

A Waste Recycling Strategy for Oneida Nation of the Thames Final

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Appendix 1 Waste Recycling Option Scores

1.0 Introduction and Background

This Waste Recycling Strategy (Strategy) was initiated by the Community of Oneida Nation of the Thames (Oneida) to develop a plan to increase the efficiency and effectiveness of its recycling program and to maximize the amount of Blue Box material diverted from disposal. As recommended by the Continuous Improvement Fund (CIF), this Strategy should be reviewed annually and updated at least every five years.

The intent of the Strategy is to provide Oneida staff with a baseline (2011) of the Blue Box program and compare it to upcoming years (2012-2016) to monitor the effectiveness of Oneida's program.

It should be noted that this Strategy is specific to the Blue Box only. All reference to diversion rates is explicit to residential Blue Box diversion rates and does not incorporate overall waste diversion rates from other diversion programs supported by the Community. Oneida will be preparing its first Datacall in the spring of 2012 and has not been formally placed in the Waste Diversion Ontario (WDO) municipal grouping. Recognizing the significant diversity of municipal Blue Box programs across Ontario, WDO has grouped similar programs in order to analyze Blue Box tonnage and financial data. To ensure equity and transparency, municipal groups are based on two primary criteria (population and population density) and two secondary criteria (location of either north or south and type of service).

It is anticipated that Oneida will be grouped into the Rural Collection South municipal grouping based on its location and curbside program. The program also has similar traits to small urban and rural category due to the population density. As a result, this document will offer reasonable strategies for a small urban/rural collection program for flexibility as the program matures.

Specifically, this Strategy addresses the following:

- Sets a short term Blue Box diversion rate of 10% for next year and 15% for 2013-2016;
- Establishes methods to monitor the effectiveness of the Blue Box program;
- Offers examples of Best Practices suitable for Rural Collection South and Small Urban Programs;
- Assists with securing Best Practice funding for upcoming 2011 WDO Datacall once the Strategy is adopted and monitoring is in place; and
- Clarifies Blue Box diversion goals/targets for Oneida.

This Strategy was developed with financial support from the CIF. The CIF's *Guidebook for Creating a Municipal Waste Recycling Strategy* was used to help develop this Strategy.

Background

Blue Box programs in Ontario are partly funded by Waste Diversion Ontario (WDO). In return Oneida will report annually to WDO (i.e. annual Datacall) on its current recycling program, including Blue Box diversion rates and Blue Box program costs. The results of the Datacall influence the amount of funding that Oneida receives for its Blue Box program.

All municipalities are divided into a number of different groupings of similar municipalities by WDO. The performance of municipalities in each grouping is compared by WDO and WDO uses the results as part of their funding allocation strategy, where poorer performers within a municipal grouping can lose a portion of their funding.

It is anticipated that Oneida will be assigned to the Rural Collection South municipal grouping by WDO as part of the Datacall designation and like all other municipal programs, has no control over this designation. It is apparent that there are programs within the Rural Collection South group with different characteristics in terms of permanent and seasonal population, proximity to processing facilities, geographic size and density as well as overall program delivery and available staffing. Specifically, many of the programs are mature programs with established Blue Box systems.

Unique to Oneida is the infancy of the program. It is important to point out that recommended targets for Blue Box diversion rates are suited for mature programs and should be future goals for Oneida to strive toward in the upcoming five years of program operations.

The Blue Box Performance Factor is calculated from the results of the Datacall and plays a significant role in determining the funding that Oneida will receive from WDO to fund its program. This factor is based on the fixed and variable costs to operate a Blue Box program; the capture rate of Blue Box wastes and adherence to Best Practices as reported in this year's Datacall.

Oneida can influence its Performance Factor annually by improving its Blue Box capture rate, reducing costs and adhering to Best Practices.

Table 1.2 depicts the values applied for each of the questions within the Best Practice section (Section 3.3) of the upcoming Datacall.



Table 1.2 Overview of Best Practices Assessed in previous WDO Datacall

Initiative (Best Practises)	Impact on Best Practices Score
Blue box recycling plan	12.5%
Established performance measures	25.0%
Multi-municipal planning approach	8.3%
Optimization of collection and processing operations	12.5%
Training of staff in key competencies	8.3%
Appropriately planned, designed and funded communications program	8.3%
Established and enforced policies that induce waste diversion	25.0%

This Strategy will put Oneida in a position to better meet WDO’s Best Practices funding requirements now and for future reporting years.

2.0 Overview of the Planning Process

This Strategy was prepared by environmental consulting firm 2cg Inc in conjunction with Oneida staff.

The development of the Strategy included the following steps:

- Provided formal price quotation to Oneida;
- Gather relevant data from Oneida staff;
- Electronic submission of draft Strategy for staff comment;
- Gather and compile additional comments from Oneida during site visit and website feedback; and
- Prepare final Strategy to meet requirements of CIF for the upcoming WDO Datacall (April 2012).

The next steps include:

- Endorsement of this Strategy by Oneida Council; and
- Council decision on which initiatives to implement.

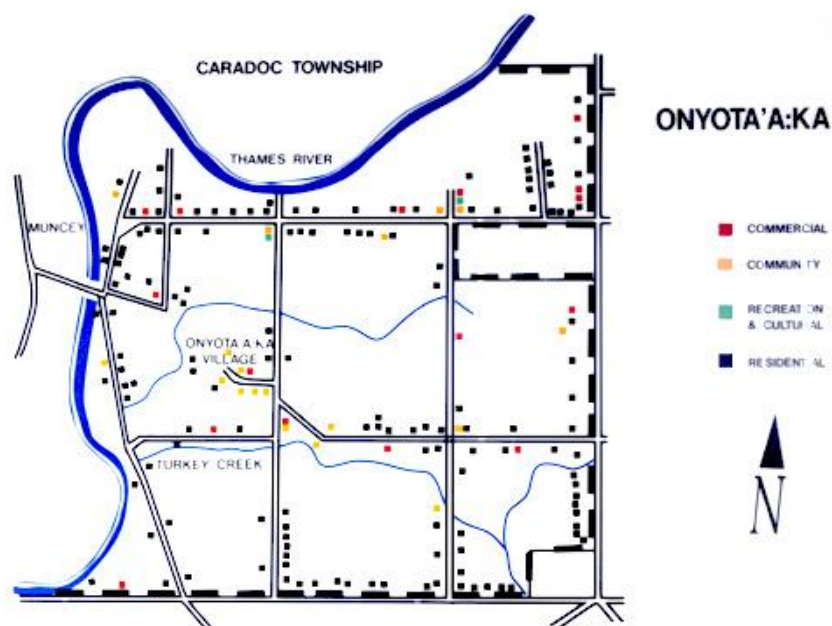


3.0 Study Area

The study area for this Strategy is the First Nations Community of Oneida Nation of the Thames located in southwestern Ontario approximately 30 minutes from the City of London.

The layout of the community of Oneida is approximately 22 square kilometers and is depicted in Figure 1.

Figure 1 Area Map depicting the Community of Oneida



This Strategy addressed the following sectors:

- Residential single family; and
- 4-plex multi-residential units, an elementary school and a seniors building.

4.0 Public and Stakeholder Consultation Process

The public and stakeholder consultation process followed the development of this Strategy and consisted of the following activities:

- Notification of the Strategy was published in the Community newsletter (Oliwase);
- Review of the Draft Strategy with staff; and

- Posting of Final Report on the Oneida website and submission of Final Report to Council for endorsement.

5.0 Stated Problem

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

Oneida faces some waste management challenges that this Strategy can address including:

- Low capture rate of Blue Box material resulting in high cost per tonne to manage material;
- Lack of staff and financial resources; and
- Newly implemented Blue Box program (July 14, 2011).

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

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

6.0 Goals and Objectives

This Strategy development process identified a number of goals and objectives for the community. These are presented in Table 6.1

Table 6.1 Community's Recycling Goals and Objectives

Waste Recycling Goals and Objectives	
Goals	Objectives
Increase Blue Box Capture Rates	In 2013, aim to divert 15% of solid waste through the Blue Box program. In the following years 2013-2016, <u>consider</u> striving toward the CIF suggested target to capture 70% of the available blue box material from the waste stream with preliminary milestones of 20%, 30%, 40%, in the first 5 years of program development.
Increase Promotion and Education (P&E)	Increase resident awareness of both the curbside and the drop off depot program with a P&E program to increase tonnes and subsequently reduce overall costs per tonne and increase Blue Box diversion rate. Make use of promotion funds approved from CIF. Consider weekly advertising on local radio station with supporting 'awards' to residents or recognition of increases to program participation.
Reduce Blue Box Program Cost Per Tonne	In 2012-2016, reduce current program costs closer to the reported Rural Collection South WDO 2010 group average (\$458/tonne).

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

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

A **Blue Box capture rate** also provides specific reference to Oneida's Blue Box program and does not include other divertibles. The Blue Box capture rate represents the Blue Box tonnes that the community is capturing out of the waste stream based on composition data for Rural and Small Urban programs.

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

Community Characteristics

The population for Oneida is 2,051 and there are 475 households. Approximately 46% of the population is under the age of 30.

Existing Recycling Programs and Services

Current waste management programs include:

- Bi-weekly Blue Box curbside collection service to all 475 households using 35 gal. roll-out carts (third party processor);
- Drop off depot service for Blue Box material using 6 cubic yard front end bins at the Seniors Complex, the Economic Development Plaza, Community Centre, the Administration Building, the Standing Stone Elementary School, and more recently, the Long Term Care Facility. (third party collector);
- Weekly curbside waste collection to all households and small businesses (public forces);
- Direct haul of collected wastes (using Oneida owned packer truck) to the Green Lane Landfill Site; and
- Administration of waste management program (enforcement, budget and promotion and education).

Blue Box curbside and depot materials are collected and processed by Bluewater Recycling (BRA). Oneida has entered into a three year contract with BRA (expiry 2014). Currently, there is no revenue rebate from the sale of Blue Box material due to the low tonnages collected.



Oneida collects the following material:

Containers	Fibres
<ul style="list-style-type: none">• Glass bottles and jars• Metal food and beverage containers, empty paint and aerosols & foil/pie plates• Plastic containers (1-7) with exception of Styrofoam.• Bagged Film Plastic	<ul style="list-style-type: none">• Newspaper, flyers, magazines, inserts and office paper.• Boxboard, corrugated cardboard, brown paper bags

Oneida negotiated with Green Lane, for free curbside carts for the program launch. It is anticipated in the future that replacement carts will be provided to residents on a cost recovery basis. Photos 1 and 2 depict the Oneida curbside program and Photo 3 depicts the drop off depot system within the community.

Photo 1 Automated Curbside Cart Collection in Oneida



Photo 2 Curbside Cart Set Out in Oneida



Photo 3 Drop off Depot in Oneida



Current Waste Generation and Diversion

Table 7.1 depicts total waste quantities managed by Oneida. It is important to note that the Blue Box program commenced on July 14, 2011 therefore only six months of actual data has been recorded. The six month tonnages were averaged for a full 12 months to estimate curbside weights.

The weights from the central drop off depots in the community are not included in the tonnage data received from BRA as it is comingled with material from locations other than Oneida. The depot bins are 6 cubic yards and have been collected bi-weekly in 2011. For the purpose of this Strategy, it has been estimated that the average weight collected from the bins is approximately 100kg per bin to reflect partially full bins and light weight material such as plastic, aluminum cans and paper.

Table 7.1 2010 Total Residential Waste Quantities

Waste Material	Quantities (Tonnes)
Waste Collection (Full Year Actual)	455
Blue Box Curbside 6 months =12 tonnes (x2=24)	24
Drop off Depot Sites (5 sites x100kg/bin x 26 weeks)	13
Total	492

In 2011, it has been estimated that Oneida managed a total of 492 tonnes of waste material (garbage and recyclables). It should be noted that there are some commercial sector establishments permitted to use the Oneida collection service (convenience stores, smoke shops, community centre, administration building).

Table 7.2 summarizes the current waste generation and the **Blue Box** diversion rate. The Blue Box tonnes are not broken into the categories of papers, metals, plastics and glass but are reflected as a comingled lump sum.



Table 7.2 Oneida's Residential Blue Box Diversion Rate (2011)

Residential Solid Waste Generated and Diverted Through Blue Box		
Residential Waste Stream/ Blue Box Material	Tonnes	Percent of Total Waste
Total Waste Generated	492	-
Papers (ONP, OMG, OCC, OBB and fine papers)	0	0.0%
Metals (aluminum, steel, mixed metal)	0	0.0%
Plastics (containers, film, tubs and lids)	0	0.0%
Glass	0	0.0%
Commingled (Prorated Blue Box and Estimated Depots)	37	
Total Blue Box material diverted	37	7.5%

It is important to note that the Strategy focus is on the Blue Box program and reference to diversion rates and capture rates is specific to Blue Box recyclables and does not incorporate overall waste diversion rates from other sources (MHSW, Scrap Metal, etc).

Table 7.3 indicates that Oneida's current Blue Box diversion rate (2011) is below its WDO municipal grouping of Rural Collection South as well as the Small Urban grouping as reported in the CIF guidebook (2009).

Table 7.3 Oneida's Blue Box Diversion Rate (2011) Compared to Rural Collection South & Small Urban Groupings (2009)

Average Blue Box Diversion Rate	
Oneida Blue Box Diversion Rate	8%
Municipal Grouping: Rural Collection South	21.37%
Municipal Grouping: Small Urban	21.99%

In 2011 the total program costs to manage Oneida's Blue Box tonnes (curbside and depot) averaged \$1,546 per month over a 6 month period. Extrapolating for a full 12 months, it has been estimated that Oneida's program costs an average of \$18,552 per year (based on monthly invoicing from BRA). This amounts to \$618 per tonne, \$9 per capita or \$39 per household.

As table 7.4 shows, the current net annual recycling costs for Oneida are **above average** for the WDO Rural Collection South municipal grouping program costs.



Table 7.4 Oneida Blue Box Costs vs. Rural Collection South Costs

Recycling Cost (per tonne per year)	
Oneida (Net Costs)	\$ 618
Grouping: Rural Collection South (2010)	\$ 458

The Rural Collection South WDO municipal grouping encompasses 75 municipal programs as depicted in Table 7.5. Programs where costs are below average tend to capture more tonnages per capita, are mature programs (more than 5 years of operation), receive revenue rebates and have not had recent capital investments/upgrades to their program.

Table 7.5 Rural Collection South (2010) Program Information

Rural Collection - South	Tonnes	Total Net Cost	Net Cost/Tonne	District
AKWESASNE, MOHAWK COUNCIL OF	53.30	\$24,720.00	\$463.76	n/a
ALFRED AND PLANTAGENET, TOWNSHIP OF	478.97	\$210,140.31	\$438.73	Prescott & Russell
ALGONQUINS OF PIKWAKANAGAN	32.39	\$28,412.46	\$877.21	n/a
AMARANTH, TOWNSHIP OF	261.51	\$41,088.41	\$157.12	Dufferin
ASHFIELD-COLBORNE-WAWANOSH, TOWNSHIP OF	287.52	\$143,421.92	\$498.82	Huron
ATHENS, TOWNSHIP OF	215.08	\$59,118.29	\$274.87	Leeds & Grenville
BANCROFT, TOWN OF	369.45	\$163,356.70	\$442.16	Hastings
BAYHAM, MUNICIPALITY OF	368.97	\$152,537.93	\$413.41	Elgin
BECKWITH, TOWNSHIP OF	447.99	\$148,928.20	\$332.44	Lanark
BONNECHERE VALLEY, TOWNSHIP OF	257.39	\$82,026.63	\$318.69	Renfrew
BRANT, COUNTY OF	1,872.85	\$775,900.20	\$414.29	Brant
CENTRAL ELGIN, MUNICIPALITY OF	787.54	\$320,170.59	\$406.55	Elgin
CHATSWORTH, TOWNSHIP OF	351.89	\$100,699.30	\$286.17	Grey
CHIPPÉWAS OF GEORGINA ISLAND	22.01	\$58,067.49	\$2,637.69	Simcoe
CHIPPÉWAS OF NAWASH FIRST NATION	30.21	\$37,443.00	\$1,239.60	n/a
CHIPPÉWAS OF RAMA FIRST NATION	33.00	\$104,545.00	\$3,168.49	n/a
CLARENCE-ROCKLAND, CITY OF	1,466.95	\$322,618.10	\$219.92	Prescott & Russell
CURVE LAKE FIRST NATION	61.61	\$1,656.00	\$26.88	n/a
DEEP RIVER, TOWN OF	568.30	\$100,076.28	\$176.10	Renfrew
DRUMMOND-NORTH ELMSLEY, TOWNSHIP OF	543.93	\$144,456.24	\$265.58	Lanark
DUTTON-DUNWICH, MUNICIPALITY OF	152.37	\$47,640.52	\$312.66	Elgin
EAST GARAFRAXA, TOWNSHIP OF	174.84	\$47,159.55	\$269.73	Dufferin
EAST LUTHER GRAND VALLEY, TOWNSHIP OF	190.38	\$75,573.76	\$396.97	Dufferin
EDWARDSBURGH CARDINAL, TOWNSHIP OF	377.32	\$27,831.34	\$73.76	Leeds & Grenville
ELIZABETHTOWN-KITLEY, TOWNSHIP OF	342.06	\$191,156.23	\$558.84	Leeds & Grenville
FRONT OF YONGE, TOWNSHIP OF	133.78	\$43,798.46	\$327.39	Leeds & Grenville
GEORGIAN BLUFFS, TOWNSHIP OF	647.12	\$233,589.06	\$360.97	Grey
GREATER NAPANEE, TOWNSHIP OF	1,000.47	\$136,113.35	\$136.05	Lennox & Addington
GREY HIGHLANDS, MUNICIPALITY OF	699.30	\$265,374.30	\$379.49	Grey
HALDIMAND, COUNTY OF	3,107.81	\$1,534,267.75	\$493.68	Haldimand
HASTINGS HIGHLANDS, MUNICIPALITY OF	399.90	\$172,344.30	\$430.97	Hastings
HAWKESBURY JOINT RECYCLING	1,251.04	\$455,862.75	\$364.39	Prescott & Russell
HIGHLANDS EAST, MUNICIPALITY OF	356.35	\$173,934.59	\$488.10	Haliburton
HORTON, TOWNSHIP OF	174.22	\$83,299.26	\$478.14	Renfrew
HOWICK, TOWNSHIP OF	158.91	\$69,372.68	\$436.56	Huron
KILLALOE, HAGARTY, AND RICHARDS, TOWNSHIP OF	167.27	\$80,757.61	\$482.80	Renfrew
LANARK HIGHLANDS, TOWNSHIP OF	373.54	\$142,309.17	\$380.97	Lanark
LAURENTIAN HILLS, TOWN OF	148.36	\$69,448.17	\$468.12	Renfrew
LEEDS AND THE THOUSAND ISLANDS, TOWNSHIP OF	661.45	\$239,687.78	\$362.37	Leeds & Grenville
LOYALIST, TOWNSHIP OF	922.92	\$241,628.71	\$261.81	Lennox & Addington
MADAWASKA VALLEY, TOWNSHIP OF	409.05	\$227,861.02	\$557.05	Renfrew
MALAHIDE, TOWNSHIP OF	259.08	\$107,182.97	\$413.71	Elgin
MCNAB-BRAESIDE, TOWNSHIP OF	628.89	\$119,549.51	\$190.10	Renfrew
MEAFORD, MUNICIPALITY OF	688.58	\$259,568.56	\$376.96	Grey
MERRICKVILLE-WOLFORD, VILLAGE OF	142.84	\$23,763.59	\$166.37	Leeds & Grenville
MISSISSAUGAS OF THE NEW CREDIT FIRST NATION	15.79	\$13,133.17	\$831.59	n/a
MISSISSIPPI MILLS, TOWN OF	691.91	\$191,048.61	\$276.12	Lanark
MOHAWKS OF THE BAY OF QUINTE	113.94	\$70,326.36	\$617.21	n/a
MONO, TOWN OF	691.89	\$159,983.43	\$231.23	Dufferin
MONTAGUE, TOWNSHIP OF	197.16	\$78,848.06	\$399.91	Lanark
MULMUR, TOWNSHIP OF	319.50	\$123,880.14	\$387.73	Dufferin
NORTH DUNDAS, TOWNSHIP OF	507.25	\$311,920.85	\$614.93	Stormont, Dundas & Glengarry
NORTH GLENGARRY, TOWNSHIP OF	910.50	\$268,531.00	\$294.93	Stormont, Dundas & Glengarry
NORTH GRENVILLE, MUNICIPALITY OF	859.85	\$306,236.35	\$356.15	Stormont, Dundas & Glengarry
NORTH HURON, TOWNSHIP OF	481.29	\$92,976.22	\$193.18	Huron
NORTH STORMONT, TOWNSHIP OF	390.77	\$143,476.17	\$367.16	Stormont, Dundas & Glengarry
OTTAWA VALLEY WASTE RECOVERY CENTRE	3,319.09	\$1,273,598.42	\$383.72	Renfrew
PLYMPTON-WYOMING, TOWN OF	297.43	\$175,221.93	\$589.12	Lambton
RIDEAU LAKES, TOWNSHIP OF	777.17	\$399,118.00	\$513.55	Leeds & Grenville
RUSSELL, TOWNSHIP OF	1,318.21	\$281,200.96	\$213.32	Prescott & Russell
SOUTH DUNDAS, TOWNSHIP OF	554.71	\$270,334.29	\$487.35	Stormont, Dundas & Glengarry
SOUTH FRONTENAC, TOWNSHIP OF	876.67	\$412,097.30	\$470.07	Frontenac
SOUTH GLENGARRY, TOWNSHIP OF	761.69	\$279,538.27	\$367.00	Stormont, Dundas & Glengarry
SOUTH STORMONT, TOWNSHIP OF	678.08	\$178,546.32	\$263.31	Stormont, Dundas & Glengarry
SOUTHGATE, TOWNSHIP OF	532.24	\$298,387.08	\$560.62	Grey
SOUTHWEST MIDDLESEX, MUNICIPALITY OF	421.91	\$211,745.31	\$501.87	Middlesex
SOUTHWOLD, TOWNSHIP OF	182.49	\$41,471.24	\$227.26	Elgin
ST. CLAIR, TOWNSHIP OF	667.30	\$74,614.11	\$111.81	Lambton
STONE MILLS, TOWNSHIP OF	483.42	\$285,439.13	\$590.46	Lennox & Addington
THAMES CENTRE, MUNICIPALITY OF	1,004.09	\$268,052.17	\$266.96	Middlesex
THE BLUE MOUNTAINS, TOWN OF	881.01	\$282,840.36	\$321.04	Grey
THE NATION, MUNICIPALITY	809.28	\$232,702.42	\$287.54	Prescott & Russell
WEST ELGIN, MUNICIPALITY OF	140.88	\$120,557.96	\$855.75	Elgin
WEST GREY, MUNICIPALITY OF	759.26	\$266,318.11	\$350.76	Grey
WHITEWATER REGION, TOWNSHIP OF	400.14	\$100,255.17	\$250.55	Renfrew
Totals	42,123.61	\$15,300,856.95		
Total Municipalities >	75		\$458.78	



Potential Waste Diversion

Oneida's current waste composition was estimated using data provided in the CIF Waste Recycling Strategy Guidebook for Small Urban and Rural Programs (Worksheet 7c-7 page 32 of the Guidebook). The waste audit composition data appears to better suit the demographic arrangement of Oneida as much of the population is centrally located just east of the Thames River.

The CIF Guidebook Small Urban and Rural representative audit data is appropriate for estimating Blue Box diversion goals and targets for Oneida and is not linked to the WDO Datacall financial grouping. **Oneida's Strategy references composition examples from Small Urban and Rural samplings and cost averaging from the WDO category of Rural Collection South.**

Once Oneida has been formally grouped by WDO, Oneida can continue to compare its composition data to either its own audit data or to the Small Urban and Rural sampling data but can also compare to average costs to its assigned WDO grouping (i.e.: Rural Collection South or Small Urban).

As part of the follow up to this Strategy, and using available funding from CIF, Oneida may choose to request from Stewardship Ontario that a formal audit be conducted for Oneida to generate an accurate representation of waste composition specific to the community.

Using the Small Urban and Rural representative composition data available from the CIF guidebook, it has been estimated, as depicted in Table 7.6, that approximately 34% of the waste stream is potentially Blue Box material for the area. The composition sampling is a realistic representation of the Oneida community based on Oneida's geographic location and community demographics.

The suggested target capture rate in the CIF guidebook of 70% Blue Box material from the waste stream for the Rural Collection South grouping is more applicable for mature Blue Box programs unlike the newly implemented program for Oneida. A more realistic capture rate of 40% has been established for Oneida to monitor its program successes. A goal (2012 to 2016) of a 40% capture rate of Blue Box material from the waste stream represents approximately 66 tonnes of available Blue Box material for diversion. This represents an additional 29 tonnes of Blue Box material from the curbside and depot program to achieve this target (i.e. $66 - 37 = 29$ tonnes), as depicted in Table 7.6.

Table 7.6 Potential Available Blue Box Material in Oneida reflecting 40% capture rate

Current and Potential Diversion					
Waste/Resource Material	Composition (%) (from Small Urban and Rural Collection sample audit)	Total Residential Waste Generated (tonnes)	Total Blue Box Material in Waste Stream (tonnes)	Target Blue Box Capture Rate (%)	Blue Box Material Available for Diversion
Papers (ONP, OMG, OCC, OBB and fine papers)	22	492	108	40.00	43.30
Metals (aluminum, steel, mixed metal)	2		10		3.94
Plastics (containers, film, tubs and lids)	6		30		11.81
Glass	4		20		7.87
Commingled or Total Blue Box Materials	34	492	167	40.00	66.91

Capturing 40% of Blue Box material from Oneida’s residential waste stream would raise its Blue Box diversion rate to close to **13%** (i.e. 37 Current Blue Box tonnes + 29 additional tonnes/total residential wastes of 492 tonnes). The new tonnes would increase Blue Box diversion by about 5 percentage points. It is anticipated that as the program matures (year 5), the capture rate goal can be increased to 60% to 70%, reflecting the goal of the municipal grouping for established programs.

Anticipated Future Waste Management Needs

The Capital Planning Study Update Draft Report (2009) indicates that Oneida has a reportedly higher than average growth rate of 2% per annum over the next 10 year planning period.

Table 7.7 depicts the expected growth rates for solid waste generation and Blue Box material recovery. The data reflects a projected population growth rate of 2% and a Box capture rate of 40%.



Table 7.7 (a) Forecasting 40% Capture Rate Goal for Blue Box Material from Residential Waste Stream

Anticipated Future Solid Waste and Blue Box Recovery Rates			
	Current Year	Current Year + 5	Current Year + 10
Population	2,051	2,264	2,500
Total Waste	492	543	600
Blue Box Material Available	67	74	82

Over the longer term, Oneida can strive toward 70% Blue Box capture rate as recommended for Rural Collection South programs and as depicted in Table 7.7 (b).

Table 7.7 (b) Forecasting 70% Capture of Blue Box Material from Residential Waste Stream

Anticipated Future Solid Waste and Blue Box Recovery Rates			
	Current Year	Current Year + 5	Current Year + 10
Population	2,051	2,264	2,500
Total Waste	492	543	600
Blue Box Material Available	117	129	143

8.0 Planned Recycling System

The following section outlines some possible strategies that are suitable for Oneida to consider to increase **Blue Box diversion and capture rates** in the upcoming years.

It should be possible to gradually increase the capture rate of the Blue Box program within the context and costs of the current program. This would be done by encouraging residents to recycle more of their wastes using the existing program infrastructures and by enhancing the program through greater awareness in areas beyond the home including public parks, signage at the community centre, using the local radio station (89.5 the Eagle), offering a display and recycling carts at the Oneida Fall Fair and the local school (Standing Stone School). The enhanced community awareness can be supported with a 'Council 3 R's training session' supported with handouts for distribution at events, or at local shops, and restaurants in the community.

8.1 Possible Strategy to Increase Blue Box Recycling

Oneida presently diverts approximately **8%** of its wastes through its Blue Box program (2011). The average for programs of its type is approximately **21%** (2009-2010).

Given that Oneida is below average for Blue Box diversion and above average for costs and is a newly established program, a practical preliminary goal (2012-2013) would be a **15%** waste diversion rate from Blue Box collection (i.e. 7 percentage points more than current rate) with a focus on P&E and perhaps emphasis on the public drop off depots.

A second and aspirational future goal (2015-16) would be to achieve a **20% Blue Box** diversion rate as a result of the Blue Box depot program. This would result in attaining the lower target of 40% capture rate of Blue Box materials with consideration toward Best Practice options such as weekly curbside collection, residential waste bag limits at the curb, mandatory recycling by-laws; all supported by continued public education to the community.

The minimum future goal would be to at least reach an average **15%** Blue Box diversion rate and work towards increasing the rate over time through increases in overall Blue Box tonnes collected.

Table 8.1 highlights the estimated number of tonnes that would need to be captured to attain 15% and 20% diversion rates of Blue Box material from the waste stream. It includes consideration of the impact of population growth in Oneida (2% growth) and reflects a lower Blue Box capture rate target of 40%.

Table 8.1 Forecasting Diversion Rates

Waste Diversion Goals			
	% Waste Diversion		
	Current (8)	15	20
	tonnes captured/year		
2011	37	74	98
2016	41	81	109
2020	45	90	120

It is anticipated that it should be possible to capture additional Blue Box materials within the existing structure (Status Quo).

Table 8.2 highlights the potential impact of attaining a 15% diversion rate as a result of the current Blue Box program.

Table 8.2 Forecasting Diversion Rates

Meeting 10% Blue Box Diversion Rate		
Current Capture (8%)	tonnes/year	37
15% Capture	tonnes/year	74
15% Capture (additional tonnes)	tonnes/year	37
Per household	kg/year	77.5
Per household	kg/week	1.5

On average this would amount to each household recycling an additional 77 kg/year or 1.5kg/week.

This has potential to drive the average cost per tonne for Oneida’s program lower than the current costs on a per tonne basis. Consideration toward switching from a bi-weekly to a weekly collection program may need to be made as tonnages being to increase, possibly supported by larger capacity collection carts.

8.2 Overview of Planned Initiatives

The best approach for increasing the capture rate and decreasing transportation costs is to phase possible changes to the current program.

With that in mind a number of options were reviewed and scored based on a series of criteria, which included:

- Estimate of waste diverted (%);
- Proven Results;
- Reliable Processing Facilities/End Use;
- Accessible to Public; and
- Ease of Implementation.

A summary of the options to improve Blue Box programs presented in the CIF Guidebook were reviewed with staff. Their scoring is provided in Appendix 1. Using the evaluation criteria table in the CIF guidebook that lists possible ranking of options surrounding promotion, collection, processing and Best Practices, staff provided feedback on areas requiring consideration.

This exercise does not commit to a final decision but acts as a guide to assist with making future decisions.

From there a refined list of options were summarized into two tables:



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

These options can be considered by staff and Council as part of this Strategy.

Table 8.3 Priority Initiatives (2012-2013)

Possible Priority Initiatives (Immediate Future 2011)				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation Time Line	Comments
Enhance Existing Promotion and Education Program (P&E) (CIF Promotion and Education Tool available) https://blueboxpe.wdo.ca/	\$5,000 for 3 years (100% coverage from CIF)	\$500 to maintain new enhancement (flyers, website maintain, staff hours)	2012	Intent to better publicize program and capture more Blue Box materials-supported with flyers handed out at Events, etc.
Weekly Blue Box Collection	Cost for collection will increase but tonnages will also increase thereby distributing costs.	Work with contractor to establish a cost for service. Incorporate contractor responsibility to distribute flyers to assist community.	2012-2013	This best practice offers increase in service to the community and addresses complaints of overflowing carts.

Possible Priority Initiatives (Immediate Future 2011)				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation Time Line	Comments
Waste Audit to determine composition of waste stream	Contact Stewardship Ontario to investigate opportunities for a funded audit	Potentially no costs other than staff time to administer.	2012-2013	Consider assistance from seasonal help.
Maintaining presence and awareness in community	Make use of volunteers and students as well as free public service announcements with the local radio station.	None-staff time	On-going	Attend the fairs and offer information flyers, possibly free items such as recycling carts. Consider weekly or bi-weekly radio announcements to promote the Do's and Don'ts of recycling in Oneida.
Presentation to schools	Staff time-ask for samples of end products from B.R.A.	Staff time.	On-going	Consider a Fall and Spring rotation. Target the Primary (gr.K-3) with separate presentations from the Junior (gr. 4-6)



Possible Priority Initiatives (Immediate Future 2011)				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation Time Line	Comments
Training of staff	\$1,000 per annum. Take advantage of funded workshops by CIF.	Staff time and travel.	On-going.	Become a member of the Municipal Waste Association (MWA). Consider attending the spring workshop in April. Watch for Ontario Recycling Workshops (ORW's) put on by CIF/WDO.

It is **recommended** that Oneida increase its level of public P&E with financial and other assistance from the CIF. Successful promotion will require significant staff time and should be considered when launching a P&E campaign (summer students, part time staffing, school groups, volunteers from associations, etc.).

On the Recyclers Knowledge Network, which is accessed at <http://vubiz.com/stewardship/Welcome.asp> there is information on Municipal Promotion and Education, including the report, 'Identifying Best Practices in Municipal Blue Box Promotion and Education.' This document outlines information collected from focus groups commenting on recycling education calendars. In sessions where time permitted, the participants were asked to examine some example recycling information calendars.

The following lists sources and links to effective P&E:

- MWA website outlining a report entitled: Research Report: Identifying Best Practices in Municipal Blue Box Promotion and Education, (2005) County of Oxford –AMRC;
- City of Hamilton website and CIF : Blue Box Recycling Public Opinion Survey (March 2006); and
- CIF website: McConnell Weaver Communication Management: Enhanced Blue Box Recovery: Benchmark Survey and Focus Groups (2006).



The following table outlines possible **future initiatives** to take into consideration to improve Blue Box diversion and capture rates.

Table 8.4 Future Initiatives (2014-2016)

Possible Future Initiatives				
Initiative	Estimated Implementation Cost	Estimated Annual Operating Cost	Implementation	Comments
Bag Limits for Waste & bag limit by-law	Administration	None	2013	Encourages participation in depot program.
User Fees for Bagged Wastes	Administration	None	2016+	Enforcement of program. Consider \$1/bag
Mandatory Recycling By-law	Administration	None	2015	Enforcement of program. Offer fines.

As a point of interest of the 223 reporting programs in the 2010 WDO datacall, a total of 102 programs have implemented bag limits to support waste diversion programs. Most bag limits are set between 2 and 4 bags per collection.

Of the 223 reporting programs, a total of 96 programs have implemented some form of a pay-as you-throw (PAYT) system for garbage set at curbside to support waste diversion programs. The most common cost is \$1 to \$2 per additional bag of garbage set out.

In 2010 the household recovery rates for residential Blue Box Waste increased to 180 kilograms per household per year (kg/hhld/yr) from 177 kg/hhld/yr in 2009.

Additional details of local program examples are depicted in Appendix 1.

8.3 Contingencies

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

If no future initiatives are implemented then Oneida will revert to priority initiatives.

9.0 Monitoring and Reporting

The monitoring and reporting of Oneida’s recycling program is considered a Blue Box program fundamental best practice and will be a key component of this Strategy.

Once implementation of the Strategy begins, the performance of the Strategy will be monitored and measured against the baseline established for the current system. Once the results are measured, they will be reported to Council and the public. Some suggested approaches for monitoring the Oneida Strategy is outlined in Table 9.1.

Table 9.1 Blue Box Monitoring Strategy

Recycling System Monitoring		
Monitoring Topic	Monitoring Tool	Frequency
Administration staff call Blue Box contractor regularly.	Keep in regular contact with the collection/processing contractor to ensure effectiveness of program.	Bi-Monthly
Measurement of Blue Box materials captured.	Determine if the Contractor can provide more detailed composition of Blue Box material once tonnages have increased. Documented total weight data as outlined in this Strategy and compare it to target capture rates (40% and later 50%,60,%)	Annual summary/monitoring of Oneida’s program.
Diversion rate (Blue Box)	Document BB Diversion Rate Formula: (Blue box materials diversion) ÷ Total waste generated * 100%	Annual summary as per CIF requirements for WDO reporting.
Program Cost	Document Blue Box Program Costs to reflect each cost area to determine overall cost composition. Incorporate a revenue column to depict possible annual future revenues from Blue Box program.	Once every 1 year.
Customer	Customer survey (e.g., telephone);	Every 3 years

Recycling System Monitoring		
Monitoring Topic	Monitoring Tool	Frequency
satisfaction-success of Promotion Campaign	tracking calls/complaints received to the municipal office.	
Opportunities for improvement	Customer survey (e.g., telephone); tracking calls/complaints received to the community office	On-going
Planning activities	Describe what initiatives have been fully or partially implemented, what will be done in the future	Annually as per CIF requirements for WDO reporting
Review of Recycling Strategy	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.	Annual for current initiatives- 5 yrs to re-evaluate & refine lists as per CIF requirements.

10.0 Conclusion

Oneida recently implemented its Blue Box program in the summer of 2011, but currently has a low Blue Box waste diversion rate (8) and a high program cost. The emphasis is on the need to improve the Blue Box capture rate which should impact overall reduction in operating costs.

A staged process to increase capture rate and reduce overall costs per tonne is **recommended**.

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

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

It is **recommended** that this Strategy be fully updated in 2016.

Appendix 1
Waste Recycling Option Scores
& Listing of Local Program Examples

Waste Recycling Option Scores

Suitable? Y/N	Description of Options/Best Practices (For more information: <i>More information: Blue Box Program Enhancement and Best Practices Assessment Project Final Report, Volume 1</i>)	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									
Y	Public Education and Promotion Program *providing there is funding	1-3%	4	NA	4*	5	5		
Y	Training of Key Program Staff	1-3%	5	NA	2	5	4		
Collection									
Not at this time	Optimization of Collection Operations Not suitable at this time	0%	NA	NA	NA	NA	NA		
Y	Bag Limits	3-5%	4	NA	5	5	4		
N/A	Enhancement of Recycling Depots	3-5%							
Y	Provision of Free Blue Boxes	1-3%	5	NA	5	5	5		
Y	Collection Frequency-switch to weekly from bi-weekly	3-5%	4	NA	1	5	3		
N/A	Broaden materials categories for Blue Box	1-3%							

Large to Medium Area Programs	Disposal	Diversion					Overall Diversion Rate
	Municipality	Garbage	Blue Box	Organics	Municipal Household Special Waste	Waste Electrical and Electronics Equipment	
City of London	42 collections per year 4 bag/container limit Wastes can also be dropped off at depots	42 collections per year	Seasonal leaf and yard waste collection Depots Backyard composter program	Permanent depot at W-12A Landfill and City depots	Permanent depot at W-12A Landfill and City depots	Can drop off construction and demolition materials, scrap metal at some depots. One depot has a Goodwill attended donation centre for durable goods	42
Oxford County	Weekly collection All bag/container subject to \$1.50 tag Waste can also be dropped off at landfill (tipping fee)	Bi-weekly collection (Most of County)	Leaf and yard waste drop off depots	Permanent depot at Oxford County Landfill Special event days	Permanent depot at Oxford County Landfill	Special event days for White Goods and Scrap metal	50
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
Municipality of Thames Centre	Weekly collection from April through October Bi-weekly for balance of the year Residents receive 45 bag tags annually. Additional tags can be purchased for \$2.50	Weekly collection	Curbside seasonal leaf and yard waste collection	Permanent depot at W-12A Landfill (i.e. have access to City of London facility)	No program	Seasonal collection of bulky items. Landfill drop off depot that accepts metal, tires, concrete, bricks, compost, brush and empty	48

Smaller Area Programs	Disposal	Diversion					
Municipality	Garbage	Blue Box	Organics	Municipal Household Special Waste	Waste Electrical and Electronics Equipment	Other	Overall Diversion Rate
Township of Southwold	Weekly collection 3 bag/week limit	Bi-weekly collection	No programs	No programs	No programs	No programs	16
Town of Plympton-Wyoming	Weekly collection	Alternating week collection (fibre week one; containers week two)	No programs	Periodic Lambton County depot (6 days per year)	No programs	No programs	15
Municipality of West Elgin	Rodney Weekly collection, clear bags West Lorne Weekly collection	Rodney Newspapers-third Tuesday of month Containers-last Saturday of month West Lorne Bi-weekly collection	No programs	Permanent drop-off depot (BFI) in St Thomas (fee)	No programs	Recycling depot at landfill	15

