cart;
- Leaf and yard wastes;
- Large (bulky items);
- White goods (appliances);
- Clean wood;
- Drywall;
- Metal;
- Shingles;
- Other building materials are fully segregated;
- Municipal household special waste (MHSW); and
- Electronics and electrical equipment (WEEE).

Most of these wastes can be directed away from landfill as there are existing markets for most of these wastes.

It may be prudent to work with a non-profit group such as Goodwill Industries to set up an attended donation centre to receive large (bulk items) such as furniture but also other durable goods and clothing. Similarly it may be prudent to work with a non-profit group such as Habitat for Humanity to collect salvageable building materials.

The site could also be used for a garbage drop-off site.

It is anticipated that for many materials there would be no fee levied. However, there may be fees for items which require disposal or processing such as white goods (items containing refrigerant), construction and demolition wastes, possibly MHSW and garbage. It is suggested that the depot operate on a cost recovery basis.

Tables 6.7 and 6.8 depict a summary of some Ontario municipalities that have Recycling Depots. Limited cost information was available.

The City of London's recent re-development of a recycling depot is the best model for the City. Since the City of St. Thomas would require a smaller depot it stands to reason that it could be built at a lower cost.

There are a number of 1-3 acres parcels of property City that could be used for a Recycling Depot.

Table 7.7 Overview of Recycling Depots in Ontario Municipalities

Municipality	Number	Size (ha)	Materials Accepted	Comments
City of Hamilton	3	-	<ul style="list-style-type: none"> • Blue box waste • yard waste • C&D materials • White goods/scrap metal • Tires • MHSW • WEEE • Re-usable goods • Garbage 	
City of London	4	1-1.5	<ul style="list-style-type: none"> • Blue box waste • Yard waste • C&D materials • White goods/scrap metal • MHSW • WEEE • Re-usable goods • Garbage 	Not all materials accepted at each depot
Town of Markham	4	-	<ul style="list-style-type: none"> • Blue box waste • Yard waste • White goods/scrap metal • Fluorescent tubes & CFL bulbs • Tires • WEEE (only cell phones) • Re-usable goods 	Not all materials accepted at each depot
County of Oxford	1		<ul style="list-style-type: none"> • Blue box waste • Yard waste & brush • C&D materials • Tires • Bale wrap • White goods/scrap metal • MHSW • WEEE • Garbage 	Some municipalities have own leaf and yard waste drop off depot
Region of Peel	5	10-20	<ul style="list-style-type: none"> • Blue box waste • Yard waste • C&D materials • Tires • White goods/scrap metal • MHSW • WEEE • Re-usable goods • Garbage 	Not all materials accepted at each depot
City of Stratford	1	<1	<ul style="list-style-type: none"> • Blue box waste • Yard waste • scrap metal • MHSW (annual depots) • WEEE 	Located at City Landfill

Table 7.8 Summary of Municipal Recycling Depots

Municipality	Households	Capital Cost	Operating Cost	Operating Cost	Wastes Diverted	Wastes Diverted	Comments
	#	\$	\$/year	\$/hshld/year	tonnes/year	kg/hshld	
Region of Peel	395,000	\$3,500,000 - 10,000,000	\$950,000- \$3,000,000	\$2.40-\$6.30	20,500	52	Higher capital and operating costs include waste (garbage) disposal/transfer systems.
City of London	160,000	\$1,000,000	\$400,000	\$2.50	16,000	100	Capital costs for newest depot includes: approvals, service roads, site servicing, earthworks, fencing, lighting, retaining wall, stormwater management pond, and attendant's building. Operating costs are the costs to the City. Private contractor that operates depots able to levy fees for C&D wastes.
County of Oxford	43,000	\$500,000	\$110,000	\$2.60	500	-	
City of Hamilton	210,000	-	-	-	9,000	43	
City of Stratford	13,500	-	-	-	1,400	100	

Table 7.9 depicts estimated cost implications to implement System 3.

Table 7.9 System 3 Cost Implications

	Estimated Costs	Comments
Set 2 Bag/Container Limit for Waste	\$0	Enforced at the curb by the collector
Set 2 Bag/Container Limit for Waste Bag Tags	\$ 65,000	\$5/household or business to distribute tags and calendar Costs to prepare/distribute bag tags.
Set 1 bag/container limit for waste	\$5,000- to communicate the change	Enforced at the curb by the collector, will reduce tipping fee Communication strategy must be in place prior to implementation
Improvement of Blue Box Collection Additional Materials	Unknown	Costs related to adding additional materials. City ask contractor for price to add tubs and lids, gable top and tetrapack to Blue Box
Improvement of Blue Box Collection Weekly Collection	Unknown	Costs related to collecting Blue Box wastes on a weekly basis. City ask contractor for price to collect Blue Box on weekly basis (would expect them to account for reduced garbage pick-up as well)
Full Enforcement of By-law 94-2010	\$40,000	Costs related to by-law enforcement
Recycling Depot	\$500,000-750,000 - Capital cost to build \$50,000-100,000 to operate annually	Potential to partner with neighbouring municipalities

The answer in response to a request made to the current private sector waste contractor to supply cost information to collect more materials (Blue Box) and to collect the Blue Box weekly remains outstanding.

The overall cost to implement all aspects System 3 is an estimated increase to the Waste Management operating budget of approximately \$150,000 and would

require capital investments between \$500,000-750,000. There could be some cost savings found in the operation budget once the waste collection contract has been evaluated and assigned.

7.4 System 4- Full User Pay and/or Bi-Weekly Waste Collection

This System is based on more drastically altering and reducing waste (garbage) capacity and driving divertable waste streams to existing waste diversion programs.

This System focuses on the following:

- **All components of System 1, 2 and 3;**
- **Changes to waste collection including**
 - **Full user pay; and/or**
 - **Bi-weekly waste collection; and/or**
 - **Use of clear bags for waste.**
- **Improved capture of Blue Box to 90% through reduced access to garbage collection;**
- **Full Enforcement of Mandatory Recycling by-law; and**
- **Improved capture of Green Cart to 90% through reduced access to garbage collection.**

These changes focus on making waste disposal less convenient. This can be accomplished by increasing the frequency of collection for waste diversion and/or by making garbage collection more restrictive.

When implemented, this system could result in a waste diversion rate of approximately 70%.

1. Implement full User Pay

The City currently allows residents to place two “free” bags/containers at the curb each week. System 3 advocated limiting the maximum weekly set out of waste to two bags/week without the ability to purchase bag tags for extra bags or reducing the weekly limit to one bag/container/week.

Moving to full User Pay (also known as Pay as You Throw) means that residents will need to buy and apply a bag tag to each bag/container of garbage. This puts the costs of curbside waste collection and disposal more clearly in the hands of residents.

According to the WDO 2009 Datacall (WDO, 2010) there are approximately 103 municipalities with User Pay programs in Ontario. This includes many smaller municipalities as well as some larger ones. Table 7.10 depicts some municipalities with User Pay programs. Most municipalities with User Pay programs have a higher waste diversion rate than the City; despite the fact most do not have a Green Cart

program. For instance, the City of Stratford and Oxford County send considerably less waste to landfill than the City.

Table 7.10 Summary of Some Ontario Municipalities with User Pay Programs

Municipality	Collection Frequency for Garbage	Bag Limit	Cost of Tags	Waste to Landfill*	Diversion Rate*	Comments
				kg/capita/year	%	
Blue Water Recycling Association	Weekly or Bi-Weekly	None	\$1.50- \$2.50	228	30	No Green Cart Program
City of Stratford	Weekly	None	\$2.25	182	49	No Green Cart Program
City of Orillia	Weekly	None	\$1.65	226	53	30 "free" tags/year
City of Owen Sound	Bi-Weekly	4 bag/container	\$2.00	254	41	No Green Cart Program
County of Oxford	Weekly	None	\$1.50	165	44	No Green Cart Program
City of St Thomas	Weekly	None 2 bag/container "free" then bag tags	\$1.75	223	38	Revenues received by contractor not the City

If the City were to implement full User Pay it would need to do the following:

- i. Ensure that the current costs of collection and disposal are partially or fully removed from municipal taxes. This would necessitate a Rate Study;
- ii. Ensure residents are aware of current waste diversion opportunities through enhanced P&E (see System 2); and
- iii. Increase capacity of Blue Box and Green Cart wastes through additional collection and/or additional containers (e.g. "free" Blue Boxes).

2. Implement Bi-weekly Waste Collection

When originally implemented, the City's three stream (i.e. garbage, Blue Box, Green Cart) waste management system included bi-weekly waste collection. This was changed shortly after the program was initiated due to resident outcry.

Waste would be collected every two weeks. The same bag/container limit of 2 bags/containers could be maintained (i.e. 4 bags/containers per collection day). However, to achieve a 70% waste diversion goal the bag/container limit would need to be reduced to 2 or 3 bags/containers every two weeks. What is critical is that waste diversion opportunities are maximized.

Table 7.11 depicts a number of Ontario municipalities with bi-weekly waste collection.

Table 7.11 Summary of Some Ontario Municipalities with Bi-weekly Garbage Collection

Municipality	Collection Frequency for Garbage	Bag Limit	Waste to Landfill*	Diversion Rate*	Comments
			kg/capita/year	%	
City of Toronto	Bi-Weekly	Resident can choose from three different sized bins	206	44	About 50% of housing stock is multi residential
City of Guelph	Bi-Weekly	None	226	40	Compost facility has been closed for a number of years. A new facility is under construction. Organic waste directed to energy from waste facility in New York State.
Ottawa Valley	Weekly	4 bag	235	49	
City of St Thomas	Weekly	None 2 bag/container "free" then bag tags	223	38	

3. Use of Clear Bags for Waste

Mandate the use of clear garbage bags for wastes collected by the City. This would allow for easier screening of recyclables in the waste stream and better enforcement of current by-laws.

Table 7.9 depicts estimated cost implications to implement System 3.

Table 7.9 System 4 Cost Implications

	Estimated Costs	Comments
Implement full User Pay	\$20,000 (complete a full rate study) \$10,000 annually to administer	Develop P&E program Develop bag tag system and retail distribution network. Partially completed with existing system

Implement Bi-weekly Waste Collection	Unknown	City ask contractor for price to collect garbage on bi-weekly basis. Possible reduction in costs
Use of Clear Bags for Waste	\$2,000	Develop P&E program

The answer in response to a request made to the current private sector waste contractor to supply cost information to collect garbage on a bi-weekly basis remains outstanding.

The overall cost to implement all aspects System 4 is an estimated increase to the Waste Management operating budget of \$10,000 and a capital investment of \$20,000.

7.5 Summary

Table 7.10 sets out the four Systems and resultant estimated waste diversion rates.

Table 7.10 Summary of Waste Management System Diversion Rates

	System 1	System 2	System 3	System 4
	Status Quo	Existing System with enhanced Capture and diversion	Reduce Weekly bag/container limit for waste and addition of a recycling depot	Full User-pay and or biweekly waste collection
Cumulative additional waste diverted (tonnes/year)	N/A	1,671	3,332	4,457
Waste Diverted (tonnes /year)	5,156	6,827	8,488	9,613
Impact on Diversion Rate (%)	N/A	12.3	24.4	32.7
Cost	N/A	Operational \$60,000/year Capital Investment \$180-330,000	Operational \$150,000 Capital Investment \$500-750,000	Operational \$10,000 Capital Investment \$20,000
Waste Diversion Rate	38	50	62	71

The Systems presented offer the City the opportunity to achieve an overall waste diversion rate of up to **70%**. It will be up to the City to decide what waste diversion rate they would like to achieve and which system it would like to proceed with. This decision will be a function of desired waste diversion balanced with desired service provision and costs. This will clearly need to balance overall environmental performance (i.e. waste diversion) with cost.

It is **recommended** that the City proceed with work towards achieving a 60% waste diversion rate. It is recommended that this be a staged process. It is **recommended** that System 2 be implemented and 50% waste diversion goal be achieved by 1 January 2014. After that it is recommended that System 3 be implemented and a 60% waste diversion goal be achieved by 1 January 2016.

8.0 Waste Disposal Strategy Options

The City does not have a landfill and presently takes its wastes to the Green Lane Landfill, owned by the City of Toronto.

Through its Certificate of Approval A051601 the Green Lane Landfill is to receive and dispose of wastes from the City. Specifically Condition 14 of the Certificate of Approval states:

The Owner shall ensure for the operational life of the Site that the municipal waste service contracts/obligations relating to the geographical Counties of Elgin and Middlesex, including the City of St Thomas, shall at all times receive first priority and precedence to the allocated annual disposal limits pursuant to this Certificate for their municipal waste. The balance of the available annual disposal capacity can then be used for the disposal of waste from all other waste streams.

A waste disposal agreement between the City and the City of Toronto was signed on 1 May 2009 and governs waste disposal at the Green Lane Landfill until the last day of February 2019. It sets out the tipping fee for residential waste disposal and prescribes annual CPI based price increases. The Green Lane Landfill, at its own discretion, may choose to accept IC&I waste generated in the City.

According to the City of Toronto, the landfill will reach its capacity in 2024 at the very earliest based on current waste generation. If the City of Toronto's Target 70 (i.e. plan to reach 70% waste diversion) is reached then the Green Landfill should not reach capacity until 2031 and possibly as late as 2036. It should be noted that the City of Toronto are pursuing initiatives that would maximize the life of the Green Lane Landfill (i.e. mechanical biological treatment of incoming wastes). It is uncertain if they will be approved.

The present worst case scenario suggests that the City has guaranteed landfill capacity until 2024 at the earliest and 2036 at the latest. This Plan is for 2011-2031. It should be noted that the actual amount of waste received at the Green Lane Landfill could fluctuate considerably.

There are a number of alternatives the City could pursue to deal with the eventual closure of the Green Lane Landfill.

8.1 Reduce Landfilling of Waste

The waste diversion plan (Section 7) describes a number of initiatives to increase waste diversion and reduce the amount of waste that would be directed to landfill. While the City sends a relatively small amount of waste to the Green Lane Landfill it can contribute to maximizing the life of this landfill through its own activities.

8.2 Develop City-Owned Landfill Site

The City currently does not have a landfill. The City could undertake a process to search out a suitable site for a landfill and seek permitting for such a facility.

As noted in Section 5, it is estimated that the City will be generating almost 17,000 tonnes/year of waste by 2024 and 17,500 tonnes/year by 2030. Based on current diversion rates by 2024 about 10,000 tonnes/year of disposal capacity would be required. This would increase to about 11,000 tonnes/year by 2030.

On this basis it is estimated that a City-owned landfill would require an annual capacity of at least 15,000 tonnes/year for these estimated disposal rates. The City may wish to allow IC&I waste at this landfill. Given that residential wastes account for about 35% of the total waste stream it is estimated that about 50,000 tonnes/year of IC&I waste would be produced in the City by 2031. If a conservative 20% waste diversion rate was assumed about 40,000 tonnes/year of IC&I waste would require landfilling by 2024 (although not all would necessarily be disposed at a City landfill).

On this basis the City would need a landfill that could accommodate 15,000 to 55,000 tonnes/year of capacity. A reasonable range would be a landfill that would receive 30,000-40,000 tonnes/year.

The process of developing a landfill is costly and it is estimated that it would take at least 10 years to complete. It has been estimated that it would cost between \$65 and \$111 million to site, permit, develop and operate a landfill with an annual capacity of 40,000 tonnes/year for forty years. This works out to \$40-\$70/tonne.

This landfill would also receive IC&I wastes and the receipt of these wastes would be used to help subsidize the costs to dispose of residential wastes.

The City would need to start the process almost immediately to ensure that it would have capacity by 2024.

8.3 Encourage Future Expansion of the Green Lane Landfill

The City relies on the Green Lane landfill for waste disposal. The City could encourage the City of Toronto to initiate a full Environmental Assessment (EA) study to assess feasibility of creating additional landfill space at the Green Lane landfill beyond 2024.

Any decision on this is beyond the City's jurisdiction

8.4 Energy From Waste

Another option for waste disposal is energy from waste, or EFW, which would see the City's refuse converted into energy. A typical EFW facility requires a minimum of 50,000 tonnes annually to operate. Currently, with an annual waste disposal rate of 7,000 tonnes, the City of St. Thomas does not generate sufficient waste to warrant siting an EFW facility. Further study is required to determine if there is sufficient waste generated by neighbouring municipalities to warrant a Regional EFW facility. Additionally, there is still a need to manage the resulting ash and other outputs of the facility.

EFW facilities have high capital costs that range from \$50 million to \$200 million depending on the type of technology. Regulatory approval for an EFW facility requires a comprehensive process that can cost \$200,000 - \$500,000 and includes a potential timeframe of 2-5 years. It is recommended to continue to examine Energy from Waste opportunities as they occur.

8.5 Dispose Waste at Other Landfills

W-12A Landfill

The City of London operates a municipal landfill called W-12A close to southern border of the City. At present it has an estimated 11-13 years of capacity. In 2011, the City of London has proposed to re-launch its environmental assessment process for long-term solutions for resource recovery and disposal. In all likelihood, one item that would be considered as part of the environmental assessment process is the expansion of London's existing landfill site.

As noted in the Policy Statement on Waste Management Planning: Best Practices for Waste Managers (MOE, 2007) the province encourages cooperation between municipalities to find mutually beneficial waste management solutions.

Working with the City of London should it expand the W12-A Landfill could offer the City secure and long term disposal capacity after the closure of the Green Lane Landfill. It could also offer the City a backup location should circumstances change at the Green Lane Landfill. The City of London would need to expand its landfill service area (i.e. through Certificate of Approval amendment or the environmental assessment process) to accommodate the City's garbage.

The W-12A landfill is located adjacent to a new regional materials recovery facility (MRF) that is being constructed and expected to be open by September 2011.

Other regional opportunities for waste diversion solutions that benefit not only the City but the region could be explored. For example, residents from the County of Middlesex have been delivering household special waste to the drop-off depot at W-12A landfill for about 10 years.

Private Sector Landfills

BFI is the City's current contractor and they own and operate landfills (City waste does not go to these landfills). Locally they own and operate the Ridge Landfill (Blenheim). This landfill currently accepts predominantly IC&I wastes. It has capacity until about 2027.

Waste Management is a large waste management contractor. Locally they own and operate the Petrolia Landfill and the Twin Creeks Landfill (Watford). The amount of capacity is unknown.

8.6 Summary

It is clear that the City has secure landfill capacity until 2024 and possibly until 2036.

The City can elect to site, permit and construct its own landfill, take wastes to another municipal landfill or take waste to a private sector landfill.

Given the level of effort, high costs and uncertainty of success it is **not recommended** that the City explore the siting, permitting and constructing of its own landfill.

It is **recommended** that the City continue to work with the City of Toronto regarding disposal of garbage at the Green Lane Landfill and in particular assess on an annual basis remaining capacity at this landfill.

It is also **recommended** that the City discuss with the City of Toronto the possibility of them initiating a full EA study to assess feasibility of creating additional landfill space at the Green Lane landfill beyond 2024.

It is **recommended** that the City contact the City of London and discuss the potential and feasibility of disposing its garbage at the W-12A landfill by 2024.

It is **recommended** that the City assess post-2024 disposal capacity in its next waste management tender (i.e. 2013).

9.0 Service Delivery by Private Sector or Public Sector -Collection

The City currently contracts out all of its waste management collection and processing services and has done so for many years. It is reasonable to consider undertaking some of this work using City forces.

An analysis of the cost to collect and process garbage, Blue Box and Green Cart from single family households using City forces was undertaken. This analysis was undertaken using the current waste management system.

Table 9.1 describes the startup capital costs. The City would need to purchase new collection vehicles for all three waste streams. It is estimated that it would cost approximately \$1.5-2.1 million in capital costs. It is assumed that these vehicles would be parked and serviced at a public works yard in the City.

Table 9.1 Estimate of Capital Costs for Collection Vehicles

	Capital Costs- Low		Capital Costs- High		Comments
Waste	\$600,000	3 collection vehicles (2 + 1 spare)	\$800,000	4 collection vehicles (3 + 1 spare)	Weekly collection 4 day collection schedule
Green Cart	\$200,000	1 collection vehicle (share spare waste collection vehicle)	\$600,000	3 collection vehicles (2 + 1 spare)	Bi-weekly collection 4 day collection schedule
Blue Box	\$660,000	3 collection vehicles (2 + 1 spare)	\$660,000	3 collection vehicles (2 + 1 spare)	Bi-weekly collection 4 day collection schedule
	\$1,460,000		\$2,060,000		

The construction of a Recycling Depot would cost an estimated additional \$500,000-\$1,000,000 to the figures noted above and assumes the City already owns the land.

There are too few multi-residential buildings to justify a dedicated waste collection vehicle. Wastes from smaller buildings could be collected if a bag based system was used (i.e. would place at curb on collection day). Blue Box and Green Cart wastes could be serviced by the same collection vehicles used to service single family households.

Table 9.2 describes the operating costs. It is estimated that it would cost approximately \$1.6-1.9 million/year in capital costs to collect waste, Blue Box and Green Cart materials, deliver them to processing facilities and pay any required tipping fees

Table 9.2 Estimate of Operating Costs for Garbage, Blue Box and Green Cart

	Annual Operating Costs-low	Per Tonne	Per Household	Comments	Annual Operating Costs-high	Per Tonne	Per Household	Comments
Waste Collection	\$450,000	\$53	\$38	Assumes 4 day collection at 10 hours per day	\$550,000	\$65	\$46	Assumes 4 day collection at 8 hours per day
Waste Tipping	\$510,000	\$60	\$43	Tipping at Green Lane Landfill	\$510,000	\$60	\$43	Tipping at Green Lane Landfill
Green Cart Collection	\$155,000	\$62	\$13	Assumes 4 day collection at 10 hours per day Assumes low set out	\$310,000	\$36	\$26	Assumes 4 day collection at 10 hours per day Assume high set out
Green Cart Processing	\$200,000	\$80	\$17	Assumes tipping at a local composting facility	\$225,000	\$90	\$19	Assumes tipping at a local composting facility
Blue Box Collection	\$300,000	\$150	\$25	Assumes 4 day collection at 10 hours per day	\$300,000	\$150	\$25	Assumes 4 day collection at 10 hours per day
Blue Box Processing	\$0	\$0	\$0	Net processing cost after rebate. Depending on the markets this could be lower.	\$150,000	\$75	\$13	Assumes processing fee only with no rebate
Total	\$1,615,000	\$124	\$135		\$2,045,000	\$157	\$170	

Operating costs include the costs of future collection vehicle purchases. This is a Vehicle Replacement Fund. The City will need to create a pot of money to purchase new collection vehicles.

Operating costs do not include the costs to operate a recycling depot, which are estimated to be at least \$100,000/year (labour, transport, processing). As well, these costs do not include the incremental additional costs to collect multi-residential garbage (bag based programs, recycling carts and green carts). With efficient routing some of these additional costs could be absorbed within the costs for single family collection.

A fairly conservative approach has been used to develop both capital and operating costs.

For capital costs it may be possible to gain the following efficiencies:

- Purchase some used collection vehicles.

For operating costs it may be possible to gain the following cost efficiencies:

- Negotiate a reduced tipping fee at another landfill;
- Negotiate a better tipping fee for Green Cart waste at a composting or other processing facility; and
- Strong markets for Blue Box wastes deliver a rebate to the City.

The current cost to operate the City's waste management program is about \$2.23 million/year. This does not include municipal staff and other municipal costs.

There is a reasonable opportunity for the City to operate a waste management system at costs similar to or lower than current private sector contractor costs. The City would incur \$2.0-\$3.0 million dollars in capital costs to assume the entire system. Another approach would be for the City to assume control of part but not all of the waste streams.

Under this scenario, the City would need to consider bidding on its own future waste management tender and that a decision be made by January 2012 on whether or not the City will pursue this option. A key part of that decision will be the ability to access funds to pay for the required capital expenditures.

10.0 Description of Recommended Waste Management System

10.1 Service Delivery

The City currently contracts out all of its waste management collection and processing services and has done so for many years. While the program appears to work reasonably well it is relatively expensive in comparison to other municipalities.

The current contract runs until the end February 2014. It is **recommended** that the City re-tender all waste management services at that time. If a commitment to a capital and operating budget for collection equipment and operating staff could be secured it is also recommended the City consider bidding on part or all of this waste management tender. This process should help identify cost effective options for the collection and processing of all waste streams. Most notably, The City of London Regional Materials Recovery Facility open Fall of 2011. The new MRF will be able to accept a broader range of Blue Box wastes than accepted by the current private sector contractor. As well they have developed a program whereby municipalities receive revenue for recyclable materials (currently the City receives no revenue). Additional program enhancements can be included at this time, such as a Christmas tree collection, spring and fall yard waste collection and possibly a large item collection.

10.2 Waste Diversion Goal

It is **recommended** that the City to strive to meet 60% waste diversion in a staged approach. It should be able to accomplish this goal by reinvigorating and recalibrating its existing waste management programs.

It is **recommended** that the first stage be to attain a 50% waste diversion goal and that this goal be attained by **1 January 2014**. The waste diversion initiatives described as part of System 2 (Section 7.0) would be implemented which include:

1. Enforcement of Section 9 of by-law 94-10 "Waste Diversion and Curbside Collection" to ensure compliance with size and quantity of waste
2. Introduce a public space recycling program to capture recyclable material in city owned facilities
3. Provide additional recycling boxes to residents for free or at cost
4. Introduce a multi-residential diversion programs for blue box and organic waste
5. Provide kitchen catchers for the diversion of food waste in the home
6. Enhance promotion and education efforts to effectively communicate program guidelines and goals to the residents

It is recommended that the second stage be to attain a 60% waste diversion goal and this goal be attained by **1 January 2016**. It is **recommended** that the waste diversion initiatives described as part of System 3 of the waste diversion plan (Section 7.0) be implemented, which include:

1. Reduce bag limit for waste
2. Increase frequency of organic collection or make allowances for additional material to be put out
3. Expand blue box program by allowing more materials to be collected

4. Assess feasibility of establishing a municipally owned transfer station
5. Enforcement of Section 10.8 of the “Waste Diversion and Curbside Collection” By-Law to ensure compliance with recycling requirements

During public consultation some residents indicated that they would like to strive for a 70% waste diversion goal. This is a very aggressive goal. It is **recommended** that this goal be revisited once the 60% waste diversion goal has been met.

In general, this increased emphasis on waste diversion will mean that capacity and convenience for waste disposal will need to be reduced but increased for waste diversion.

10.3 Waste Disposal

Current waste collection and disposal appear to be working well. However, to attain waste diversion goals less waste needs to be generated and collected.

It is **recommended** that the current system of limited waste collection from the multi-residential buildings be maintained and not expanded.

It is **recommended** that the current system of twice per week collection in the downtown core area be decreased to once per week and the bag limit not increased.

It is **recommended** that the following key initiatives, described in detail in Section 8 with respect to disposal of waste, be implemented:

1. Continue to work with the City of Toronto regarding disposal of garbage at the Green Lane Landfill and in particular assess on an annual basis remaining capacity at this landfill.
2. Discuss with the City of Toronto the possibility of them initiating a full EA study to assess feasibility of creating additional landfill space at the Green Lane landfill beyond 2024.
3. Contact the City of London and discuss the potential and feasibility of disposing its garbage at the W-12A landfill by 2024.
4. Determine available post 2024 disposal capacity in area landfills in its next waste management tender (i.e. 2013).

10.4 Other Wastes

Other wastes include municipal household special waste (MHSW), Waste Electrical and Electronics Equipment (WEEE), tires, Construction and Demolition Wastes (C&D) are collected in varying degrees and have a low to medium capture rate.

These wastes can contribute significantly to increasing the overall diversion rate. Additionally, there are several Provincial programs that assist in offsetting the cost of administering a program to divert these materials. Many of the above materials could be captured and diverted at a City owned Recycling Depot/Transfer Station.

It is **recommended** that the following key initiatives, described in detail in Section 7, be evaluated for feasibility:

1. Establish a Recycling Depot

The City could establish its own Recycling Depot to allow residents to drop-off various wastes which can be diverted. This could include the above wastes as well as Blue Box and Green Cart wastes. Garbage could also be received at this facility. The Recycling Depot would be open year round, staffed and only levy fees for non-recyclable items.

11.0 Cost and Financing Strategy

The City currently funds waste management through municipal taxes.

The City has implemented all of the programs that it requires to strive for a 60% waste diversion goal. This Plan has highlighted methods to improve the capture rate for programs already paid for but underutilized.

The current waste management contract runs to February 2014. Costs to operate some proposed new initiatives can be determined through the **recommended** tender process.

Should the City wish to increase its involvement in its waste management program it would incur significant new startup capital costs for collection vehicles (discussed and costed in Section 9) and the development of a Recycling Depot (discussed and costed in Section 7.3). This would require including new capital costs into the budgeting process.

The focus of this Plan is to achieve a waste diversion rate of 60%. Once this has been achieved the City may wish to strive for 70% waste diversion. As described in Section 7.0 one possible initiative would be full User Pay. This would necessitate a Rate Study to determine how to implement a User Pay program and importantly how all costs would be recovered.

11.1 Possible Funding Sources

There are a number of possible funding sources. These include

- Green Infrastructure Fund (GIF) - Federal and Provincial Governments;
 - Infrastructure Canada - www.infc.gc.ca

- www.buildingcanada-chantierscanada.gc.ca/creating-creation/gif-fiv-eng.html
- Sustainable Development Fund - Sustainable Development Technology Canada
- Gas Tax Fund;
- Green Municipal Fund - Federation of Canadian Municipalities;
- Infrastructure Ontario Loan;
- Continuous Improvement Fund (CIF) - Waste Diversion Ontario;
- Public-Private Partnerships Canada (<http://www.p3canada.ca/home.php>); and
- Banks.

12.0 Implementation Timelines

The following implementation timeline is **recommended**:

- Council receipt of this Plan in October 2011;
- Discuss state of waste disposal with City of Toronto annually;
- Discuss state of waste collection and waste diversion with private sector waste contractor annually; and
- Annual review of waste diversion and identification of necessary improvements.

Implement System 2 of Waste Diversion Plan

- Develop work plan to implement System 2 of the Waste Diversion Plan by January 2012;
- Implement revised P&E program by January 2012;
- Implement monthly receipt of summarized waste management data from private sector waste management contractor;
- Develop plan and implement tougher enforcement of waste diversion and collection by-law by January 2012;
- Implement plan to enhance Blue Box and Green Cart collection by January 2012; and
- Achieve 50% waste diversion by January 2014.

Waste Management Tender

- Develop work plan to implement System 2 of the Waste Diversion Plan by January 2012;
- Determine extent of City involvement in waste collection by January 2012;
- Seek, apply and possibly obtain total or partial capital funding by January 2013;
- Include capital requirements in budget by January 2013 if necessary; and
- Develop waste management tender in 2012.

Implement System 3 of Waste Diversion Plan

- Establish a Recycling Depot by January 2014 (optional);
- Set 2 Bag/Container Limit for Waste (no additional tags) or reduced weekly allowance by January 2015;
- Improvement of Blue Box Collection and Processing by March 2014;
- Implement plan to enhance Blue Box and Green Cart collection by January 2013;
- Achieve 60% waste diversion by January 2016.

Other

- Investigate setting a 70% waste diversion goal once 60% has been attained; and
- Renegotiate waste disposal contract with City of Toronto in 2019 (start process in 2018).

Review and Update Plan

- Review and update Plan in 2016; and
- Review and update Plan in 2021, 2026 and 2031

13.0 Contingencies

13.1 Waste Diversion

The City has all required waste management programs in place to help it attain a 60% waste diversion goal. The Plan has staged increased waste diversion in steps. It is envisioned that 50% waste diversion will be attained by January 2014 and that 60% waste diversion will be attained by January 2016.

The key potential issue is that changes to the current program do not result in increased waste diversion.

If waste diversion goals are not met as per the schedule, the time line can potentially be extended. It is **recommended** however that waste diversion be carefully tracked on a monthly and an annual basis to identify progress against the 50% and then 60% waste diversion goals. In the event that waste diversion is not tracking well remedial actions can be taken.

Remedial actions could include additional P&E to remind and further instruct residents how to participate in the program. As well, the various initiatives proposed can be assessed and adjusted as required to result in desired waste diversion impacts.

Another possible issue is that processing facilities (i.e. for Blue Box and Green Cart wastes) could temporarily or permanently close. The City should maintain relationships with various public facilities and private sector waste contractors as

they may have access to MRFs and composting facilities (or other organic waste processing facilities) to which the City could bring its Blue Box and Green Cart wastes.

13.2 Waste Disposal

Waste disposal is secure until 2024 at the earliest and possibly until 2036. A potential issue is that the Green Lane Landfill fills up more quickly than anticipated. A further potential issue is that environmental issues arise which result in the curtailment or cessation, whether temporarily or permanently, of waste receipt at the Green Lane Landfill.

The City will need to renegotiate a contract with the City of Toronto in 2019 to deliver its wastes to the Green Lane Landfill. A potential but unlikely issue is that the City cannot successfully negotiate a contract with the City of Toronto.

If the City cannot tip its wastes at the Green Lane Landfill, for whatever reason, it may be possible to deliver wastes to another local or more distant landfill. Section 8.4 highlights some possible alternate options.

As has been previously **recommended** the City should maintain annual communication with the City of Toronto. As well they should maintain relationships with the City of London and private sector waste contractors as they have access to landfills to which the City could bring its wastes.

14.0 Monitoring and Reporting System

It is **recommended** that a monthly progress update be developed and implemented. Ongoing results on performance versus targets can be calculated each year from the data gathered for the Waste Diversion Ontario Data Call submission and from information received from the private sector waste contractor.

A summary of performance measurements can be reported to Council annually.

The performance summary will be posted to City's web-site.

15.0 Plan Review

It is **recommended** that the Plan be reviewed when there are significant changes in legislation, demographics or local opportunities to manage wastes.

The review should include:

- Comparison of waste diversion rates against the 2009 rates;
- Comparison of program performance against 2009 performance
- Consultation with stakeholders or the public for input on how the plan and its implementation could be adjusted (possibly through a community advisory committee); and

- A recommendation for future actions to ensure the Plan performs with a maximum efficiency and effectiveness.

At a minimum it is recommended that the Plan should be reviewed at least every 5 years:

- 2016;
- 2021;
- 2026; and
- 2031.

16.0 Conclusion

This Plan sets out a strategy for waste management in the next twenty years. The focus of this Plan has been to reduce the amount of waste directed to landfill and increase the amount of waste diverted.

Waste disposal is fairly secure until 2024 at the earliest but likely until at least 2031.

The City once led the Province in waste diversion. This Plan investigated ways to bring back waste diversion to previous levels. A Waste Recycling Strategy, embedded within this Plan, focused on how to improve Blue Box recycling. Improvement of the capture of Green Cart wastes and other wastes were also investigated.

The City has all the required programs to help it attain a high waste diversion rate. Through a recalibration and reinvigoration of its existing waste management programs the City should be able to approach if not exceed a 60% waste diversion target.

Current and future private waste management contractor(s) and/or City forces will play a critical role in the success of this Plan by delivering high quality services that will allow the City to implement this Plan. Finally, it is the residents of the City, who have long embraced their waste management program, whose participation in the various waste diversion programs will determine whether this Plan is successful.

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Appendix 1

**City of St. Thomas
Integrated Waste Management Master Plan
2010 Waste Management Survey Results**

March, 2011

Submitted by:



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1.0 Introduction

A survey was developed to obtain input from residents, including participation in an on-line waste management survey.

This survey was conducted from June 2010 to November 2010. The intent of the survey was to establish the current waste management behaviors of the community and gauge community opinion on possible future waste management options.

A copy of the survey is attached in Appendix 1. A copy of written comments is included in Appendix 2.

2.0 Survey Summary

A total of 22 questions were posed to residents. The questions were divided into three categories including Introduction; Current Habits; and Future Waste Management/Comments. There were a total of 240 respondents who provided answers to the survey questions representing 227 complete surveys and 13 partial survey responses (skipped questions).

A summary of the survey responses is included in this Section.

2.1 Introduction/Demographics

There were a total of 238 responses for this question. About 68% of the respondents were between the ages of 36 to 65 years of age. While about 19% of the respondents were between 19 and 35 years of age and 13% of the respondents were over the age of 65 years.

The majority of respondents, 96%, indicated that they resided in a single family home.

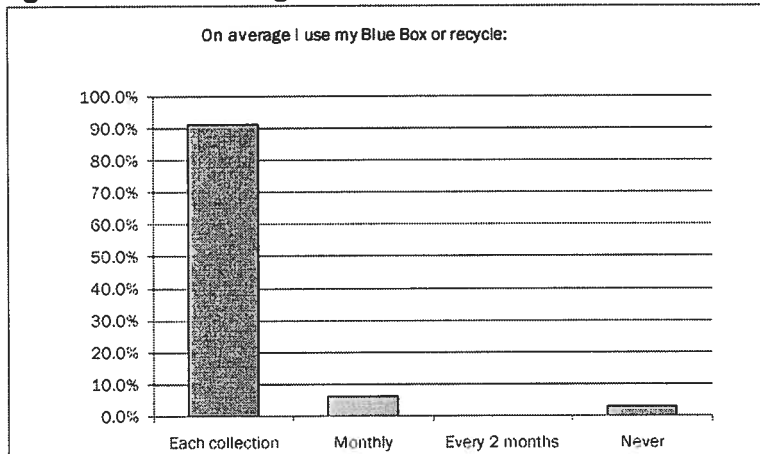
2.2 Current Waste Management Habits

Respondents were asked a number of questions about their current waste management habits.

About 95% of the respondents reported that they set out two or less garbage bags per week.

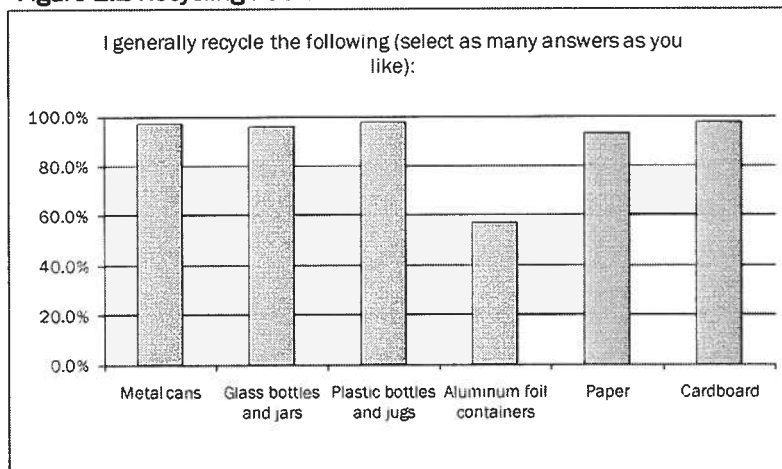
Figure 2.1 depicts Blue Box usage.

Figure 2.1 Blue Box Usage



As depicted in Figure 2.2, except for aluminum foil containers, more than 93% of respondents recycled all items that are permitted in the blue box.

Figure 2.2 Recycling Rates



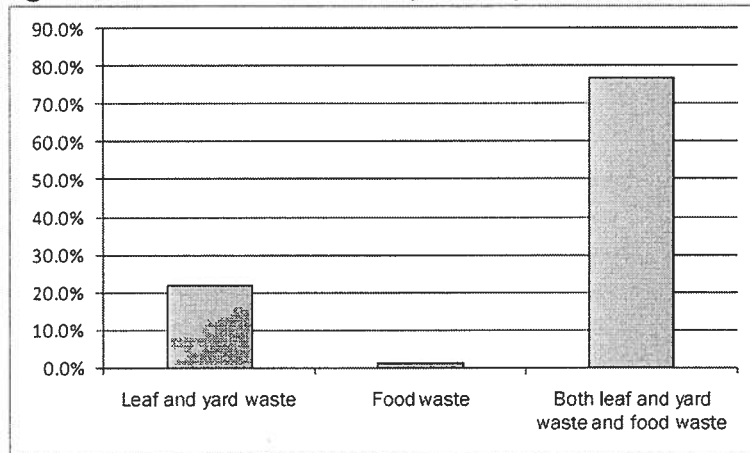
When their blue boxes are full about 72% of respondents either pile recyclable materials beside their blue box or store it and include in a future blue box set out. About 20% of respondents indicated that their blue box was never full.

About 72% of respondents indicated that they take their compostainer/green bin to the curb each collection and about 85% indicated that they take it to the curb at least monthly.

As depicted in Figure 2.3 about 77% of the respondents put both leaf and yard

waste, along with food waste, in their Compostainer/green bin. The remainder of the respondents, about 22%, only put leaf and yard waste in their Compostainer/green bin.

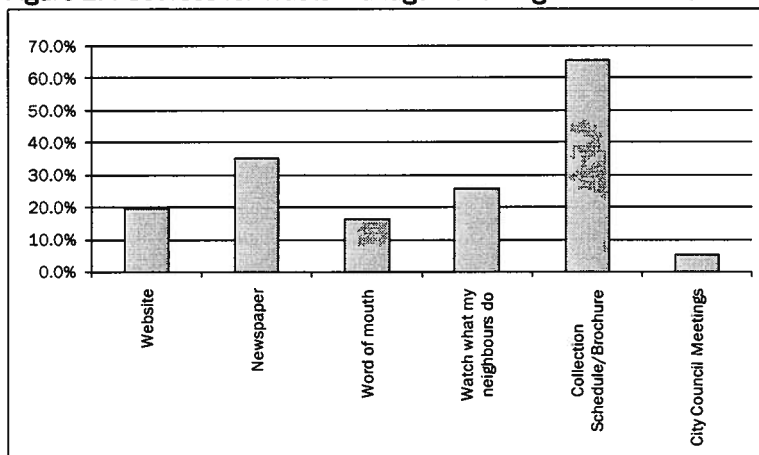
Figure 2.3 Waste Placed in the Compostainer/Green Cart



About 48% of the respondents indicated that they never go to the BFI transfer station while about 47% indicated that they go infrequently (i.e. less frequently than monthly).

As depicted in Figure 2.4 respondents were asked how they currently obtain information on St. Thomas' waste management programs. They were able to select more than one answer. The Collection Schedule/Brochure (66%) was the most common source of information with newspapers (35%) the second most common source of information.

Figure 2.4 Sources for Waste Management Program Information



Respondents were able to provide comment on the current waste management program. A total of 149 additional comments were recorded in the survey responses.

The following is a brief summary of the major discussion points that were highlighted by the respondents.

Plastic Recycling

What is acceptable within the current recycling system was an area that numerous respondents mentioned in their comments. A vast majority of the comments were directed at the fact that only #1 and #2 plastics are currently collected, while numerous other municipalities collect additional plastics. In particular, #5 plastics was mentioned by many respondents as one that they would like to see collected.

Large Item Collection

There were several requests to implement two collection days each year, one in the spring and again in the fall, that allow respondents to place large items such as mattresses and furniture at the curb at no charge. Many cited how difficult it was to take these items to the transfer station and others noted that other municipalities are already undertaking this initiative.

Transfer Station

With regards to the BFI transfer station, many respondents cited the lack of consistency and accountability among staff at the facility as prices to drop off items at the station varied by week and facility staff member. There was also a request by some respondents to implement a register/receipt system instead of their current carbon paper accounting system, while another respondent mentioned that when they brought a Tim Horton's coffee with them, their price was subsidized. Disposal of items such as batteries, paint cans, e-waste and household hazardous waste was mentioned as comments regarding depot hours of operations were made, as well as the inconvenience of having to drive to the depot to dispose of these items.

Green Cart Program

The green cart (also known as a Compostainer) program was another area that generated a lot of discussion. Many respondents want to see an increase in collection to weekly during the summer months as well as allow for more than one green cart to be collected on the day of collection. On a related note, respondents felt that during the spring and fall seasons, additional collections of yard materials would be beneficial as the green cart does not have a large enough capacity to store household organic material as well as the yard waste. Many suggested that yard and leaf waste should be collected separately, using large paper leaf bags, during these times of the year.

Bag Limits

The “2 Bag” limit was another area that sparked many responses as some felt it was unfair for homes with many residents to have the same restrictions as homes with one or two inhabitants. Respondents also suggested that 104 garbage bag tags be issued each calendar year thus allowing residents to “bank” tags in the event that they host a function or during the holiday season and generate more waste during these weeks.

2.3 Future Waste Management

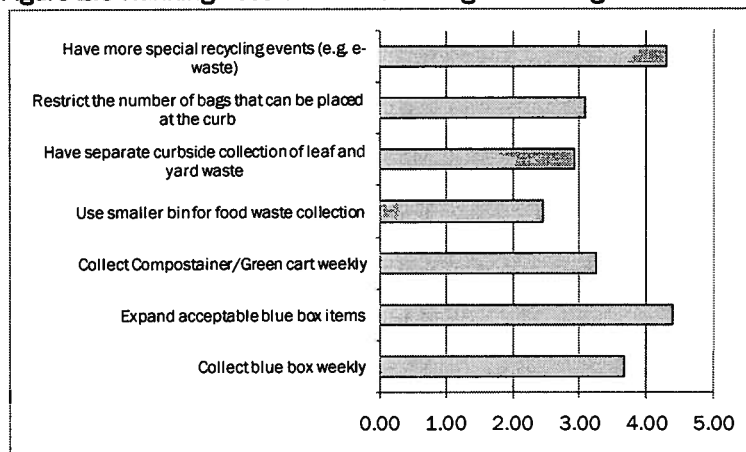
Respondents were asked a number of questions about future garbage collection and waste diversion.

About 88% of respondents indicated that they would prefer to maintain the current collection schedule as opposed to bi-weekly garbage collection.

When asked about a suitable waste diversion target about 82% of respondents want to see St. Thomas striving to reach a diversion rate of 60% or higher .

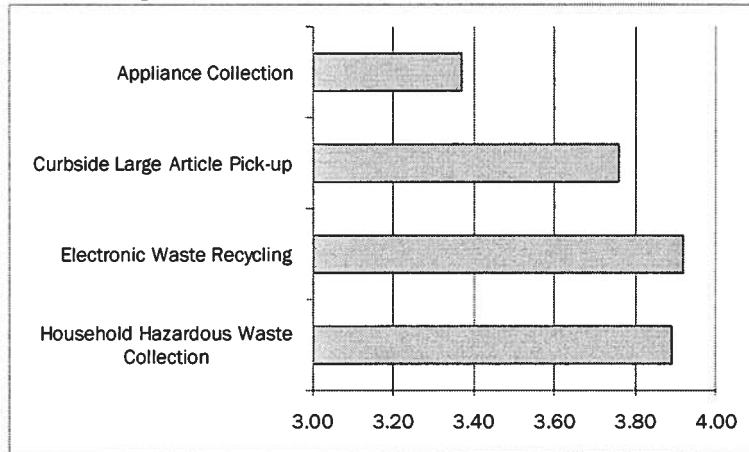
As depicted in Figure 2.5 respondents were asked to rank a number of programs from 1 lowest to 5 highest in terms of how they would contribute to waste diversion. The top four ranked programs included expanding items allowed in the blue box; have more special event days (e.g. for e-waste and other specialty waste streams); collect the blue box weekly; and collect the green cart weekly.

Figure 2.5 Ranking Possible Waste Management Programs



As depicted in Figure 2.6 respondents were asked to rate a number of waste management special events from 1 lowest to 5 highest in order of need. The highest rated special event was electronic waste recycling, followed closely by household hazardous waste collection and curbside large article collection.

Figure 2.6 Ranking Possible Waste Management “Special Events”



About 78% of respondents believe municipal property taxes should fund waste management programs as opposed to user fees.

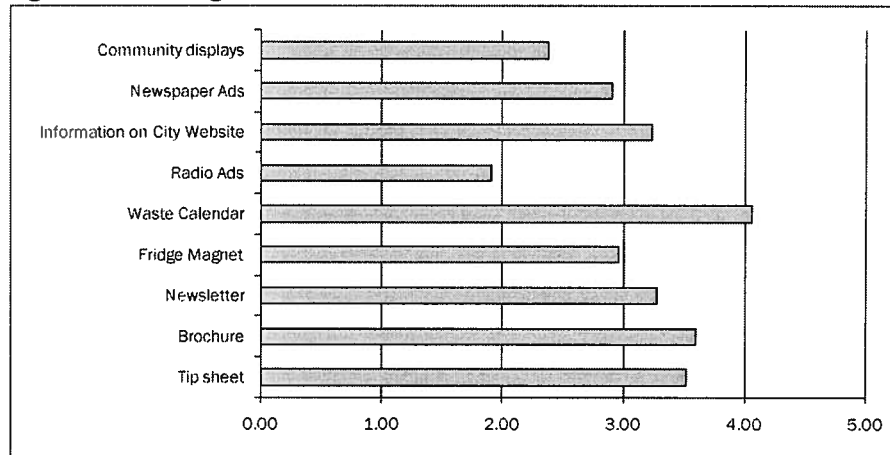
The current waste management programs cost about \$150/single family household per year. Of respondents in favour of funding waste management programs through municipal taxes about 36% indicated that they would prefer to maintain these costs while another 36% indicated they would be willing to increase payment by up to 10%.

68% of respondents in favour of user fees would like to see bag tags for all garbage bags.

The City has a partial "Pay as You Throw" program (e.g. bag tag for third bag) for garbage. If the program were to change 46% of respondents would like to receive 104 "free" tags/year for their property, while 31% of respondents would like to maintain a "free" bag allowance (i.e. status quo).

As depicted in Figure 2.7 respondents were asked on a scale of 1-5, where 1 is not useful and 5 is very useful, to rank the following methods that could be used to communicate waste management information with them. The highest rated method of communication was the waste calendar, followed by brochures, tip sheets and information on the City's web-site.

Figure 2.7 Ranking Possible Communication Methods



2.4 Summary of Individual Respondent Comments

Respondents were able to provide comment on the current waste management program. A total of 77 comments were recorded in the survey responses.

The following is a brief summary of the major discussion points that were highlighted by the respondents.

Increased Communication

The most common comment was focused around the notion of increased communication. Many respondents welcome the idea of increased literature sent to their home address to highlight new initiatives being developed by the City. Respondents provided suggestions such as magnets and calendars to allow for an increased understanding of when collection days were and who to contact in case there was an issue to report, while other respondents suggested that writing literature should be provided to residents to inform them as to where to find on-line information. Other respondents suggested that if recyclables are not collected, a sticker should be attached to the blue box or item to inform them as to why this item was not collected.

Extended Producer Responsibility

Another theme presented by respondents was the notion to increase the amount of political pressure directed towards large corporations with regard to extended producer responsibility. Respondents felt that all levels of government; municipal, provincial, and federal, should pressure corporations to alter the way items are packaged as respondents felt that much is wasted in the form of packaging.

Other Comments

- Have a spring and fall large item collection day/week;
- Increase the types of plastic that are recycled;

- Increase the frequency of green bin collection as well as the size of the Compostainer;
- Have garbage and recycling collectors treat the garbage and recycling bins better;
- Allow for bag tags to be used whenever it is necessary, thus not limiting to 2 bags per week.

3.0 Conclusions

About 240 residents completed the on-line survey.

In general it appears that respondents participate in St. Thomas' current waste collection programs and that they like, for the most part, how the programs are set-up.

The survey respondents appear to be very keen to move St. Thomas to beyond 60% waste diversion although this is not commensurate with their willingness to pay the additional costs to fund new waste diversion programs.

These results should be viewed as a "snap-shot" of resident opinion and function as part of the overall public consultation process.

Appendix 1

Survey

City of St Thomas Waste Management Survey

1. Introduction

The City of St. Thomas is developing an Integrated Waste Management Master Plan. We would like to hear from you about your current waste management habits and get some ideas about what you would like to see in the future. Please take a few minutes and fill out this anonymous survey. Unless otherwise noted there is only one response required per question. Thanks!

1. My age is between

- 19-35 36-50 51-65 65+

2. I am a:

- Resident of a house Resident of an apartment

3. My waste collection day is:

- Monday
 Tuesday
 Wednesday
 Thursday
 Friday
 Not applicable I live in an apartment

2. Current Habits

We would like to learn about your current waste management habits.

4. On average our household generates this many full green/black garbage bags per week:

- 0.5 1 2 3 4 5+

5. On average I use my Blue Box or recycle:

- Each collection Monthly Every 2 months Never

6. I generally recycle the following (select as many answers as you like):

- Metal cans Glass bottles and jars Plastic bottles and jugs Aluminum foil containers Paper Cardboard

City of St Thomas Waste Management Survey

7. When my Blue Box is full I typically do the following:

- Throw recyclables in with my garbage
- Store recyclables and put out another time
- Put out in pile beside Blue Box
- Never full

8. I use my Compostainer/Green Bin at the curb (only answer if you live in an urban area):

- Each Collection
- Other
- Monthly
- Never

9. I put the following in my Compostainer/green bin:

- Leaf and yard waste
- Both leaf and yard waste and food waste
- Food waste

10. I go to the BFI Transfer Station:

- Weekly
- Other
- Every second week
- Never
- Monthly

11. How do you currently obtain information on St. Thomas' waste management programs?

- Website
- Watch what my neighbours do
- Newspaper
- Collection Schedule/Brochure
- Word of mouth
- City Council Meetings

12. Please provide us with any comments you might have on the current waste collection, blue box, and composting programs as well as the BFI Transfer Station.

3. Future Waste Management

We would like to ask you a few questions about your thoughts on future waste management.

13. For garbage disposal we should:

- Keep it the way it is
- Move to collection every two weeks

City of St Thomas Waste Management Survey

14. Our current rate of waste diversion (away from landfill) is estimated to be about 40%. The Provincial goal is 60%. In the future I would like us to strive for the following waste diversion:

- Current level (no change)
 50%
 60%
 70%
 Greater than 70%

15. Please rate the following possible programs to increase waste diversion from 1 lowest to 5 highest in terms of how they would contribute to waste diversion.

	1	2	3	4	5
Collect blue box weekly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Expand acceptable blue box items	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collect Compostainer/green bin weekly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use a smaller bin for food waste collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have separate curbside collection of leaf and yard wastes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restrict the number of bags that can be placed at the curb for garbage collection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have more special recycling events (e.g. E-Waste, Hazardous Waste, scrap metal)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Please rate the following special events from 1 lowest to 5 highest in order of need:

	1	2	3	4	5
Household Hazardous Waste Collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electronic Waste Recycling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curbside Large Article Pick-up	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Appliance Collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

17. How do you think waste management programs should be funded?

- Municipal property taxes
 User fees

4. Future Waste Management continued

City of St Thomas Waste Management Survey

18. How much more than the current \$150/single family household per year would you be willing to pay to fund enhanced waste diversion programs?

- Not willing to pay anymore
 Willing to pay up to 50% more
 Willing to pay up to 10% more
 Not applicable
 Willing to pay up to 25% more

5. Future Waste Management continued

19. How would you like it implemented?

- Fixed household rate (monthly or bi-monthly "utility" type bill)
 Don't know
 Bag Tags for all garbage bags
 Not applicable
 No preference

6. Future waste management continued

20. St Thomas currently has a partial "Pay as You Throw" program (e.g. bag tag for third bag) for garbage. If we were to change our program I would prefer:

- Provide a "free" bag allowance (status quo)
 An annual household fee based on container size
 Charge for all bags
 No preference
 Provide 104 "free" tags/year to be used at property owner's discretion
 Don't know

21. On a scale of 1-5, where 1 is not useful and 5 is very useful, please rank the following methods that we could communicate waste management information to you:

	1	2	3	4	5
Tip sheet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Brochure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Newsletter	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fridge Magnet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Waste Calendar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radio Ads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information on City Website	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Newspaper Ads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community displays	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

City of St Thomas Waste Management Survey

22. Do you have any additional comments?

Appendix 2
Written Comments

Do you have any additional comments?	
	Response Count
	80
answered question	80
skipped question	167

3. Do you have any additional comments?		
	Response Text	
1	What a combination of municipal taxes and user fees? User fees for programs for waste disposal– municipal taxes for diversion programs. Expanding the items acceptable in the blue box program would be great, but would do little to affect the overall diversion rate. We need to reduce first!!	Jul 9, 2010 4:12 PM
2	Personally, I think the new waste management co-ordinator is doing a great job. Considering the fact that St Thomas has never had the position before and the amount of criticism that she receives simply because the citizens of St Thomas, for some reason, are narrow-minded and resist change, I'd like to thank her for taking the initiative towards improvements and applaud her efforts taken in getting the city out of a mess that it is 100% responsible for getting itself into.	Jul 10, 2010 11:35 AM
3	I am not sure who is responsible but this business of a limit on how much recyclable materials will be collected each time needs to stop .Numerous times I have put out a quite a bit of recyclable material only to have only so much taken and the rest left for either the garbage truck to take or get rid of otherwise	Jul 11, 2010 12:31 PM
4	My biggest complaint is in the roadblocks thrown up for green bin composting. If the idea is for people to compost household waste plus yard clippings, why can't a house with a large yard and numerous trees have two green bins at least? Also the rules about tying up papers with twine and what will not be picked up in blue boxes present problems for the large senior population in this area. For example, if an octogenarian is unable to carry a full blue box to the curb and compensates by taking out several trips with cans, bottles, papers, etc. in plastic bags which are easier to carry and is left a note in the box scolding them for "not doing it right" they are not inclined to continue to try the best that they can to accommodate the system. this is personal experience with my 86-year-old mother who no longer uses her blue box for the above reason plus the garbage collectors broke two boxes in a short time period by throwing them onto the sidewalk/driveway and at \$8 to \$10 each for new boxes, this is also discouraging for seniors on fixed incomes.	Jul 11, 2010 8:40 PM
5	I think the program is great the way it is. Although some weeks I would like to see more frequent green bin & blue box pickups. We are very diligent in sorting our waste appropriately. As such, our bins are sometimes overflowing.	Jul 13, 2010 3:28 PM
6	Great idea to do an online survey; I hope you'll make ALL the results public whether you like them or not. We need more transparency.	Jul 13, 2010 3:56 PM

3. Do you have any additional comments?

Response Text

- | | | |
|----|--|----------------------|
| 7 | <p>I am not sure if tagging bags is the answer when you have more than you should as we have done that and paid for the extra bags and they have not been picked up and others have told us they don't bother to tag extra bags and they get picked up so not sure on the answer to extra bags.....
 Definitely need more advertisement and information sent to residents on the programs available...</p> | Jul 14, 2010 9:22 AM |
| 8 | <p>My suggestion for garbage pick up would be to give bag tags for the entire year to each family (2 tags or an average of 1.5 tags per scheduled pick up). This suggestion would allow the households the discretion of putting out no bags or 3 bags whenever the need arises. If a household runs out of tags then they could purchase more tags at their own expense.
 Most of the communication techniques suggested include the use of paper. I would imagine that most households just throw away the papers. A magnet or one paper method of communication with the city website for additional information would be the most effective and the most environmentally friendly.</p> | Jul 14, 2010 9:33 AM |
| 9 | <p>what % of the st thomas residents get the st thomas paper, what about the free paper we get weekly</p> | Jul 15, 2010 5:58 PM |
| 10 | <p>Please don't change collection to less than once a week.</p> | Jul 16, 2010 9:10 AM |
| 11 | <p>I think the current system is pretty good. I think more education is required for composting and a better understanding of what can go into the compost container.</p> | Jul 16, 2010 9:18 AM |
| 12 | <p>With the new eco-fees as setup by the Ontario Government, the dumping of these waste product should be free, and a means within the City to dispose of these products setup immediately, otherwise it's just another tax.</p> <p>Newsprint delivered to individual households should be banned or a do not deliver list established. I do not want, nor read these publications and the cost associated with their disposal one way or another is being paid for through property taxes. Start charging the newspaper company for the full cost of disposal and recycling of their publications.</p> <p>Lobby the Provincial and Federal Governments to impose packaging laws on all products. Reduce the amount of waste before it even hits store shelves. Require all packaging where feasible to be of compostable or recyclable materials.</p> <p>Investigate end disposal locally or think of waste disposal as a means for economic development within the City of St. Thomas. Look for alternative uses for disposal such as plasma gasification. Compost can be used to generate large quantities of heat energy which can be sold for industrial use, not to mention consumer compost. In the end, use the existing rail infrastructure to become a destination for other municipalities waste.</p> | Jul 16, 2010 9:44 AM |
| 13 | <p>Our current program is a good one for the most part - more info on what can be put in each box/bin would be helpful, where to get replacement compostainer, how to clean compostainer to rid of smells as that sometimes prevents us from using it - gets really smelly in hot weather. A clear calendar of what week is green pickup and which is blue - current calendar has A and B route - I never know if I am A or B so I look at neighbours and hope they know:) Newsletter could help encourage people to use the program more effectively reaching province goal - we could then set a higher goal (80% and up) for our community. Provide some sort of compostainer for apartments as I currently do not see this in buildings of friends and families.</p> | Jul 16, 2010 4:53 PM |

3. Do you have any additional comments?

Response Text

14	If blue or green box contents are not taken, it's helpful when the guys leave a note saying why. It's rarely happened to me, but having a note telling me why has been useful. Re. composting containers, perhaps 2 small ones per h/h would be better than 1 big one. Curbside collection of batteries etc would be great.	Jul 16, 2010 6:51 PM
15	Please make sure that the garbage people put all waste cans and recycle bins back on the property and if it is windy make sure they are not going to blow away as soon as they are put down. Also if something is stuck at the bottom of the blues it only takes 2 seconds to reach in and get it out. Basically to have some common sense and curtesy towards us and our property.	Jul 17, 2010 3:40 AM
16	discourage the use of any bags...we should encourage the use of reuseable containers as garbage bags just add to our landfill	Jul 17, 2010 11:21 PM
17	None	Jul 18, 2010 7:17 PM
18	Very good survey format, easy to understand and respond. Looking forward to some new programs for the City.	Jul 19, 2010 8:51 AM
19	Brochures, magnets and other products like that simply increase waste to be disposed of. If new programs are implemented, we would need some sort of calendar, but an ad in the Weekly News would be just as effective.	Jul 19, 2010 9:40 AM
20	Current system works for our home just needs some upgrades like seperate receprical household waste. need to get highrises apts on line in this city.ogment our current system with speciality picups with a user pay system.	Jul 19, 2010 10:09 AM
21	Reduce or eliminate green box pickups from December to March. I have nothing going into it and it is frozen in a snow bank. All plastics should be recycled.	Jul 19, 2010 6:09 PM
22	None	Jul 20, 2010 3:05 PM
23	If the province were serious about waste diversion we would have sorting stations and a commercial recycle program.	Jul 20, 2010 8:00 PM
24	I think that large items, and appliance disposal should not be curbside, people should continue to pay to dispose of. Bag tags are difficult to use in my area, as Racoons frequently get into my garbage and recycling bins. I use garbage bins for smaller bags within my house.	Jul 21, 2010 12:26 PM
25	its time for a new waste management company!	Jul 21, 2010 10:38 PM
26	I think the City should charge a fee for allll bags of garbage for curbside pickup. Attaching a direct cost is the best way to encourage people to reduce.	Jul 22, 2010 11:48 AM
27	I think the collectors should be more diligent about picking up the garbage (i.e. not leave garbage in the bottom of a can or on the lawn). Also, they should be more careful about where and how they leave the empty cans, recycling bins, compostainers (recently compostainers were left on the street in a residential neighbourhood, requiring drivers to drive the street as if it were a slalom course), and not toss the cans or bins up onto the lawn in the middle of the winter so that they are difficult to retrieve - no reason why they can't be placed in the same place they were picked up.	Jul 22, 2010 7:57 PM
28	Make your employees more "agreeable" about collection. Have had bags and a garbage can rejected for unknown reasons..they were certainly not too big!	Jul 22, 2010 9:03 PM
29	The distinction between "user fees" and municipal taxes is diingenuous as the csots for waste management comes from the public in either option. The key is to develop a waste management program that meets the goals of diversion from landfill at the highest possible value for price.	Jul 23, 2010 8:02 AM
30	Mail info the old fashion way first then direct people to web page or send info out with utility bills. Use the london free press to put ads in , not the TJ	Jul 28, 2010 3:30 PM

3. Do you have any additional comments?

Response Text

- | | | |
|----|---|-----------------------|
| 31 | Waste management is a larger issue than this. This is a reactive solution. The actual source of the problem is marketing materials and packaging. Print media (flyers) dumped in my mailbox each week is huge waste of paper and dumping costs. Why not have companies who are marketing their stores through print media pay an environmental fee to dump the waste that ends up in the recycle bin? Food packaging is over the top. Why cant cereal for example be a zip lock closure bag. Instead you have a box and bag. tons of double packaging. Fast food is another HUGE offender. Really I think the cost needs to work backward to the source of the problem. Force companies to be innovative and think outside the "box". | Jul 28, 2010 6:58 PM |
| 32 | Most weeks we place out .5 of a garbage bag. We try very hard to follow all recycling measures. During the spring and summer months we cannot go the 2 week stretch without filling our green bin. This is difficult, especially since the collectors will not pick up the paper yard waste bags of over-flow. | Jul 29, 2010 2:28 PM |
| 33 | Anything that you can place on the side of the containers to show what is acceptable, ie a sticker | Jul 30, 2010 7:24 AM |
| 34 | make people break down boxes to about the right size and put a limit on the size of bags ,some people put a bag on the top of a bin already full and then an additional bag & or bin besides--- leave the extra bag. | Jul 31, 2010 10:53 AM |
| 35 | Seasonal citywide/community clean up days. 4 per years. Extensive outreach education to our young. Trips to local landfill site for more impact as part of the educating. | Aug 1, 2010 5:42 AM |
| 36 | Accept clean used plastic bags. Styrofoam packing. | Aug 2, 2010 3:38 PM |
| 37 | <p>TAXPAYERS ARE FED UP WITH PAYING MORE AND MORE FOR LESS AND LESS SERVICE!!!!!!!</p> <p>It's very important to realize that taxpayers are very hardpressed with increasing hydro rates, water rates, property tax rates, HST, food price increases, and other price increases. The last thing honeowners need right now is to be forced to pay extra for their waste collection - and be threatened with excessive fines if they "sneeze the wrong way".</p> <p>If St. Thomas wants to be an attractive city - destroying the current waste management program is not the way to do it. I know that many residents will move away. If this waste management program gets ridiculous - forcing us to pay user fees, further limiting our garbage bags, etc. - we will move to another city that has a more reasonable service to the taxpayers.</p> <p>We will probably not only move away from St. Thomas - but move out of Ontario - because the McGuinty gov't has really destroyed this province in many, many ways. Yet they still promote GROWTH and the staggering number of new subdivisions continue to be built across the province - adding to the demand for increased energy and increasing the amount of waste produced by the increased number of new homes. Do the math. What will the city of St. Thomas do when local homebuilders have built several more subdivisions over the next ten years? No matter how much waste is diverted by recycling - the total amount of waste to the landfill will continue to increase as more and more new homes are built. Therefore, greedy developers should pay a significant fee towards waste collection.</p> | Aug 3, 2010 9:35 AM |
| 38 | Different ideas have to be tried, to see if they will work, each city is different. Allowences need to be in place for lower income WORKING households, not those on Ontario Works, they are allowed enough. | Aug 5, 2010 5:27 AM |

3. Do you have any additional comments?

	Response Text	
39	I think we have an excellent schedule where we are not interrupted majorly because of a holiday and it is the same day every week. People need to be more educated and more vigilant as to their garbage decisions.	Aug 6, 2010 12:02 PM
40	change weekly garbage pickup to bi weekly and move recycling to weekly instead of bi weekly. More people should but out recycling than garbage. No excuse. Pretty much everything is recyclable.	Aug 10, 2010 10:56 AM
41	I do not agree with any extra garbage charges or tax increases as you already received a 5% house assessment thanks to McGintry for each of the next 5 years plus you also increased the mill rate when the house market declined in price. Enough is enough. We still have not regained our market loses. Now the HST and Eco fees. Time for wage freezes especially Police and Fire and Management.	Aug 10, 2010 3:55 PM
42	In the past there have been many changes to what is accepted in the blue boxes as well as the green bins. eg. meat in the green bins : paper in the blue boxes had to be bundled in 3 catagories - cardboard, newspapers - magazines. All lables to be removed from jars and plastics. This is almost impossible on some items. eg ketchup and pickle jars. The items should be cleaned out but most people will not remove difficult labels. They just give up and throw everything in the garbage. COSTS - I commented earlier that I would pay 25 % more for garbage services. I do not feel this should be looked at this way. We should look at what services ARE ESSENTIAL and then we must bear the costs. I do not mean we go into a program and not know the cost ramifications to taxes however we must be enviornmentally resposible. For example I feel we need the green bin program , once or twice a year everything taken, expanded blue box program , etc. You will see where I am coming from with my previous responses. We must understand that people do have waste and it WILL be disposed of legally or illegally. We should look at the waste product and decide how critical is it that we include this in a waste program. If it is essential we MUST bear the cost. Remember the disposal tax on old tires. When this first come out you saw a lot of tires thrown in country ditches. I support user fees to dipose of certain big items that CAN NOT be hid in the garbage. eg large appliances, furniture. User disposal fees on smaller items would not work as people would just hide them in their garbage. eg toasters, small electronics. Lastly, once procedures are put in place the fewer the changes the better. Changes just lead to confusion and people just give up.	Aug 11, 2010 12:09 PM
43	I would like to see the green box empty every week during Mid April to Mid November and then every two weeks during the winter. How many people actually put out their green box in the winter.	Aug 12, 2010 12:26 AM
44	None. Good job.	Aug 12, 2010 1:22 PM
45	I have ofen phoned with questions and sometimes get a different answer when I question it again. Have knowlegeable peope answer the phone!	Aug 13, 2010 4:34 PM
46	Penalty based programs are more of a deterrent to waste management. People just find alternate ways of disposing the garbage. Literacy levels and access to computers also need to be considered when communicating with public	Aug 16, 2010 8:57 PM
47	Get it done now. Tired of all the talkk and no action	Aug 19, 2010 10:39 AM
48	In regards to question 20, I am concerned that giving people 104 tags may lead to dumping of garbage. I like the system we have now where you get two free bags and the rest you pay for. I know friends in other municipalities where garbage dumping is a problem when you have user pay only or tags per household.	Aug 19, 2010 10:40 AM
49	BFI does a great job, the transfer station solves my other disposal problems. Hate to see all the stuff city people dump along the country roads.	Aug 19, 2010 7:22 PM

3. Do you have any additional comments?

	Response Text	
50	thank-you for surveying us. Appreciate opportunity for input. Follow through will be key. This should be a BIG priority in our community. Better than disposing with waste would be reducing waste. We need a strategy to decrease the creation of waste!	Aug 19, 2010 9:23 PM
51	updates about events and the diversion rate would be useful. I would like a magnet listing what plastic numbers can be recycled or what can be composted.	Aug 19, 2010 9:52 PM
52	recently spent time in Hastings Highlands.They have a much more extensive recycling programme. I would like to think it would work here but I realize it is very very hard to get compliance...my neighbours don't comply with blue box requirements as it is. I think we should be stricter on not picking up garbage and recyclables that are not following current guidelines. I volunteer to answer the phones from the people who don't comply.	Aug 20, 2010 10:40 AM
53	Fridge and online communication part of everyday life, information online or the biggest appliance can be reviewed any time I forget information about collection.	Aug 20, 2010 2:34 PM
54	More frequent compost collection in the summer months and less frequent in the winter.	Aug 20, 2010 8:01 PM
55	no	Aug 20, 2010 10:16 PM
56	Should have a "spring cleaning" and "fall cleaning" day where you can dispose of larger articles instead of taking them to the transfer station	Aug 20, 2010 10:19 PM
57	Because the Province seems intent on implementing an "eco" tax of some type, I believe Municipalities ought to seek "recycling" funding from the Province. I am opposed to paying the Province and then paying the Municipality again. If a "bag tag" system is implemented, tags purchased should have no "shelf life". If I don't use them in the year they are purchased, they should NOT expire but should be viable until they are used up. If a "bag tag" system is implemented, and if it is designed to cover the waste management costs, municipal taxes should be decreased by an amount equal to what is currently included for waste collection. A user fee makes sense, so long as it recognizes my minimal use and other's greater use and charges accordingly.	Aug 21, 2010 1:30 PM
58	Collect ALL Plastics	Aug 22, 2010 10:20 AM
59	Brochures,newsletters, etc. could continue to be inserted with St.T.Energy bills; not everyone has a computer or knows how to use one. At City Council meetings information could be announced.	Aug 23, 2010 9:07 AM
60	Thank you for trying to improve the system.	Aug 24, 2010 3:41 PM
61	I moved from London where we had a rotating garbage day - I much prefer the fixed day here in St Thomas!	Aug 26, 2010 12:12 AM
62	Since we pay high taxes for the size of our property I think we should be allowed more green bins for leaves and branches. A postage stamp property does not even come close to filling one up.	Aug 30, 2010 4:36 PM
63	Any form of printed publication delivered to my door same as the boil water advisory was. ps. for those who were upset with the advisory over false tests, I'd have rather been safe than sorry.	Aug 31, 2010 1:12 AM
64	Please don't send me any more "paper" products to tell me how to recycle. *lol* Feel free to contact The St.Thomas Blog http://thestthomasblog.com We are more than willing to share this type of community information for free, or any other information that impacts the community as a whole. I am going to post this survey on the blog now in hopes more people see it and participate.	Aug 31, 2010 8:32 AM

3. Do you have any additional comments?

Response Text

65	I wouldn't want to encourage people to dump their garbage in our ravines to avoid being charged so I would be careful with charging for garbage, though I support the idea. I think public awareness is a big factor and I feel our current selection of acceptable recyclable items is much too small - along with cutting our waste diversion easily in half, people get discouraged when they have to sort excessively. There seems to be alot for us to increase our waste diversion - even switching to Emterra, or another similar service, would seem to make a huge improvement. Waste diversion in our public parks would be a help as well. We should strive to be leaders; show us what to do and we will make St Thomas proud. Thanks very much for working so hard to make it better for the next generation!	Sep 1, 2010 6:35 AM
66	Question 20. I like it with a two bag limit.Tags cost money and put more in the landfill. If we are able to recycle more items i believe most families would only put out one bag per week. I have a family of Four and most weeks only have one bag of garbage. I most often have two blue boxes or more of recyleables. I think if cartons and more plastics could go in the blue box i'd only have 20-25% garbage. Thanks	Sep 3, 2010 4:18 PM
67	good job, just get those buggers to collect all the 2 bags!	Sep 3, 2010 4:21 PM
68	There are several people stealing from blue boxes on a daily basis. This needs to be addressed and the alluminum revenue passed on to the tax payer.	Sep 7, 2010 8:54 PM
69	Waste management needs to start at the corporate level via product design and packaging. Implement a city-wide letter writing or petition campaign to pressure the provincial federal governments to force companies to release goods with waste management in mind -- fine companies or impose a land-fill tax of their goods paid for by them, not the tax-payer or common citizen. Send all non-recyclable packaging back to the respective companies so they get the message.	Sep 14, 2010 7:05 PM
70	We need more communication, better and clearer communication and it should come from a single source, preferably the city, not BFI or other contractor.	Sep 15, 2010 3:14 PM
71	The current 2 bag limit is just fine as long as opportunities for greater recycling are added.	Oct 15, 2010 7:02 PM
72	Green bins are too large when winter comes Hard to move through snow. I wouldn't want a smaller one though because I need the space in the Spring & Fall	Nov 9, 2010 5:00 PM

3. Do you have any additional comments?

Response Text

73 Go out for tender!!! Nov 9, 2010 5:10 PM

I would like to see composter container picked up every week May 1 - Oct 31, bi-weekly or monthly balance of year. When there is a foot or two of snow it is impossible to get container to curb. Most weeks in winter no one on my street puts green container out.

Ask contractor to submit sheet on how many green composters are picked up (winter) log book kept on vehicle same for blue box.

More people should be encouraged to shred paper and put it in blue or clear bag for pick up.

ALL GARBAGE BAGS SHOULD BE CLEAR!

Make more items on list for recycle. Compare to other cities with high diversion rates.

Demand province not allow packaging that is NOT recyclable for goods sold in Ontario.

Use pay 100% remove expense form tax bill. \$100,000 fine for anyone dumping garbage on municipal property.

74 In recycle bins, you take bottles and jars, but not regular glass windows? Nov 9, 2010 5:15 PM

75 Do not understand why St. Thomas doesn't have a hazardous waste day. Nov 9, 2010 5:19 PM

Why I pay an environmental fee when I purchase a can of paint and then have to pay \$1.00 per can at the transfer station. What happens to the money when I purchase the paint?

76 We need recycling of bottles, cans, glass at pinafore park, waterworks park & doug tarry complex, especially during tournaments and functions. Ensure field concession booth plus main pavillion booth sell their products in plastic & cans. Plus beer garden all have plastic cups. Nov 9, 2010 5:27 PM

2) Get rid of railway tracks/crossings not in use and re-pave.

3) Bring back vendors pack to pinafore for July 1st. Leave fireworks out at complex.

Thank you.

3. Do you have any additional comments?

Response Text

77 Question 7: I have 3 blue boxes currently on the go. (2 for plastic/glass/cans/metals and 1 for paper and cardboard). I do not put the boxes to curbside until they are full or almost full. I feel that this helps to decrease the number of stops the trucks need to make thereby decreasing fuel consumption and truck maintenance. If the City has not provided each homeowner with 1 blue box at the time they move in, It Should!!

Nov 9, 2010 6:07 PM

To maintain the same level of waste diversion: If homeowners require more than one blue box, they should purchase their own additional blue boxes.

To increase the level of waste diversion: If the diversion rate is to meet high expectations (which I strongly believe it should) 2 blue boxes should be provided to each homeowner when they move in. This will ensure that the opportunity to recycle is readily available for use. Also, by increasing the number blue boxes in use, it would decrease the amount of blue bags out at the curbside. Also, this would discourage people from putting recyclables into regular garbage bags. By encouraging our homeowners, we will be teaching our future residents and homeowners the need of recycling to save room for the garbage to go into our dump sites. Children learn by the examples shown to them. Lets make the examples good ones.

Question 8, 9, and 12: I use my compostainer/green bin in the spring and in the fall when my yard waste exceeds my personal Four (4) composters capacity. I compost year round in my own four composters in my backyard. Items which go into my own composter include: food scraps, including egg shells, confidential papers - torn into shreds, lint from my dryer, any food scraps from my lunch at work i.e. banana peel, apple core (I bring these home for my composter), paper napkins/paper towels/muffin wrappers, leaves in the fall, from my yard, bags of leaves from my neighbours, yard waste of spent flowers, grass clippings from my neighbours, anything that I know to be bio-degradeable. By composting most of my own "green waste" I actually only use approximately 10-14 green bins full in a year. I don't put my green bin to curbside unless it is almost or totally full. I was extremely upset&angry at the news I heard from a co-worker that approximately a year ago green waste was simply being dumped in with the regular garbage, at the same dumpsite. Is this true? Does city hall stand behind this practice?

Question 12: The current waste collection is: 1)Acceptable 2)unacceptable 3)grossly unacceptable.

1) Acceptable:

- weekly collection of household garbage
- biweekly collection of green bin
- "Pay as you throw"

2) Unacceptable

- biweekly blue box collection
- very limited types of items which can be put to curbside

3) Grossly unacceptable

- limited to one green bin per home
 - very limited types of items for blue box collection
 - every house needs to have composters (should be supplied by city)
 - need specific events dates and more of them for
 - household hazardous wastes
 - electronic waste
 - large item pickup
 - appliance pickup
 - non-inclusion of apartment buildings in blue box and green bin recycling
 - compliance should be mandatory
 - small and large businesses need to be into recycling (green as well as blue)
- Who know that we could pay as you throw? I didn't. Why has this knowledge not

3. Do you have any additional comments?

Response Text

- 77 all my short conversations with city workers, I find the most upsetting and the one that angered me the most was a recent talk with the BFI, St. Thomas Head of Management. He was "polite" but unwavering in his position and did not attempt to help me with my dilemma. Even when I offered to purchase more green bins, at my expense, he side-tracked this idea and stated that only one green bin per house was allowed.
Nov 9, 2010 6:07 PM
- In this day and age of environmental awareness, it is disturbing to think that we put our faith and tax dollars into a company that doesn't care. I expect better! BFI should have our best interests front and centre because our interests stand to help to make them grow and that makes them money!
When I moved to this city there was a quote about "25% more life in St. Thomas." I thought that this represented the willingness of the City to go the extra distance to make St. Thomas a well respected, progressive, desirable, clean city. A city that people and friends would want to come to visit and to live in. A city that its residents are proud to call home. The quote should not represent that we continue to waste 25% more precious resources than other cities.
St. Thomas has the capacity to be a leader with waste diversion. This leadership needs to start at City Hall! It's time to stand up and get with the times.
- Sincerely, Katherine Pinnell - resident St. T.
- 78 A Facebook page would be extremely useful in updated information. Jan 7, 2011 10:36 AM
- 79 I wonder why Central Elgin and the City of London can recycle waxed milk cartons and juice boxes and the City of St. Thomas can't?
Feb 15, 2011 3:59 PM
- I wonder why it seems so difficult for a new school to implement recycling/composting programs?
Can the community work with the City to implement environmental initiatives?
- 80 Large recycling bins need to be available so those that live in apartments & business owners have somewhere to take their blue box & compostable items until collection is available at all dwellings & businesses. The City needs to make us aware of what items are not recyclable. Many products are labelled as recyclable, but aren't able to be recycled. The City needs to get together with other cities & put pressure on the Government of Ontario to do more about reducing the sale of non-recyclable items & packaging, items that waste resources & end up costing taxpayers to dispose of.
Feb 22, 2011 3:22 PM