A WASTE RECYCLING PLAN
FOR
MUNICIPALITY OF WEST ELGIN

Prepared for:

Municipality of West Elgin

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1. INTRODUCTION

This Waste Recycling Strategy (WRS) was initiated by the Municipality of West Elgin, to develop a plan to increase the efficiency and effectiveness of its recycling programs and maximize the amount of blue box material diverted from disposal. Specifically, the purpose of this recycling plan is to strive towards being a 'green' community by diverting more recyclables from landfill and reducing the need for disposal capacity. These efforts could extend landfill life, improve our carbon footprint and reduce our negative impact on the environment.

The Municipality of West Elgin is responsible for managing its residential solid waste. Currently, all residents are offered curbside pickup or drop-off services at the landfill, for both solid and recyclable wastes.

Waste Diversion Ontario requires municipalities to have a Waste Recycling Strategy in place through the Continuous Improvement Fund. The Municipality faces a number of waste management challenges, which this Waste Recycling Strategy will help address:

- ***Landfill capacity:*** With every bag of solid waste deposited into the landfill capacity is reduced especially when that bag contains recyclables. Landfill capacity in West Elgin is expected to be reached by December 2031 (WESA, 2010). The siting of new landfills or expansion is increasingly met with opposition and can be complicated by urbanization, rendering the practice unviable.
- ***Cost Efficiencies:*** There may be cost efficiencies experienced with a review of current waste practices and future waste goals. Well designed programs can save money over time. The net annual recycling costs for West Elgin are **above average** (slightly more than **double**) relative to comparable municipalities.
- ***Diversion:*** The average blue box diversion rate for the Municipality of West Elgin is 14%. That is, 14% of the total solid waste generated is diverted to the blue box program, rather than being disposed of as 'garbage'. The provincial average for a similar municipality is 21.4%.

With the increasing pressures of climate change, the depletion of natural resources and population growth, it is the responsibility of the Municipality and its residents to adopt more sustainable methods of waste management for the long-term.

This Waste Recycling Strategy was developed with support from WESA Inc., using the Continuous Investment Fund's *Guidebook for Creating a Municipal Waste Recycling Strategy*.

2. OVERVIEW OF THE PLANNING PROCESS

This Waste Recycling Strategy was prepared through the efforts of the Municipality of West Elgin council, administrative staff, public consultation with residents of the municipality, and WESA Inc. (consulting firm).

The development of this Waste Recycling Strategy involved the following key tasks:

- Compilation of relevant data from the municipality and WDO website, concerning municipal characteristics, current data
- Consultation with municipal contacts to review key objectives and components of the WRS
- Consultation with Council to discuss goals, options
- Preparation of draft report
- Review of draft report by Municipality staff
- Consultation with public on selected initiatives, WRS basics
- Preparation and distribution of finalized WRS.

The next steps in this process include efforts towards the assigned tasks for each Initiative.

To ensure the public and local stakeholders were able to participate in the preparation of this Waste Recycling Strategy, a public open house was held, where the basics of this report were presented. For more details on our public consultation process, see Section 4.

3. STUDY AREA

The study area for this Waste Recycling Plan is the Municipality of West Elgin, which includes the Former Village of Rodney and the Former Village of West Lorne. The population served by the landfill is approximately 5,223, which is estimated to increase to approximately 6,000 during the summer months.

This Waste Recycling Plan will address the following sectors:

- Residential
- Small business
- Institutional (schools, library, etc.)

The Municipality of West Elgin currently owns and uses the West Elgin Landfill site under the Ministry of the Environment (MOE) Amended Provisional Certificate of Approval (C of A) for Waste Disposal Site No. A051101 dated December 21st, 2005 (MOE, 2005). The site is licensed for disposal of domestic and commercial waste.

The landfill site is privately operated and maintained by a company under contract from the Municipality. The site is located on Lot B, Concession 7 former Township of Aldborough, West Elgin Municipality, County of Elgin (Figure 1).

The landfill services the entire Municipality of West Elgin. Although some parts of the municipality are serviced under a waste contract, where waste is disposed of outside of the municipality, all of the residents may drive their waste to the landfill if desired. The disposal arrangements are further described in section 6 of this report.

The West Elgin Landfill site has been in operation since 1971. A Provisional Certificate of Approval (A051101) was first issued in 1971 and reissued in 1972, 1973, 1974, and 1976. On July 16th, 1980 the MOE reissued a Provisional Certificate of Approval (C of A) to the Village of Rodney. The MOE issued an amendment to the C of A on December 21st, 2005.

Landfill operating hours are from 8am to 5pm on Wednesday and Friday, and 9am to 4 pm on Saturday. From December to March the operating hours change to 10am to 5pm on Wednesday and Friday, and 9am to 4 pm on Saturday.

Waste disposal records are kept at the local municipal offices. The Municipality of West Elgin maintains a record of daily site operations, a record of complaints, a record of site inspections, and a record of unacceptable waste as per Conditions 25 through 28 of the C of A, at the local municipal offices.

Public Consultation Process

The public consultation process followed in the development of this Waste Recycling Strategy consisted of an Open House, held on September 21, 2011. The Open House was decided by Council as the most informative and effective way to update the public on the planning activities and to obtain public feedback. Topics for the Open House included:

- Introducing the project to the public
- Municipality of West Elgin's current waste management situation (e.g., stated problem, current generation rates, etc)

- Objectives for the WRS
- Possible options to reach those objectives

Stakeholder groups included in this consultation included the public, local businesses, and municipal staff.

The response from the public and stakeholders included:

- A willingness to sort additional recyclable materials in order to divert them from landfill
- Additional flexibility in landfill operating hours
- Communicate other options for sources of diversion to homeowners, (ie agencies that take used furniture and clothing)

4. STATED PROBLEM

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

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

- WDO requirements, as WDO requires all municipalities have a WRS in place,
- Shrinking disposal capacity, since a successful WRS can help to extend the lifetime of the landfill,
- Contracts, as the large BFI contract to remove waste from some parts of the municipality will expire in March 2012. Many small contractors are also involved in the waste handling aspects.
- Costs, as contracts to collect and dispose of wastes and recyclables are numerous and vary greatly in scope and cost, and will require increased funding in the future, and
- Public image, as a successful WRS can enhance the Municipality's 'green' image.

Restrictions may include the following:

- Availability of local markets for many of the recyclable materials, due to costs and geographical restrictions,

- The challenge of participation of rural residents, whose responsibility of transporting their own solid and recyclable wastes to the landfill, or paying a contractor to do so, can discourage involvement,
- Inertia – the tendency for people to avoid change – at the resident, administrative or policy-setting level, and
- Additional costs associated with construction, transportation, hiring of additional staff and promotional material.

5. GOALS AND OBJECTIVES

This Waste Recycling Strategy has identified a number of goals and objectives for the Municipality of West Elgin. These are presented below.

Waste Recycling Goals and Objectives	
Goals	Objectives
To extend the life of the West Elgin Landfill	Add 5 years to the lifespan of the landfill by increasing blue box diversion.
To improve the capture rate of blue box recyclables	Capture 20% of municipal solid waste through the blue box program (an increase of 6% from 14%)
To improve cost-effectiveness of recycling in West Elgin	Reduce recycling costs per tonne by 20%
To increase participation in the recycling program	Increase participation in the recycling program by 20%

These were developed in consultation with Council. Goals were discussed in a general workshop meeting, and potential options to meet these goals were brainstormed. Several overall initiatives were selected by Council, as a result.

The waste recycling goals will help West Elgin to improve the environmental sustainability of the municipality, by extending the life of the landfill and thus reducing our environmental impact.

6. CURRENT SOLID WASTE TRENDS, PRACTICES AND SYSTEM AND FUTURE NEEDS

The following sections describe the current program in place at the Municipality of West Elgin.

Community Characteristics

In 2009, the Municipality of West Elgin had a population of 5,223. The municipality is home to 2,451 total households or dwellings. Of these, 120 are multi-family households. There are also an additional 639 seasonal dwellings, which are generally occupied during the months of June, July and August.

Current Waste Generation and Diversion

The Municipality of West Elgin generated approximately 1,054 tonnes of residential solid waste, an amount of annual waste generated that is typical to the size, culture and activities of the municipality. Of this, 147 tonnes, or 14.0%, is diverted through the blue box program.

Currently, the most common material recycled is newspaper, while the least is aluminum (cans, containers, foil).

The table below summarizes the current waste generation and blue box diversion rates.

Residential Solid Waste Generated and Diverted through Blue Box		
Residential Waste Stream/Blue Box Material	**Tonnes**	**Percent of Total Waste**
Total waste generated	1,054	-
Papers (ONP, OMG, OCC, OBB and fine papers)	69	6.6%
Metals (aluminum, steel, mixed metal)	10	0.9%
Plastics (containers, film, tubs and lids)	47	4.4%
Glass	21	2.0%
Total Blue Box material currently diverted	147	14.0%

As the table below indicates, the Municipality of West Elgin's current diversion rate is **below average** for its WDO municipal grouping, and compared to the average of all Ontario municipalities.

Average Blue Box Diversion Rate (year)	
Municipality of West Elgin	14.0%
Municipal Grouping: Rural collection - south	21.37%
Overall Municipal Average: Ontario	21.38%

Currently, the collected streams are limited, relative to other municipalities. According to Municipal staff, many residents comment on the limited streams that can be placed in the blue box. For instance, allowable paper fibre does not include boxboard (cereal, detergent, cracker and tissue boxes), catalogues, magazines, phonebooks, egg cartons and fine paper. Also, plastics collection does not include the full suite of plastics; it is restricted to #1, #2, and #4 only.

Potential Waste Diversion

To estimate the Municipality of West Elgin's current waste composition, the composition was estimated using the approximations from the CIF Waste Recycling Strategy Guidebook, as actual audit data from West Elgin was not available. The most suited audit data selected was that from Blue Mountains (rural collection, south). This was preferred since it had both curbside and depot collection.

Using the sample data, the total amount of waste generated can be used to indicate the typical total amount of recyclable materials also generated. Thus, using the Town of Blue Mountains 'sample' data for waste composition, West Elgin's annual generation of 1,054 tonnes in total indicates that 559 tonnes of blue box materials are likely generated. Assuming a capture rate of 70%, typical for a rural collection municipality in southern Ontario, a potential annual total of 391 tonnes of blue box recyclable materials is available for capture. In reality, West Elgin captured 147 tonnes in 2009, leaving potentially 244 additional tonnes that is realistically still available for diversion. Estimates of blue box material available for diversion are listed in the table below.

Current and Potential Diversion			
Material	Total Available in Waste Stream (assuming 70% capture) (tonnes/year)	Currently Recycled (tonnes/year)	Potential Increase (tonnes/year)
Papers (ONP, OMG, OCC, OBB and fine papers)	221	69	+152
Metals (aluminum, steel, mixed metal)	22	10	+12
Plastics (containers, film, tubs and lids)	59	47	+12
Glass	89	21	+67
Total	391	147	+244

Diverting the blue box material remaining in Municipality of West Elgin's waste stream could raise its waste diversion rate from 14.0% to 24.7%, bringing the diversion rate above the municipal average.

Existing Programs and Services

Currently, the Municipality of West Elgin has the following waste collection practices in place:

Current Waste Collection Practices			
Area	**Garbage pickup**	**Recycling pickup**	**Destination**
Rodney	- Weekly, curbside - Clear bags only - Private contractor removal (Aubertin Disposal - Ron)	- Monthly, curbside - Each stream on different days - Plastics #1,#2 only - Paper, cardboard, metal food and beverage, glass jars, aluminum pie plates & foil (each stream separated) - Private contractor removal (Jack Falkins) - No blueboxes provided by Municipality	- West Elgin Landfill - Recycling then taken offsite by private contractor (Sam Kirschner Excavating)
West Lorne	- Weekly, curbside - BFI contract	- Bi-weekly, curbside - Plastics #1,#2 only - Paper, cardboard, metal food and beverage, glass jars, aluminum pie plates & foil (each stream separated) - BFI contract	BFI transfer and landfill (outside of municipality)
Rural / Seasonal	- Weekly - Residents directly pay private contractor (Tom Towers) OR - Can drop off at landfill directly - Seasonal trailer park removal by private contractor (Jack Falkins)	- Monthly - Residents directly pay private contractor (Tom Towers) OR - Can drop off at landfill directly - Seasonal trailer park removal by private contractor (Jack Falkins) - No blueboxes provided by Municipality	- West Elgin Landfill - Recycling then taken offsite by private contractor (Sam Kirschner Excavating)

The Municipality of West Elgin has the following positive policies and programs already in place to manage residential solid waste:

- ✓ All garbage to West Elgin Landfill Rodney and rural residents) must be in clear garbage bags only, no more than 40lbs. per bag
- ✓ Collection in Rodney has a 'Tag and Leave Policy' for coloured garbage bags and bags containing recycled materials

- ✓ All blue box materials must be rinsed with labels removed, and separated into the following segregated streams: newspaper, glass, cardboard, cans/metal, plastics
- ✓ Landfill tipping fees apply to large items
- ✓ A household hazardous waste program is shared with the Municipality of Dutton/Dunwich.

Collection of regular waste is provided to the 42% of municipal residents, using contracted services for curbside pickup of waste and recycling, either under BFI contract or through use of a private contractor hauling the waste to the West Elgin landfill. The remaining 58% of households (rural) are responsible for dropping off their waste and recycling directly to the landfill, or these residents can directly pay a private contractor who will transport their waste and recycling to the West Elgin landfill (fees handled privately, not through the municipality).

Collection and disposal of solid waste and recyclables from West Lorne is handled under a curbside pickup contract with the municipality, which includes disposal/recycling of the collected materials through the contracted authority (BFI), outside of the municipality (Toronto). This contract expires in March of 2012.

At the landfill, a daytime contractor (Sam Kirschener Excavating) is assigned to check and sort all solid waste as it is received, although residents are accustomed to fully separating the waste before drop-off. Recycling drop-off areas are not segregated to one area of the landfill; multiple vehicle stops must be made.

Diverted material from the landfill separation activities is transported to unknown vendors by a private contractor. Weights from these transactions are used as weight data for recycling for the Municipality of West Elgin, as no weigh scale is available.

Disposal and recycling services are paid for primarily through the tax base. Some tipping fees apply for large landfill items, and for replacement of blue boxes.

Upcoming important collection-related milestones that may affect how collection services are administered include:

- The expiry of the BFI collection contract for West Lorne
- A new council
- New relationships that may be developed with neighbouring municipalities

Costs

In 2009, the gross annual recycling cost for the Municipality of West Elgin bluebox materials (including administration, not including revenue) is compared to the average of all sixty-nine similar southern Ontario municipalities (rural collection), as presented below. As the table below shows, the gross annual recycling cost for West Elgin bluebox materials are **above average**.

Recycling Costs Comparison (per tonne per year)	
Gross recycling cost for Municipality of West Elgin (including administrative costs)	**$864**
Average **gross** recycling cost for all 69 Rural Collection – South municipalities	$538
Average **gross** recycling cost for all municipalities in Ontario	$327

Actual Weight Data Only

Since the annual garbage weights are based on estimated bag weights from previous audits, rather than actual weighscale data, a specific analysis of the waste removal from West Lorne was conducted, as this data is all specifically measured under the BFI contract. From this review, the following data is presented:

	Municipality of West Elgin	Average Ontario municipality
Total waste including bluebox (tonne/year)	557	N/A
Total bluebox recycled (tonne/year)	59	4,010
% diversion	10.5%	21.4%
Gross total recycling cost ($/tonne)	$411	$327

Although the breakdown of costs (processing vs. collection) was not available from BFI data, the above summary shows that:

- the actual recycling costs per tone area slightly greater than the provincial average, and
- the actual % diversion is approximately half of the provincial average.

Anticipated Future Waste Management Needs

Solid waste generated in the Municipality of West Elgin is expected to increase slightly over the next planning period. The Table below depicts the expected growth rates for solid waste generation and blue box material recovery (based on projected population growth rates).

Anticipated Future Solid Waste Generation Rates and Available Blue Box Material			
	Current Year	{Current Year + 5}	{Current Year + 10}
Population	5,223	5,355	5,629
Total Waste (tonnes)	1,054	1,081	1,136
Blue Box Material Available (tonnes)	391	401	422

7. IMPROVEMENT OPTIONS

The Municipality of West Elgin Council reviewed a number of options for consideration in its Waste Recycling Strategy. The options were then scored based on a series of criteria, which included:

- % Waste Diverted
- Proven Results
- Economic Feasibility
- Accessibility to Public, and
- Ease of implementation

The following options were presented to Council on March 3, 2011 for review.\

- OPTION 1: PERFORMANCE MEASURES: WASTE AND RECYCLING AUDIT
- OPTION 2: MULTI-MUNICIPAL APPROACH
- OPTION 3: WEEKLY BAG LIMIT
- OPTION 4: COLLECTION OPTIMIZATION: INCREASED RECYCLING COLLECTION FREQUENCY AND STREAMLINE COLLECTION DAYS
- OPTION 5: ENHANCEMENT OF RECYCLING DEPOT AT LANDFILL
- OPTION 6: CONTRACT REVIEW
- OPTION 7: PUBLIC EDUCATION AND COMMUNICATION
- OPTION 8: MANDATORY RECYCLING BY-LAW
- OPTION 9: ADD RECYCLING STREAMS

Details for each option are provided below, based on suggestions and discussions in '*Waste Recycling Guidebook Options*' (CIF, 2010). It is possible that funding and capital requirements may be enhanced from government funding options, described later in this section.

OPTION 1: PERFORMANCE MEASURES: WASTE AND RECYCLING AUDIT

Description	Benefits
Before beginning any improvements, it is always wise to start with an accurate assessment of current practices. A technical waste audit, based on exact masses of garbage and recyclable wastestreams, is crucial in establishing a firm benchmark. Targets should be measurable wherever possible – without waste WEIGHTS, what is measured or measurable?	• Quantitative benchmark • Data can be translated to the legislated landfill reporting requirements (currently some of the waste reporting here is also based on outdated estimates).

Considerations:

Waste audits determine the composition of waste being generated, can measure the effectiveness of existing programs and can identify opportunities for improvements in the waste management program.

Waste audit tools are available, and can be performed by municipal staff, volunteers or consultants.

If a weigh scale is desired for this project and for longterm use, it should be noted that funding may be available, as described later in this section of the report. There are liabilities related to the Certificate of Approval for the landfill, and the waste program for the Municipality, related to estimation of weights. More accurate data would reduce liabilities associated with the significant error that arises from estimating weights. In addition, reliance on the invoice weights from the end vendors selling processing services to the West Elgin subcontractor is a dependency that can be avoided. Firsthand data is always preferred.

OPTION 2: MULTI-MUNICIPAL APPROACH

Description	Benefits
Cooperating with surrounding municipalities can take many forms. It will involve substantial up-front effort, but could lead to significant savings. Waste Diversion Ontario statistics show that recycling costs are steeply reduced when the quantity of materials handled exceeds a 10,000 tonnes per year threshold.	• Reduced costs through efficiencies of scale (sharing of fixed costs) • Reduced costs through material market pricing advantages • Attracting more bidders at contract time, leading to more competitive pricing • Optimized funding • Higher capture rates as a result of standardized programs and the ability to support broader promotion and educations programs

Considerations:

- The West Lorne BFI contract will expire in March of 2012.
- West Elgin is currently sharing hazardous waste collection days with the Municipality of Dutton/Dunwich. With a new council, perhaps a fresh approach to these types of sharing opportunities may be further explored.

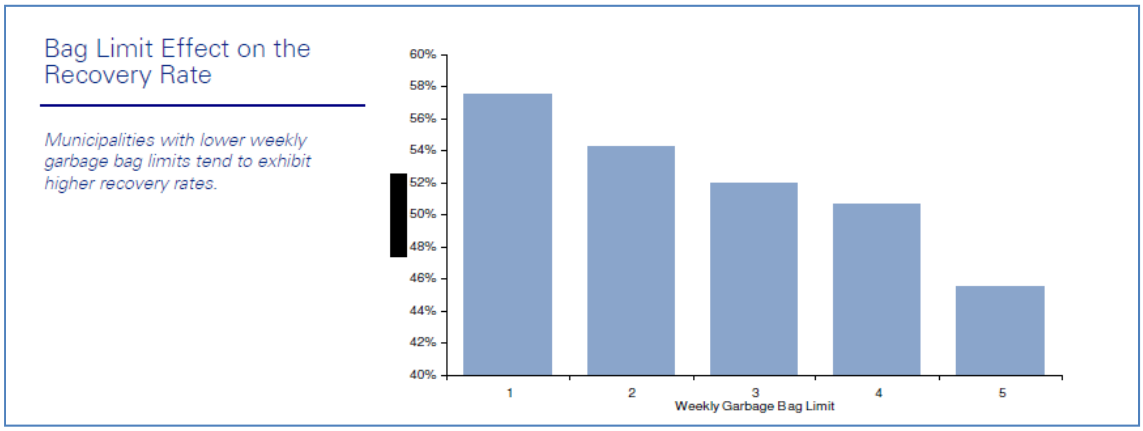
Municipalities can be reluctant to cooperate formally. Cooperation can take many different forms, and a less comprehensive method might be tested before attempting a formal amalgamated contract. Some examples of types of cooperation include:

- coordinating expiry dates of contracts so that bidders see that there are multiple contracts up for grabs in one given area
- sharing costs for joint promotion and education or tender development services
- joint purchasing of blue boxes
- cooperative marketing
- putting out a cooperative tender, with contractors giving prices for each municipality, but also offering a discount if they are awarded all municipalities jointly (with or without route rationalization), and
- setting up a formal multi-municipal recycling board.

OPTION 3: WEEKLY BAG LIMIT

Description	Benefits
Want to cause permanent shift in behavior; encourage residents to become more conscious of amount of type of waste being generated. This incentive sends a clear message to residents that it is no longer acceptable to produce unlimited amounts of garbage. Reducing solid waste services (e.g. bag limit) while supporting the residents with diversion alternatives (weekly or bi-weekly Blue Box pickup, rather than monthly) has been found to improve recovery of Blue Box materials. Bag limits are a common practice of limiting the number of garbage bags that will be accepted for collection. Often, this practice is employed with a 'user pay' system, where bags in excess of the limits are assigned a cost. Bag limits are a simple and effective means of encouraging residents to become more conscious of the amount and type of waste generated. A suggested garbage bag limit from the *'Waste Recycling Guidebook Options'* (CIF, 2010) is THREE bags per week.	• Bag limits can be introduced with little to no costs. Even partial bag limits involving a 'user pay' system can be effectively implemented at low cost to the municipality. • The 'user pay' system can generate small revenues • Increased landfill capacity through diversion

Figure 1 - *From Blue Box Program Enhancement Report*, KPMG, July 2007



Considerations:

It must be noted that bag limit programs are only effective when accompanied by diversion alternatives for the residents. In the case of West Elgin, increasing recycling pickup frequency will be a critical option to be implemented in parallel with this initiative (see Option 3).

Strict bag limits can be established where any bags in excess of the limit are left at the curb by the collection crew, or not accepted at the depot. Partial bag limits allow residents to purchase tags for excess bags. Because of the requirement that rural residents drop off solid waste directly to the landfill, a system will need to be enforced to ensure bag limits are reserved by address. A hybrid of these two limits can also be created – where a bag limit is imposed but a set of 'free' tags are distributed for a period of time.

Through proper planning, minor concerns can be anticipated and mitigated. With respect to litter and illegal dumping, experience shows that implementation issues may arise. Diminished quality of recyclables, for example, may result from placement of over-the-limit garbage in recycling bins by residents in order to avoid garbage penalties. Roadside garbage dumping may take place in isolated cases. However, these issues can be addressed by stepping up enforcement in the early post-implementation stages and developing targeted educational campaigns.

In most communities, where a recycling curbside program is in place, the average householder sets out three bags or less of garbage per week, and only has excess garbage a few times a year, typically after the holiday season and spring cleanup. These special times can be effectively accommodated with 'amnesty days'.

OPTION 4: COLLECTION OPTIMIZATION: INCREASED RECYCLING COLLECTION FREQUENCY and STREAMLINE COLLECTION DAYS

Description	Benefits
Goal is to cause permanent shift in behavior through non-monetary levers. Collection frequency can affect diversion rates and the cost of a collection program and can be used in conjunction with a weekly "bag limit". In terms of diverted waste, programs in Ontario have demonstrated that weekly recyclable collection teamed with bi-weekly solid waste collection are the most efficient. Bi-weekly recyclables collection where resident have sufficient storage have proven to be the most cost-effective. The Village of Rodney has blue box collection days for specific streams the 3rd Tuesday of the month, the last Saturday of the month, the 3rd Wednesday of the month, plus garbage every Wednesday. The black and white schedule handout for West Lorne can be confusing to a resident.	• Reduce collection costs • Encourages recycling • Increased landfill capacity through diversion • Reduced discouragement of residents due to extended storage challenges (odour, capacity, cleanliness) Streamlining collection days to be predictable, simple and consistent can greatly increase participation.

Considerations:

A weekly solid waste pick up is already in place which may facilitate the integration of an adapted waste collection system. This would require support from a communication and outreach program.

Distribution of additional blue boxes is usually encouraged with changes in frequency or addition of streams (currently blueboxes are only distributed to West Lorne). This requires an initial capital outlay. Collection crews may experience ergonomic benefits from additional blue boxes in circulation, as 'home-made' curbside containers may be minimized. It should be noted that bluebox distribution is currently for West Lorne only.

It should be noted that municipalities that collect recyclables less frequently than garbage tend to exhibit lower recovery rates, as compared to municipalities where collection frequency of garbage and recyclables is equal, according to the *Blue Box Program Enhancement and Best Practices Assessment Project* (KPMG, 2007).

Streamlining can be an option that is integrated into Option 6, Contract Review. If planned correctly, new contracts may be able to allow aligned collection days.

Planning the recycling program so that it is a welcome service to the residents, rather than a cumbersome chore with complicated schedules, is the goal.

Collection frequency and programming should always be planned around finding the best way to collect the most amount of material using the least amount of time and resources. Collection must be convenient for the operator and for the residents, and must be supported by a communication and outreach program, including clear and effective calendars for residents.

OPTION 5: ENHANCEMENT OF RECYCLING DEPOT AT LANDFILL

Description	Benefits
Recycling depots provide an inexpensive means for municipalities to divert recyclable materials from disposal. Enhancements to recycling depots may include (but are not limited to): • Enhancing the conditions at the landfill depot (e.g., landscaping, general cleanliness, maintenance); • Incorporating friendly, easy-to-read signage; • Providing additional part-time staff to address seasonal fluctuations and visiting traffic.	• Increased landfill capacity through diversion

Considerations:

Currently, multiple vehicle stops must be made when dropping off blue box materials at the landfill. The goal would be a 'one-stop' drop-off, where the 'trunk of the car is opened just once'.

A review is recommended to consider the following depot characteristics:

- Situated in a safe and accessible location
- Convenient to use, ensuring smooth traffic flow

- Designed to limit the potential for contamination and illegal dumping by
    - employing trained and knowledgeable personnel
    - transferring/removing materials with adequate frequency
- Attractive and well-maintained
- Appropriate signage with clear instructions to resident
- Adequate promotion and education to enhance awareness of residents
- Robust record-keeping processes
- Optimized container design and transportation system

OPTION 6: CONTRACT REVIEW

Description	Benefits
Collection must be efficient, which means getting more for less – picking up more recyclables with fewer trucks, fewer staff, less time. With multiple contracts and contractors overlapping in services, there may be efficiency opportunities while still providing jobs within the community. The 2009 municipal average processing cost for bluebox materials is $102/tonne, while West Elgin's is $699/tonne.	• Decreased collection and processing costs • Increased understanding and control of collection and processing costs

Considerations:

It is essential to review all current contracts related to the collection and processing of bluebox materials and garbage at West Elgin. There may be potential for improvement in:

- Material Recycling Facility (MRF) costs and availability, to ensure the most viable processing options are being selected (a review of new available services and of existing contract costs may be worthwhile)
- Sharing/amalgamating collection strategies to improve costs, and as such renewing collection contracts (e.g. Could a more competitive cost for single day collection by a multiple-vehicle contractor be achieved, rather than multiple days by several single-vehicle contractors?)

Information and tools available to municipalities on recycling companies is vast. For information purposes, following is an abbreviated list of material recycling facilities (MRFs) used by local large municipalities. Investigation into processing of viable streams at these or other MRFs is an option.

	Paper	Aluminum	Steel	Glass	Plastics
Essex-Windsor	Canada Fibres, Paper Fibres, Continental Paper, Abitibi, Recycle America	Alcan, Anheuser-Busch	Zalev Brothers	Glass Recyclers	Canada Plastic, ReMM, The Peltz Group
City of London	Halton Recycling, Norampac, Atlantic	Halton Recycling, Alcan	Halton Recycling, Mida Metal	Halton Recycling, NexCycle	Halton Recycling, Entropex
City of Sarnia	Recycle America	AMRC	Poscor	Canadian Waste	Canadian Waste

Bluewater Recycling Association and the City of London have or will have considerable new processing capacity available.

OPTION 7: PUBLIC / STAFF EDUCATION AND COMMUNICATIONS

Description	Benefits
An integrated waste management system requires support through a communication and outreach strategy. Residents and businesses need to be informed on what options are available to them and a municipality needs an opportunity to assess barriers to participation. The strategy should not be limited to promotional material through brochures and online information. It ought to establish a dialogue and include face-to-face engagement, community events and even the use of waste awareness champions to educate members of the community. A monitoring and evaluation component is an essential part of the strategy to measure performance and respond to resident feedback for example. A well-trained staff can lead to greater cost and time efficiencies and improved customer service. Knowledgeable staff (including both front line staff and managerial staff) have a greater understanding of their municipal programs and can perform their responsibilities more effectively. There are a number of low-cost training options available.	• Increase community participation in the waste management program • Enhance diversion and recyclables recovery rates • Lower residue rates at processing facilities resulting in higher recovery and reduced costs • Reduction in contaminated loads sent to landfill • Establish new recycling behaviors • Reinforcement of the positive benefits of recycling and waste reduction at local and global levels • Encourage and facilitate dialogue between local government and members of the public • Promote community spirit

Considerations:

Funding may be available.

A key step is to identify barriers to public participation and public perception of current waste management program and diversion options through public consultation.

The communication strategy should be prepared based on findings from public consultation, include target audience and key messages.

Training of key staff within the waste program will also be an integral part of this program.

Public education and promotion programs are crucial for ensuring the success of local recycling programs. Well-designed and implemented education and promotion programs can have impacts throughout the municipal recycling program, including participation, collection, processing, and marketing of materials. Furthermore, having a P&E plan contributes toward the amount of WDO funding a municipality receives as identified in best practice section of the WDO municipal datacall.

Stewardship Ontario has prepared a Recycling Program Promotion and Education Workbook and other materials, which are available on Stewardship Ontario's Recyclers' Knowledge Network (http://vubiz.com/stewardship/Welcome.asp).

The CIF holds periodic Ontario Recycler Workshops that discuss recycling program updates (www.wdo.ca/cif/orw.html). The MWA, Waste Diversion Ontario (WDO), the association of Municipalities of Ontario (AMO), Stewardship Ontario and the Solid Waste Association of Ontario (SWANA) can also be sources of information guides, workshops, or training on recycling or solid waste management.

OPTION 8: MANDATORY RECYCLING BY-LAW

Description	Benefits
Want to cause permanent shift in behavior; encourage residents to become more conscious of amount of type of waste being generated. This incentive sends a clear message to residents that it is no longer acceptable to produce unlimited amounts of garbage. This option involves the institution of a by-law that directs households to use the recycling program for recyclable material. This can be enforced at the curb, and disposal service can be withdrawn when users continually place recyclables in the garbage. This approach is commonly used to direct property owners of multi-family residences.	• Reduce collection costs • Encourages recycling • Increased landfill capacity through diversion

Considerations:

A weekly solid waste pick up is already in place which may facilitate the integration of an adapted waste collection system. This would require support from a communication and outreach program.

Distribution of additional blue boxes is usually encouraged with changes in frequency or addition of streams (currently, distribution of blue boxes include West Lorne only). This requires an initial capital outlay. Collection crews may experience ergonomic benefits from additional blue boxes in circulation, as 'home-made' curbside containers may be minimized. It should be noted that bluebox distribution is currently for West Lorne only.

When instituting bans or bag limits, recycling collectors must be diligent with respect to quality control – it is possible that non-recyclables will be placed in the blue box as a reaction to reduced garbage capacity.

OPTION 9: ADD RECYCLING STREAMS

Description	Benefits
Residents have voiced concern about the limited streams that can be recycled. Currently, paper fibre accounts for approximately 41% of total blue box materials collected. The average municipal percentage is 76%.	Increasing some of the basic recycling streams can greatly affect diversion rate, without adding significant cost (thus reducing recycling cost/tonne)

Considerations:

A weekly solid waste pick up is already in place which may facilitate the integration of an adapted waste collection system. This would require support from a communication and outreach program.

Distribution of additional blue boxes is usually encouraged with changes in frequency or addition of streams (currently, distribution of blue boxes include West Lorne only). This requires an initial capital outlay. Collection crews may experience ergonomic benefits from additional blue boxes in circulation, as 'home-made' curbside containers may be minimized.

Target should be the inclusion of boxboard (cereal, detergent, crack and tissue boxes), catalogues, magazines, phonebooks, egg cartons and fine paper, subject to MRF restrictions. This option is thus intimately tied to Option 6 – Contract Review.

8. FUNDING

Several programs are in effect that may be available for the Municipality of West Elgin. Further funding details are available through associated websites.

CIF / WDO

The CIF welcomes project applications from Ontario recycling programs. Either municipalities or their long-term contractors can apply. Over two hundred projects have been approved according to MIPC's approved strategic areas. The CIF website shows a listing of projects underway or completed, including reports as they become available, and remaining funding available.

FEDERATION OF CANADIAN MUNICIPALITIES (FCM) "GREEN MUNICIPAL FUND"

FCM offers financial assistance under the Green Municipal Fund for "municipal studies" and "capital projects" related to waste diversion.

A capital project involves the retrofitting, construction, replacement, expansion, soil remediation or removal, or purchase and installation of fixed assets or infrastructure that will improve environmental performance in municipal brownfields, energy, transportation, waste, or water, or some combination of these sectors.

The environmental objective for projects undertaken in the waste sector is to reduce waste sent to landfill.

Eligible capital projects must demonstrate the potential to achieve a total diversion rate of at least 50%. Examples include; reuse programs or centres, recycling programs or centres.

FCM offers below-market loans, usually in combination with grants, to implement capital projects. Funding is provided for up to 80% of eligible project costs. The loan maximum is $10 million, and the grant amount is set at up to 20% of the loan to a maximum of $1 million.

MUNICIPAL STUDIES

Feasibility Study - A feasibility study is an assessment of the technical and financial feasibility, as well as the environmental, social, and economic impacts of a potential municipal environmental project. A municipal environmental project is a project that responds to a municipal need and contributes to cleaner air, water, and/or soil, and/or reduces greenhouse gas emissions. A feasibility study typically includes an assessment of the requirements and outcomes of a specific project using verifiable evaluation processes, leading to a recommended course of action.

Field Test - A field test is an evaluation of the small-scale installation of a potential municipal environmental project under the conditions in which it will operate. A field test evaluates the technical and financial feasibility, as well as the environmental, social, and economic impacts of a new system or technology, using verifiable evaluation processes, to determine the implications of full-scale implementation. The field test is not a demonstration project and the field test equipment and technology should (generally) be reversible. Recycling is an eligible initiative for focus.

FCM offers grants, which cover up to 50% of eligible costs to a maximum of $350,000, for feasibility studies and field tests.

9. SELECTED INITIATIVES

A summary of the options reviewed and their scoring are provided in Appendix A. Council selected the options that were considered to be high ranking and a robust start to the recycling strategy.

The most viable Waste Recycling Strategy options were organized into Priority Initiatives. Since further investigation is required, especially related to operational costs once more details are explored, some priority initiatives may shift to future initiatives, based upon this investigation. The estimated cost for implementing the priority initiatives is estimated to be $1,400 to $7,000, plus staff time. A review of these initiatives and their steps for implementation are reviewed on the following pages.

Priority Initiatives		
Initiatives	**Implementation Costs**	**Operation Costs**
1. Performance Measures: Waste Audit Complete a waste audit – a quantitative audit of garbage and recyclables generated by the Municipality, to provide a solid, comparative benchmark.	$1,000 - $5,000 (depending on level of involvement of staff/students/ volunteers/consultant)	None, unless weigh scale is desired
2. Contract Review: Plan a review of all procured services for collection and processing.	Staff time	Staff time, could result in significantly decreased costs
3. a) Optimization in Collections: Streamline Collection Days	Staff time, public notification costs ($200 - $1000)	Variable, potential CIF funding for blue box
3. b) Optimization in Collections: Increasing Recycling Collection Frequency	Staff time, public notification costs ($200 - $2000), plus bluebox distribution costs	Variable, potential CIF funding for blue box
Estimated Total Cost (Priority Initiatives)	Staff time, plus $1,400 - $8,000	Variable

10. IMPLEMENTATION PLAN

Initiative #1: Performance Measures: Waste Audit

Before beginning any improvements, it is always wise to start with an accurate assessment of current practices. A technical waste audit, based on exact masses of garbage and recyclable wastestreams, is crucial in establishing a firm benchmark. Data can be translated to the legislated landfill reporting requirements (currently some of the waste reporting here is also based on outdated estimates).

Waste audits determine the composition of waste being generated, can measure the effectiveness of existing programs and can identify opportunities for improvements in the waste management program. Waste audit tools are available, and can be performed by municipal staff, volunteers or consultants.

If a weigh scale is desired for this project and for longterm use, it should be noted that funding may be available. There are liabilities related to the Certificate of Approval for the landfill, and the waste program for the Municipality, related to estimation of weights. More accurate data would reduce liabilities associated with the significant error that arises from estimating weights. In addition, reliance on the invoice weights from the end vendors selling processing services to the West Elgin subcontractor is a dependency that can be avoided. Firsthand data is always preferred.

Implementation Plan - Waste Audit

The following steps make up the waste audit implementation plan:

- Determine scope of audit (landfill, West Lorne/BFI, rural)
- Investigate funding options
- Explore available resources (volunteers, students, staff)
- Seek consultant quotations
- Consult available resources for methodology
- Conduct or contract waste audit
- Review results
- Update strategies or other reports as required

The Waste audit implementation plan will be completed by December 2012.

Initiative #2: Contract Review

Collection must be efficient, which means getting more for less – picking up more recyclables with fewer trucks, fewer staff, less time. With multiple contracts and contractors overlapping in services, there may be efficiency opportunities while still providing jobs within the community.

The municipality's average collection and processing costs for recyclables far surpass the average of all Ontario municipalities.

Review of contracts may include review of costs and contracts related to processing, such as those with cardboard or plastics recycling facilities.

Implementation Plan - Contract Management

The following steps make up the contract management implementation plan:

- Summarize costs and details on current procured services for all aspects of waste management
- Investigate opportunities for improvement
- Investigate funding options
- Develop a clear definition of services and performance requirements (can be done in conjunction with initiative #3)
- For new contracts or contracts coming due, use a efficient, effective procurement process (quotation/tender/RFP) to encourage multiple proponents
- Develop a pre-defined (transparent & fair) bid evaluation process
- Secure contracts as desired

The Contract Management Implementation Plan will be completed by March 2013.

Initiative #3: Optimization in Collections: Increasing Recycling Collection Frequency and Streamlining of Collection Days

The goal of this initiative is to cause permanent shift in behavior through non-monetary levers.

Collection frequency can affect diversion rates and the cost of a collection program. Bi-weekly recyclables collection where residents have sufficient storage have proven to be the most cost-effective. Planning the recycling program so that it is a welcome service to the residents, rather than a cumbersome chore with complicated schedules, is the goal.

Collection frequency and programming should always be planned around finding the best way to collect the most amount of material using the least amount of time and resources. Collection must be convenient for the operator and for the residents, and must be supported by a communication and outreach program, including clear and effective calendars for residents.

Benefits may include:

- Reduced collection costs
- Encouragement of recycling
- Increased landfill capacity through diversion
- Reduced discouragement of residents due to extended storage challenges (odour, capacity, cleanliness)

Distribution of additional blue boxes is usually encouraged with changes in frequency or addition of streams. This requires an initial capital outlay. Collection crews may experience ergonomic benefits from additional blue boxes in circulation, as 'home-made' curbside containers may be minimized.

Implementation Plan - Increased Recycling Collection Frequency / Streamlining Collection Days

The following steps make up the increased recycling collection frequency/streamlining collection days implementation plan.

- With current procurement information from initiative #2, review current collection costs
- Investigate costs for increased frequency
- Investigate costs for streamlining of collection days
- Investigate costs for distribution of additional blueboxes
- Investigate funding options
- Select improved collection strategy / secure contracts
- Print new public information material
- Inform public of changes through open house
- Distribute blueboxes as required/budgeted

The timing for the completion of this implementation plan will be determined upon completion of the waste audit.

11. CONTINGENCIES

The priority initiatives may be impacted if municipal funding is not available. Possible contingencies for lack of funding include:

- Implementing user fees
- Exploring and applying for other funding sources
- Delaying 'lower-priority' initiatives, or
- Increasing a proportion of municipal budget to solid waste management.

If lack of available staff becomes a challenge in implementing the initiatives, summer or co-op student hiring may be an option to help with planning (may be available funding).

Priority initiatives may shift to future initiatives if lack of funding or unwieldy increases to the taxpayer become evident.

12. MONITORING AND REPORTING

The monitoring and reporting of Municipality of West Elgin's recycling program is considered a Blue Box program fundamental best practice and will be a key component of this Waste Recycling Strategy. Once implementation of the strategy begins, the performance of the Waste Recycling System will be monitored and measured against the baseline established for the current system. Once the results are measured, they will be reported to Council and the public.

The approach for monitoring Municipality of West Elgin's waste recycling program is outlined in the table below.

Recycling System Monitoring		
Monitoring Topic	**Monitoring Tool**	**Frequency**
Total waste generated (by type and by weight)	Monitoring of bag count at landfill Measuring of recyclables through MRF invoices Measuring of garbage and recyclables through BFI contract Measuring of typical waste and recyclable content through waste audit	Each load Each invoice Each invoice Once , may be repeated in 5 years
Diversion rates achieved (by type and by weight)	Formula: (Blue box materials + other diversion) ÷ Total waste generated * 100%	Annually
Customer satisfaction and opportunities for improvement	Customer survey (e.g. website survey) Tracking calls/complaints received to the municipal office	Every 2 to 4 years Ongoing
Planning activities	Describe what initiatives have been fully or partially implemented, what will be done in the future	Annually
Review of Recycling Plan	A periodic review of the Recycling Plan to monitor and report on progress, to ensure that the selected initiatives are being implemented, and to move forward with continuous improvement	Every 3 to 5 years

13. CONCLUSION

The Municipality of West Elgin currently has a relatively low bluebox waste diversion rate (14% of total waste, compared to a provincial average of 21.4%), and pays a relatively high cost to operate its bluebox program ($1068/tonne, compared to the average of $538/tonne for all southern Ontario rural collection municipalities).

The following objectives for the waste recycling strategy were established:

- To extend the life of the West Elgin Landfill;
- To improve the capture rate of blue box recyclables;
- To improve cost-effectiveness of recycling in West Elgin; and
- To increase participation in the recycling program.

After careful consideration of 9 options, Council selected three key priority initiatives to investigate and implement, in order to meet these objectives.

1. **Performance Measures: Complete a waste audit – a quantitative audit of garbage and recyclables generated by the Municipality, to provide a solid, comparative benchmark.**
2. **Contract Review: Plan a review of all procured services for collection and processing.**
3. **Optimization in Collections: Streamline Collection Days and Increase Recycling Collection Frequency**

Implementation plans, contingencies and other supporting information is included in the body of this report.

14. APPENDIX A: WASTE RECYCLING OPTION SCORES

(See descriptions of criteria below)

Option	Description of Options/Best Practices	Approximate Cost		Criteria (Score out of 5)					Total Criteria Score
		Implementation (including Infrastructure)	Operation	% Waste Diverted	Proven Results	Economically Feasible	Accessible to Public	Ease of implementation	
Promotion and Outreach									
Option 8	**Public Education and Promotion Program** Promo materials, public sessions, local paper notices, website improvements *Comments: This should be combined with another option, a change initiative, rather than just more promo material*	$1000 and up	$200 - $2000	2	3	4	5	4	**18**
Option 8	**Training of Key Program Staff** *Comments: This should be combined with another option, a change initiative, rather than just more promo material or training*	staff time	funding may be available, travel costs may be covered	1	2	5	3	4	**15**

Option	Description of Options/Best Practices	Approximate Cost		Criteria (Score out of 5)					Total Criteria Score
		Implementation (including Infrastructure)	Operation	% Waste Diverted	Proven Results	Economically Feasible	Accessible to Public	Ease of implementation	
Collection									
Option 3	**Bag Limits** Restriction to 3 bags / week, tags May affect contract/BFI costs	$200, P&E costs	P&E costs	4	4	4	5	3	**20**
Option 5	**Enhancement of Recycling Depots** Revision of layout, containers, signage	$2,000	none	1	2	4	5	3	**15**
Option 10	**Addition of Recycling Streams** Broaden fibre collection to result in increased capture	staff time, P&E costs	variable - depends on contracts and MRF requirements	3	3	3	5	2	**16**
Option 4	**Collection Optimization:** **Increased Recycling Collection Frequency to Bi-weekly / Streamline Collection Days** Contract negotiations, capacity considerations, blue box requirements	variable, potential CIF funding for blue box	variable - depends on contracts and MRF requirements	4	4	3	5	2	**18**
Partnerships									
Option 2	**Multi-Municipal Collection of Recyclables**	staff time	could result in decreased costs	2	2	2	3	2	**11**

Option	Description of Options/Best Practices	Approximate Cost		Criteria (Score out of 5)					Total Criteria Score
		Implementation (including Infrastructure)	Operation	% Waste Diverted	Proven Results	Economically Feasible	Accessible to Public	Ease of implementation	
Additional Research									
Option 1	**Waste Audit / Measuring Tools**	up to $3,000 (capital costs may be involved - weigh scale)	None, unless weigh scale is desired	0	5	5	4	5	**19**
Administration									
Option 6	**Contract Review**	staff time	could result in significantly decreased costs	1	5	5	3	3	**17**
Other Options									
Option 9	**Mandatory Recycling Bylaw**	staff time, P&E costs	staff time, P&E costs	3	3	3	3	1	**13**

- % Waste Diverted – This refers to how much waste an option may potentially help to divert. Some options may divert more waste than others, while other options may not directly divert waste but instead support other programs or initiatives that do.
- Proven Results – Some options are considered tried and true, while others may be newer and less tested.
- Reliable Market/End Use – Markets should be available for materials collected by municipalities for recycling. This criterion considers if a market is available for the recyclable materials in question or if a suitable end use exists.
- Economically Feasible – This refers to whether an option is economically feasible for the municipality considering it. Municipalities will need to weigh the cost of the option against their ability to afford it and the resulting benefit.
- Accessible to Public – This considers if the option will be easy or difficult for the public to access or use. This will depend in large part on how the option interfaces with the target audience.
- Ease of Implementation – Some options are less costly and easier logistically and politically to implement than others. This criterion considers the level of cost and effort involved in implementing the option.