Final Report

CIF 218

Multi-residential Recycling: Implementing Best Practices *City of London*

CIF
CONTINUOUS IMPROVEMENT FUND

Final Project Report

October 2014

City of London

London
CANADA

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1. Executive summary

This is the final report of two projects implemented by the City of London beginning in May 2010. Most of the project work was completed in 2011 and 2012; however we have continued to implement the best practices that were initiated under this project. The project goal was to increase recycling rates by implementing best practices in the municipal multi-residential recycling program. Waste Diversion Ontario - Continuous Improvement Fund (WDO – CIF) provided financial and technical assistant. The cost to complete the project budget was $389,450. London was approved up to $194,725 funding from the CIF, through CIF projects 218 & 366.

The City of London currently provides Blue Box recycling to 166,150 households, including 48,900 households (29%) in multi-residential buildings (2013 WDO Datacall, representing the unit count on July 1, 2013). The number of units and building between the project start and end dates are reported below.

Table 1: New buildings, units and recycling container capacity May 2010 to April 2014

	May 2010	April 2014	Change	% Change
Units	44,668	49,324	4656	10%
Buildings	637	779	142	22%
Recycling Containers (litre per unit capacity)	29	44	15	50%

The best practices that were implemented during this project include:

1. Creating a database of multi-residential properties
2. Evaluating the recycling performance of the multi-residential program and estimating the recycling rate at individual buildings
3. Increasing the number of recycling containers at buildings
4. Distributing new promotion and education materials to residential and building staff.

Additional work included in this project was: 1) development of a recycling training program for superintendents & property managers and 2) attachment of

RFID and Bar Code tags to the existing inventory of recycling carts to match with the new carts purchased under this project. Additionally, this Report includes our reporting on CIF Project 366: Multi-residential In-unit Bags.

The Table below shows tonnes and units over the period of the project. The tonnes are based on accurate weigh-scale tickets from two trucks that are designated to this program. Increasing the amount of waste recycled in multi-residential households is part of London's overall waste diversion strategy identified in a City Public Consultation Document: *Road Map 1: The Road to Increased Recovery and Zero Waste (2007).*

Table 2: Annual tonnes of material collected from multi-residential units, number of units serviced, and material collected per unit for the periods of 2010 – 2014.

Year	Tonnes	Units	Kg/unit
2010	3,527	44,688	79
2011	3,688	46,122	80
2012	3,471	47,867	73
2013	3,634	48,892	74

Data captured through the measuring & monitoring activities tracked by the City, does not indicate an increase of tonnes collected as a result of the initiatives implemented. In fact, tonnage collected from MR in 2013 is only just recovering to 2008 levels. Several factors account for this:

1. 2008 global economic recession negatively impacts consumption habits
2. The use of electronic media instead of traditional newspapers, magazines, & books
3. The composition of materials in the Blue Box is changing. Light weight and multi-material packaging are replacing containers composed of heavier plastics, glass & metal.

The trend towards lightweight higher volume material has possibly impacted tonnage the most of the factors listed above. Indeed, the volume of recyclables captured per household (hh) by the City of London has increased by approximately 20% in the period 2008 to 2013 while total tonnes collected

decreased during this six year period by 5% (Figure 2). While London's tonnes are down, when compared with other Ontario municipalities our performance is better than the average and second only to Niagara Region (Table 9). For the years, 2008 to 2012 (2013 WDO datacall data is not available yet) the weight of Blue Box materials recycled on a per household deceased for each of Ontario's ten largest municipalities, with an average decrease of 11%. The decrease ranged from 7% for Niagara to 15% for Durham Region. London decreased by 8%.

Though the Blue Box recycling landscape is changing, the implementation of best practices in MR has positioned us to continuously improve our program and weather change. We increased the recycling container capacity in the system by 50% to provide adequate capacity for recyclables and to accommodate lighter weight materials requiring additional storage volume (Table 11). We introduced front-end collection of cardboard and increased the capture of cardboard at these buildings by over three times the average (Table 12). We improved our P&E materials and outreach to MR residents, to usher in new materials as they are added to the program and better engage people in recycling behaviours. Certainly, one of our greatest strengths is a robust measuring and monitoring system, which includes our MR buildings database. This system allows us to not only accumulate data from our recycling programs, but to understand it in the larger context of the provincial and global recycling landscape.

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2. Introduction

The City of London provides Blue Box recycling to 166,150 households, including 48,900 households (29%) in multi-residential buildings (2013 WDO Datacall). Collection services are provided under a contract service with 19 trucks for curbside and two trucks for multi-residential. The City owned two-stream Regional Materials Recovery Facility (MRF) was opened in August 2011 and its operation is contracted to Miller Waste Systems. Increasing the amount recycled in multi-residential households is part of London's overall waste diversion strategy identified in a City Public Consultation Document: *Road Map 1: The Road to Increased Recovery and Zero Waste (2007).*

3. Background: multi-residential recycling program overview

The City of London offers recycling collection to all residential properties including all multi-residential buildings. The Table below shows the number of building and units that are serviced by the City. A small number of buildings do not participate in the City program.

Table 3: Size of Multi-Residential Recycling Program, 2014

	All Units	With Recycling	No Recycling	% Recycling
Units	52,138	49,324	2814	95%
Buildings	838	779	59	93%

Recycling program details include:

- Weekly collection is provided by Miller Waste Systems under contract to City of London
- Recyclables are processed at the City owned Regional Material Recovery Facility (MRF)
- Two streams: containers and paper
- Recycling is collected in blue carts (360 litres containers) and as a result of this project, four and six yard OCC bins have been placed at larger buildings
- Property owners own the recycling carts. Under the CIF project, 50% of the cost of the containers was paid by the CIF grant and containers were

sold to property owners at 50% cost. We purchased carts under the CIF Co-operative Purchase which provided property owners with a further reduced cart cost.
- The City tracks the number of carts at each building and recommends that 50 litre of cart volume per residential unit be provided. 50 litres is the size of a 14 gallon Blue Box and in terms of 360 litre carts is one cart for ever seven residential units.
- Two trucks provide collection to all buildings. They each collect about 50 buildings each per day. The route is 100% multi-residential

Garbage program details include:

- City collection of garbage is offered to all buildings. City crews provide this service.
- Waste is disposed at the City owned and operated landfill.
- Larger buildings have twice weekly collection in 2, 4 or 6 cubic yard bins
- A fee of $4.5 per unit per year is charged to buildings that received twice weekly collection of garbage. Buildings that receive weekly collection do not pay a fee.
- Buildings under 20 units have weekly collection or follow the same schedule as curbside (once every six business days)

4. The project scope

The project scope included four main phases:

- Phase 1: Develop and maintain a database of buildings
- Phase 2: Benchmark recycling performance
- Phase 3: Increase recycling container capacity
- Phase 4: Provide promotion & education materials

Each of the phases is discussed in the following sections.

4.1 Phase 1: Develop and maintain a database of buildings

London has a well maintained database of all multi-residential properties. We recognize this as an important step towards implementing best practices. The initial database was developed by mapping and completing site visits at every building. As part of our ongoing maintenance we allocate time for site visits at all new properties and for updating the database. Because

property ownership and management changes regularly, we verify this data by routinely checking our data with that of the property management companies.

4.1.1 Sources & collection methodology

As noted above, our preliminary data was collected by completing in-person site visits at all buildings to collect detailed information, and we continue to complete regular site visits. During site visits we identified building characteristics (age, size, condo/rental, etc.), recycling program details (recycling area location, number of containers, program information, accessibility of recycling, etc.), assess program effectiveness (level of recycling contamination, estimate of recycling quantities, recycling challenges, recycling access, interest on part of property superintendents and managers), and we invite the building representative to offer their insight into how we can assist them to increase the quantity of recycling.

4.1.2 Database and completeness of data

London uses the Access Database developed by CIF. This has proven to be a valuable database for this program. While the data is continually in need of updating, particularly at the level of building contacts information, we have a high level of confidence in the data; particularly data such as number of units, building address and number of recycling containers.

Table 4: Summary of MR Database, 2014

Buildings	Total in municipality[1]	Recycling provided by municipality	Site visits completed[2]	Data updated[2]
Number of buildings	838	779	838	838
% of all buildings	100%	93%	96%	96%

[1] Number of buildings of six or more residential units.

[2] Site visits and data updates were completed at all buildings where access was permitted.

4.1.3 Data maintenance

As noted, protecting our initial investment to create an up-to-data database by regularly updating the database is part of how we maintain our program. We do this my reviewing our database and completing on-going site visits. Periodically staff will ride with the collections truck to obtain quick visual spot checks at each building and confirm some of our data.

4.2 Phase 2: Benchmarking recycling performance

A key step in implementing program improvements has been benchmark performance so that recycling targets can be established. This allow us to measure program improvements and continually move towards meeting our targets.

Evaluating performance is a quantitative assessment that measures the following:

1) How much each building is recycling (kg/unit), and

2) How much is being recycled by all the buildings collectively.

Performance indicators such as container fullness and contamination are monitored during site visits. Performance data completed during site visits is an estimate only as it is not based on precise weights, and tells us about performance at the building level. London relies on our daily truck weights as an accurate measure of our overall program performance. In addition to site visits, for individual building performance we use recycling cart capacity as an indicator. This is potentially more reliable than one-time spot visits, which would be variable. Cart capacity is adjusted as buildings recycle more and is a reliable indicator on recycling performance.

The Table below indicates how our buildings are doing based on their recycling cart performance and ranks them into different capacity ranges. The CIF Best Practice recommendation for capacity is 50 litres per residential unit. A visual reference for this is the equivalent of one standard size (14 gallon) Blue Box per unit. Prior to the CIF Best Practices standard London's recommended cart capacity to building owners was 1 cart for each 10 units (36 litres). As this was in place for many years it continues to have an influence. As noted in the table, 20% of buildings are in this middle range. 30% of buildings are still below even the previous recommended guideline.

Table 5: Recycling container capacity in MR buildings, April 2014

	Buildings at or above Best Practices*: ≥50 litre/unit	Buildings with 36 to 49 litres per unit	Buildings with less than 36 litres per unit
Percent of all buildings	50%	20%	30%

*Best Practices is a minimum of 50 litres per unit.

4.2.3 Weigh scale data

The City of London tracks data specific to the multi-residential program, the data presented in Table 6 and Figure 1 does not show an increase of tonnes as a result of the initiatives implemented under this project. In fact, the total tonnes collected in 2013 are only just recovering to the levels seen in 2008.

Table 6: Weight scale data for monthly MR tonnes collected

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2008	280	250	256	318	298	291	309	295	325	325	333	351	3,631
2009	270	241	270	277	279	281	279	255	315	295	315	333	3,410
2010	263	241	296	300	301	309	288	292	317	291	351	278	3,527
2011	287	260	328	316	344	318	289	314	314	287	330	302	3,688
2012	280	252	270	272	313	276	286	313	288	308	317	295	3,471
2013	303	251	279	319	340	295	323	295	304	324	291	309	3,634

Furthermore, when we consider kilograms recycled per household the numbers have dropped since 2008 levels. The end of 2008 saw the onset of global economic recession which had a negative impact on recycling markets and citizen consumption habits which in turn has resulted in a decline in the total weight per household recycled.

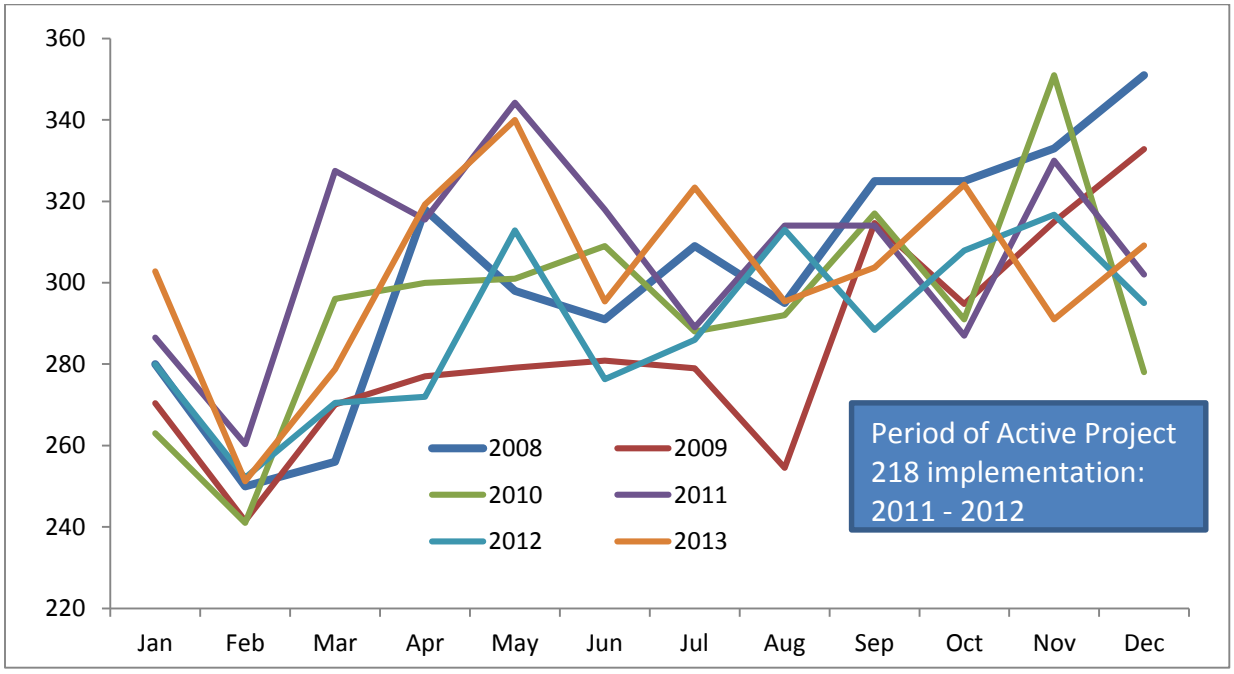

Figure 1: Weight scale data for monthly tonnes collected from MR buildings

To get a wider perspective on multi-residential recycling we have included further analysis at a full Blue Box program level both in London and across Ontario.

The Table below shows multi-residential compared with single family dwellings. The data shows that multi-residential has done as well – or in this case - as poorly as single family. During this period London implemented programs to increase curbside recycling including distribution of a large capacity Blue Box to all residents and expanding our list of acceptable program materials. Surprisingly the data does not indicate that these initiatives resulted in increased capture based on kilograms per household.

Table 7: Kilograms collected per household for both single family (curbside) and multi-residential, 2008-2013

	Multi-residential Dwellings			Single Family Dwellings		
	kg/unit/yr collected	Percent Change	2008 – 2013 Percent Change	Kg/unit/yr collected	Percent Change	2008 – 2013 Percent Change
2008	85			238		
2009	78	-9%		221	-7%	
2010	79	2%		218	-2%	
2011	80	1%		219	0%	
2012	73	-9%		205	-6%	
2013	74	3%	-13%	206	1%	-13%

The next Table introduces the factor of volume. The composition of materials in the Blue Box is changing. The volume of recyclables captured per household has increased significantly over the last five years while the weight of recyclables has decreased. Examples of these changes include:

- An increase in light-weight and multi-material packaging (e.g. more packaging of food produce in "clamshell" plastic containers)
- Materials are becoming lighter (e.g. thinner walled plastic bottles and metal cans are being manufactured)
- Plastic containers are replacing glass, aluminum and steel

- An increase in plastic stand-up pouches for food products
- Consumers are reading more newspapers, magazines and books online

As a result of this trend towards lightweight higher volume material much more effort is required to recycle a tonne of recyclables than in the past, because an increased quantity of items must be collected and processed. Note that the Table 7 above is for tonnes collected, while the Figure 2 data below is for materials marketed.

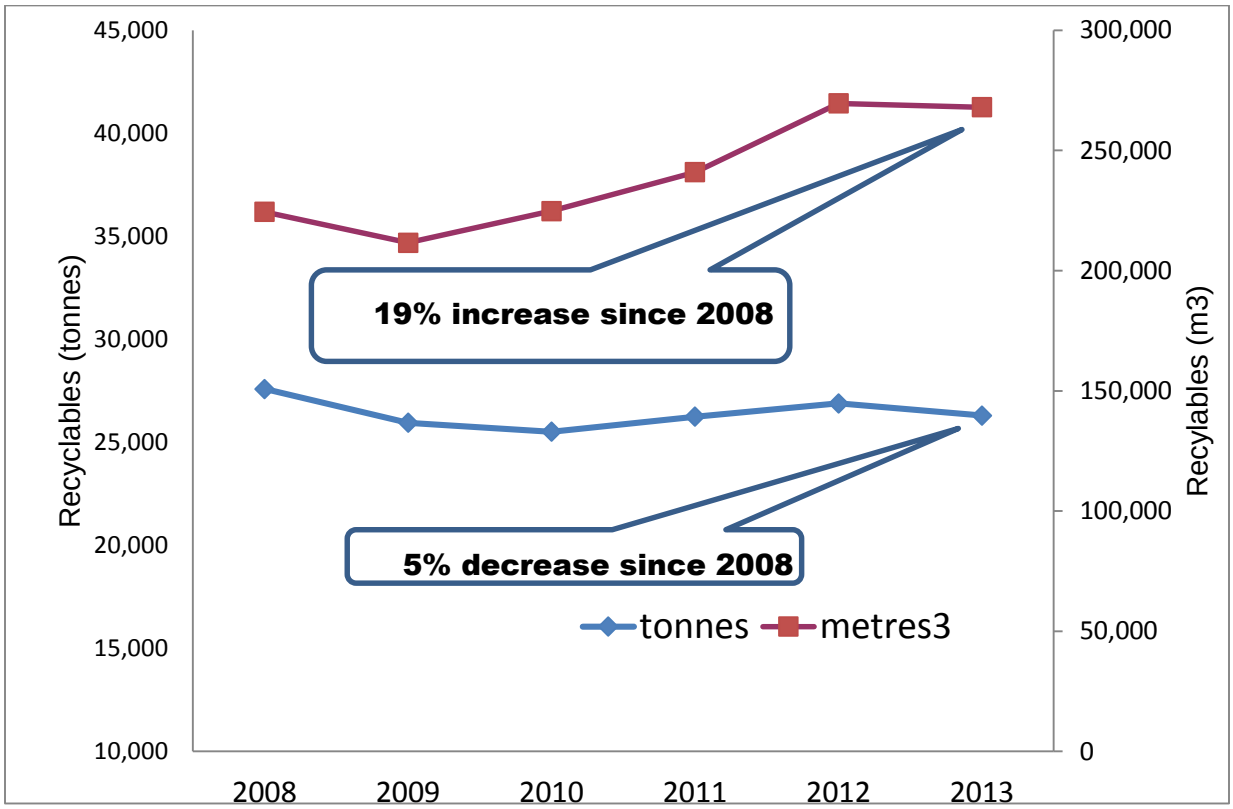

Figure 2: City of London, Blue Box tonnes & cubic metres collected

Figure 2 above includes London residential Blue Box tonnes, including that collected at our Depots. The Depot program has grown significantly in tonnes (from 200 to 300 tonnes) in the period indicated. Figure 3 below further illustrates the same longer-term (since 2001) trend and compares London data to provincial data. 2013 Provincial data is not yet available.

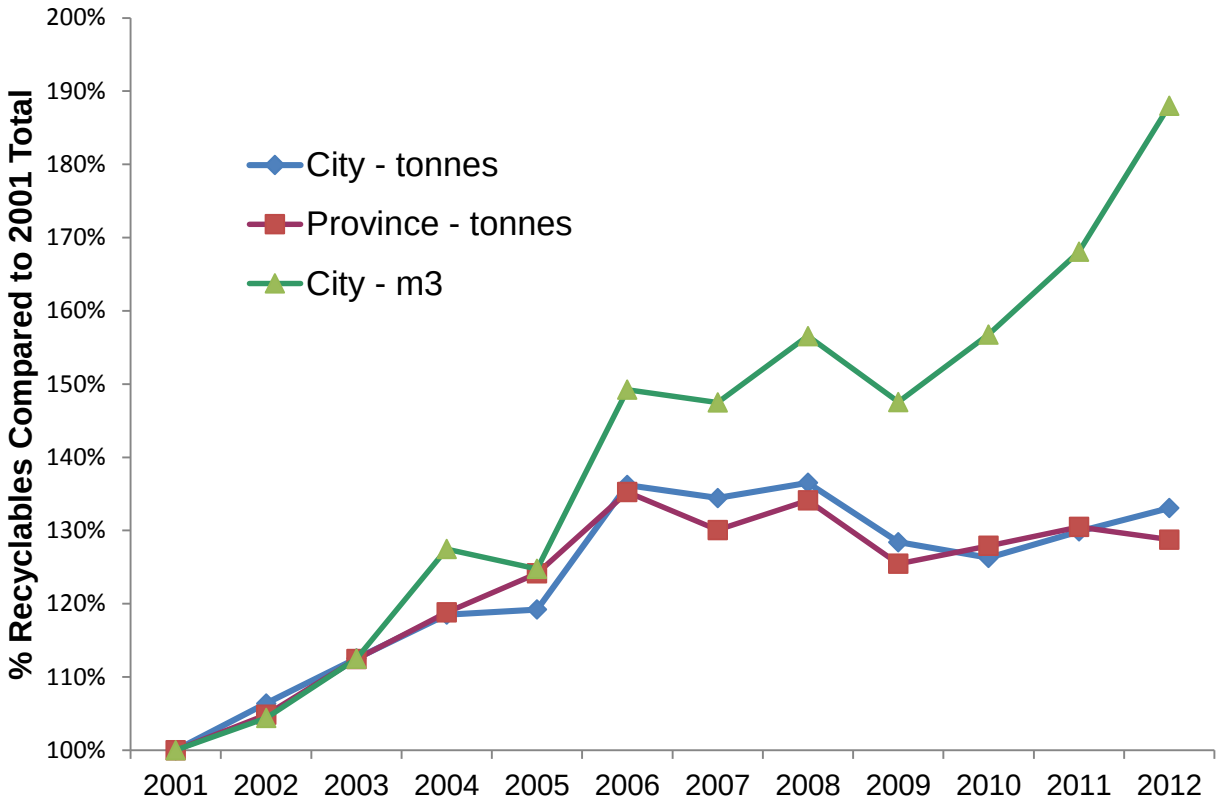

Figure 3: City of London tonnes (blue), City of London volume (green), and provincial tonnes (red)

As indicated above, London did marginally better that the cumulative provincial tonnage when comparing percentage change since 2001.

Table 8 below compares London with our comparator municipalities, which are the ten largest programs in Ontario. Except for Niagara Region, all municipalities experienced a decrease in Blue Box tonnage between 2008 and 2012 (2013 data is not yet available). Like London, many of these municipalities (perhaps all of them) implemented CIF projects with the goal to increase Blue Box tonnes. London's performance was in second place after Niagara Region. The new Regional MRF (funded in part by CIF) is the largest factor in maintaining this position; since going to the new MRF we have gained tonnes through a reduction in our process residual rate from over 10% to less than 5%. Similarly, Table 9 shows performance based on the household average. In all municipalities there has been a decrease in capture of recyclables per household averaging 11% overall, with Toronto, and then London being the least impacted by the decline that has effected all programs.

Table 8: Ontario's 10 largest programs, blue box tonnage reported through the WDO Datacall

Program	2008	2009	2010	2011	2012	2008-2012
Niagara	38,106	36,005	35,265	40,429	39,465	+4%
London	27,589	25,945	25,485	26,247	26,670	-3%
Waterloo	35,940	35,192	34,968	35,582	34,534	-4%
EWSWA	26,178	22,786	24,264	25,095	24,918	-5%
Halton	43,532	42,138	41,736	43,776	41,299	-5%
Hamilton	40,832	38,876	40,272	39,841	38,422	-6%
Toronto	166,768	142,106	155,010	154,511	156,465	-6%
Ottawa	65,410	61,561	63,213	62,961	60,886	-7%
Peel	93,801	88,177	90,367	92,934	86,950	-7%
Durham	50,360	45,225	45,162	45,743	44,429	-12%
Average						-5%

Table 9: Municipal tonnes recycled, tonnes, and kilograms per household for Ontario's 10 largest programs, 2008 vs 2012

Program	2008			2012			Kg/hhld/year 2008-2012
	Households Served	Tonnes	Kg/hhld/year	Households Served	Tonnes	Kg/hhld/year	
Toronto	996,893	166,768	167	1,000,936	156,465	156	-7%
London	159,870	27,589	173	168,568	26,670	158	-8%
Waterloo	189,830	35,940	189	199,450	34,534	173	-9%
Niagara	163,945	38,106	232	190,710	39,465	207	-11%
EWSWA	152,616	26,178	172	164,356	24,918	152	-12%
Hamilton	202,229	40,832	202	215,733	38,422	178	-12%
Ottawa	365,770	65,410	179	387,732	60,886	157	-12%
Halton	166,721	43,532	261	183,677	41,299	225	-14%
Peel	386,000	93,801	243	416,500	86,950	209	-14%
Durham	205,151	50,360	245	213,317	44,429	208	-15%
Average							-11%

4.2.4 Barriers to Recycling

One of our goals of completing site visits is to identify barriers to recycling and opportunities to increase recycling. When completing site visits the follow items are noted when they represent a barrier or opportunity:

- How OCC is managed
- Contamination of material
- Material containment
- Easy and convenient access to recycling containers
- Cleanliness, lighting, safety of recycling area
  Up-to-date and well placed recycling information

4.2.5 Featured buildings

In addition to identifying under-performing buildings where many barriers can be found, site visits are equally valuable to identify the good recyclers and to learn from these buildings.

Featured Building #1:

The photos below show a 160 unit building that has increased the number of carts to 22 from 12 in just a few years. In addition to providing more capacity they have made recycling more convenient. This was done by providing an inside recycling area (below, right). Due to lack of space, only a few carts can be stored here, so the empty and full ones are stored outside (below left). As the inside carts fill they are swapped for empty ones from outside.

Featured Building #2:

Building #2 is a 132 unit property. They increased the number of carts to 18 from 8, and placed new recycling signage throughout the building. The property management is a strong supporter of recycling and appreciated the money saving opportunity of reducing garbage through increased recycling. They have saved money on garbage costs by removing one garbage bin at this property and are working on similar efforts at their other properties.

Featured Building #3

Building #3 is featured for their effort to capture recycling on each floor in the oversized chute rooms. This is the ultimate in convenience for residents. The chute rooms are larger than average so the superintendent recognized that they would provide an opportunity for convenient recycling. As a result, they doubled the number of recycling carts they are filling weekly.

4.3 Phase 3: Increase recycling container capacity

Recycling storage space is referred to as 'capacity' and is the shared recycling containers used by building residents to deposit their recyclables. Having enough storage space for recyclables is one of the most critical factors in a successful recycling program. In implementing our project we addressed the issue of capacity at each building before other program improvements were put in place. Unless buildings are willing to purchase sufficient containers we will not providing increased promotion and education

(P&E) materials; increased P&E without adequate capacity could potential be a deterrent to recycle more if residents are faced with overflowing carts when they try to recycle. Our requirement is a minimum of 35 litres per unit (1 cart per 10 units) before we will provide recycling P&E.

4.3.1 Type of recycling containers

In London, 360 litre carts are used for multi-residential recycling. As a two-stream program the carts are labelled for 'paper' or 'containers'. In addition to these simple labels, each cart contains labels with photographs depicting the range of acceptable materials within each stream.

We have endorsed the CIF best practice of 50 litres per unit and make this recommendation to superintendents and property managers. We contacted all property managers with a detailed spreadsheet listing their buildings, the number of units, the number of carts they had and the number of additional carts required to meet the best practice. The funding from CIF for carts was used to subsidize the cost of carts. These were sold to property managers at a reduced cost. London also had funds from the Ministry of the Environment (MOE) that was used to reduce the cost further.

Prior to the CIF Best Practice guideline, London's recommended recycling capacity was 35 litres per unit (1 cart for every 10 units). This was a common guideline in many Ontario municipalities prior to the development of the CIF guidelines. For this project we used a two-price system to encourage property managers to meet the CIF best practice capacity. With funds from CIF and MOE, our pricing schedule was as follows.

Table 10: Pricing structure of subsidized carts

Number of carts purchased	Subsidy level per cart	Cost per Cart (including hst & delivery)
Up to 1 cart for every 10 units	50%	$30
For each cart above 1:10 and up to 1:7 units	75%	$15

4.3.2 How much recycling capacity is being provided?

Based on the provincial target of recycling 70% of all recyclables it is recommended that each residential unit be provided with a minimum of 50 litres of storage capacity. This is equivalent in size to a standard 14 gallon

Blue Box. In terms of multi-residential containers, the following guidelines are recommended by CIF and are considered best practices:

- 360 litre carts – one cart for every 7 residential units
- Bulk bins - one cubic meter for every 15 residential units (eg, a 4-yard bin for 60 units)

Continuous Improvement Funding is provided on the basis that municipalities implement these best practice ratios. The guidelines represent average requirements and it is assumed that at the building level there will be ranges depending on the demographics. For example, student buildings with more persons per unit require more carts per unit and seniors buildings with fewer persons per unit require less carts.

The Table below shows container capacity before and after project implementation. A cubic yard is 765 litres.

Table 11: Total number of recycling containers

	Baseline, May 2010	April 2014
Units with recycling service	44,668	49,324
95 gallon carts	3,631	5,471
4 yard bins	0	29
6 yard bins	0	23
Total program capacity in litres	1,307,160	2,163,616
Capacity per unit (l/unit)	29	44

Increasing the capacity was welcomed by the majority of property managers who appreciated the opportunity to increase the number of recycling carts at a low cost, and with a pricing incentive to purchase enough carts to reach the recommended best practices. At a small number of buildings we were not able to increase the number of containers to this level because of a number of factors. For some the property manager or building owner was reluctant because they did not think the carts would be used, so we suggested phasing in the carts over a period of time. For others, lack of

space for more carts meant we had to be creative in finding building specific solutions to increase capacity. Usually this required increased cart handling by on-site staff – empty carts would be stored and then switched into the recycling areas in place of full carts that would be removed and moved to a different location until collection (e.g. see Featured building #1 above).

One project goal was to introduce bulk bins for the collection of fibre, and in particular OCC. We were funded for 100 bins and gradually these bins have been added to the program. We identified larger buildings that generated large quantities of cardboard. Also large buildings often have challenges in finding enough space for the large number of carts needed to reach best practices. Each four yard bin provids the equivalent capacity of 8 carts, thereby reducing the need for as many carts.

Weight scale data of the bins collected indicated that buildings with the OCC bins recovered more than three times as much OCC compared to the average OCC recovery. The average OCC recovery rate data for multi-residential buildings is based on Stewardship Ontario waste audits in London and actual tonnes of OCC recovered. The Table provides summary data of the OCC capture rate achieved under this project. The data is based on tonnes of OCC collected in the bins since August 2012. The average capture rate has been fairly consistent over the period of the project.

Table 12: Old corrugated cardboard capture

Average Recovery of OCC at Multi-residential Buildings	Average Recovery of OCC at Multi-residential Buildings with OCC bins
6 kg per unit per year	22 kg per unit per year

4.3.3 Other initiatives to increase recycling

This project included other elements designed to increase recycling rates. These were:

- **In-Unit Recycling Bags (CIF Project 366)**

In-unit reusable bags were delivered to all units if the building had a minimum of 35 litres per unit litre recycling container capacity. Although the best practices recommends 50 litres per unit, it was decided that the in-unit bags would be provided to building with less than this, but not to

buildings with a substantially reduced capacity, thus the limit of 35 per unit was set (or 1 cart for every 10 units). Bags were delivered door-to-door with program information inside the bag. Bags are also handed out during lobby displays.

- **Superintendent Workshop**

Using the CIF Train-the-Trainer workshop as a template we worked with the CIF training consultant to design a London workshop and delivered a workshop to superintendents and property managers.

- **RFID/Bar Code**

All carts purchased as part of this project were required by CIF to contain a Radio Frequency Identification (RFID) tag and bar code label. This allowed us to electronically identify each cart, upload the date to a database and add information about the cart location, age and condition. To bring the existing inventory of carts to this standard, a team was hired to visit each building and affix an RFID tag and bar code label. We used this opportunity to place new program information labels on the carts to reflect additional program materials.

4.4 Phase 4: Provide promotion & education materials

4.4.1 Print materials

A project goal was to distribute new printed materials to building residents and staff. London used the CIF print templates (resident flyers, posters and signs for buildings, container labels and a guidebook for superintendents, property managers and building owners). The template materials were customized with London specific information.

The *CIF Best Practice Guidelines* recommends strategies for distribution of print materials which include that municipalities take responsibility for:

- Distributing print materials directly to residents,
- Distributing and displaying posters at multi-residential properties, and
- Applying labels to recycling containers.

These materials were not left with building staff for distribution. Past experience has found that stacks of flyers and posters left with superintendents may not get handed out to residents and posters will not be

displayed. Funding from the project assisted us to hire students to visit each building and ensure that materials were delivered to each door or mail box and posters and signage was displayed.

Table 13: Summary of Promotion & Education materials

Promotion & Education component	Number distributed	Method of distribution
Resident flyers	49,300 1 per residential unit	By municipal staff (or temporary staff) to each unit
Posters	5,000 approx Average 5 per building, depending on bldg size	Posted by municipal staff on each floor (chute room), laundry room, lobby, mail room, etc.
Signs	1500 2 per buildings – one for each stream	By municipal staff
Containers labels	5,000 – 2 per cart (top and front)	By municipal staff, temp staff
Recycling guidebook	400 For each superintendent, property manager and property owners	By mail or provided during site visits
Display Banners	2 Banners	Used during lobby displays

4.4.2 Outreach activities

We completed lobby displays outreach activities and produced other promotional materials not included in the previous section. These included:

- Superintendents' workshops
- Lobby displays
- Roll up banners for lobby displays
- Residents meetings,
- Fridge magnets

5. Project budget and schedule

The Table below shows the project budget and actuals.

Table 14: Project budget, planned, and actual

Task	Description – items and amounts budgeted	Budget	Actual	Grant Portion - 50% of Costs
1	Program support: site visits, benchmark performance, distribute promotion & education materials at 735 buildings ($70/bldg.)	51,450	54,530	27,265
2a	Budget: 360 litre roll-out carts, 2,200 at $95 each	209,000	158,879	79,440
2b	Delivery of carts @ $10 each	included in #2a		-
2c	Label carts: (in addition to in-mould), 1) front labels, 2) on container cart - new plastics	included in #2a		-
3	4 yard bins, labels, delivery - 100 bins x $1,200	120,000	114,100	57,050
4	Insert RFID tags on existing inventory of carts, add new labels 3,100 carts x $5 per carts, plus add 'new plastics' label on new carts		17,000	8,500
5	P&E Outreach material - production	5,000	30,023	15,011
6	Superintendent Training Development - consulting costs		1,751	875
7	Final report	4,000	4,000	2,000
	Sub-total (includes 1.76% in lieu of non-refundable HST)	$389,450	$380,283	$190,141
	1.76% in lieu of non-refundable HST			3,346
	Total Grant			193,488

Budget-Actual adjustment notes:

1. Actual increased as more buildings were included in assessment
2. Actual decreased due to lower cost of carts due to co-operative purchasing with other municipalities under CIF tender
3. Actual decreased due to lower cost of bins under RFP
4. Was not in original budget, added as a result of savings from 2 & 3
5. Actual increased as savings from 2 & 3 was used towards P&E costs
6. Was not in original budget, added as a result of savings from 2 & 3
7. Same

6. Concluding comments

Since 2009 more resources have been allocated to London's multi-residential recycling program. London has played an active role working with other municipalities and provincial organizations to bring focus to this sector. Much work has been done in this area and much more work will be required. Waste Diversion Ontario's Continuous Improvement Fund has provided the important technical and financial assistance to make improvements to multi-residential recycling in Ontario and London has benefited from this.

The recycling industry in Ontario and beyond Ontario has been impacted by the events of 2008 that resulted in a global economic crisis. Other changes in consumer purchasing trends that have resulted in changes in the

residential waste stream composition (e.g. reduced quantities of newsprint, increase of lightweight materials) have also impacted our business. Across Ontario there has been a reduction in the quantity (by weight per household) of recyclables collected since 2008.

These events make it difficult to assess the impact of CIF Projects 218 and 366. Considering the larger picture, and comparing against the performance of other municipalities, London's recycling program has seen less of a decline. However, other factors also contribute towards this positive result. London implemented several recycling initiatives in this period all of which were supported by CIF. These include a new MRF, larger Blue Boxes and promotion & education initiatives. While not specifically focused at multi-residential recycling, they impact the recycling culture in our larger community.

We will continue to work towards increasing waste diversion from the multi-residential sector. And it seems certain that now that it has gained a higher profile it will continue to receive increased municipal staff and budget resources in London. The way we manage this program on a day-to-day basis has changed for the better as a result of the CIF project.