

CIF #631.5

Multi-residential Recycling: Implementing Best Practices *Halton Region*



Final Project Report
October 2015
Halton Region
CIF #631.5

Acknowledgement:

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1. Executive Summary

This is the final report of a project implemented by Halton Region between February 2012 and December 2014. The project is part of the Region's overall goal of 65% waste diversion by 2016 and the project's goal was to implement best practices to increase recycling rates, program participation and compliance within the Region's Multi-residential (MR) recycling program. The Continuous Improvement Fund (CIF) provided financial and technical assistance and consulting services. Competitive – Edge Information Systems Inc. was employed to assist Halton Region staff in completing the project.

Halton Region currently provides recycling services to 194,569 households, including 37,332 households in 571 MR buildings. The number of MR buildings provided with municipal recycling service increased from 544 to 571 during this project.

This represents a corresponding 13% increase in terms of residential units from 32,973 to 37,332. This increase can be attributed to new multi-family properties being built as well as a very select few existing MR buildings partaking in the recycling program. The best practices that were implemented during this project included:

- Creating a database of MR properties
- Conducting site visits for all properties and evaluating performance
- Increasing recycling collection capacity at buildings
- Increasing program awareness to residents and building staff through printed promotional and educational material and program posters
- Providing in unit recycling bags and printed recycling guides to all MR units

Additional work included placing updated recycling program labels on existing cart inventory and ensuring that all new carts ordered had in mold recycling labels and RFID tags.

As a result of the delivery project, 3,000 additional 95 gallon recycling carts were added to the program. The total amount recycled for all buildings increased 5% estimated at 3,865 tonnes per year. It is estimated that implementing best practices had the effect of increasing in unit recycling on average by 23% per cent or from 111 kg per unit/year in 2011 to 137 kg per unit/year in 2013.

It is important to note that WDO data call information for Halton Region in 2014 demonstrates that there was a decrease in the tonnage of recycling material from MR locations in 2014, however the volume or amount of truckloads, increased. The kg/unit recycling rates show a decrease in recycling in 2014, which is not the case, as more material in volume (truckloads) was recycled.

This project is part of Halton Region's Solid Waste Management Strategy. The goal of this strategy is to reach a 65% waste diversion rate by 2016, through the initiatives listed below pertaining to this project:

1. Enhance Promotion, Education and Outreach
2. Enhance Multi- Residential Waste Diversion
3. Expand Blue box Materials & Enhance Blue box capacity

Total costs to complete the project work were \$168,733. Halton received funding of \$85,508 from CIF to support the project. The next step for increasing MR waste diversion is introducing an organics program and continuing to implement best practices at new and existing buildings.

For more additional information regarding this project work, please contact:

Andrew Suprun | Multi-Residential Waste Diversion Coordinator | Region of Halton
o: 905.825.6000 ext 8297 | e: andrew.suprun@halton.ca

2. Introduction

Halton Region is located in southern Ontario, west of Toronto and east of Niagara. It consists of over 967 square kilometres, including 25 kilometres of frontage on Lake Ontario. Halton Region is comprised of the City of Burlington, Town of Halton Hills, Town of Milton and the Town of Oakville. The total population is 523,532 with 460,010 in single family and 63,522 in multi-family residential households. Halton Region provides waste management services to 157,237 single family households and to 37,332 multi-family residential units. There are over 500 multi-residential buildings within Halton Region with an expected increase of new high density dwellings by 0.6 per cent each year to 2030. Halton Region has been actively implementing the initiatives of its 2012-2016 Solid Waste Management Strategy, which sets a goal of diverting 65 per cent of residential waste away from landfill.

Three Strategy initiatives were implemented in 2013:

- expand Blue Box materials (mixed plastics) and enhance Blue Box capacity (supported by CIF Project #834.4);
- decrease garbage limit and introduce garbage tags; and
- enhance multi-residential waste diversion.

This project was completed in support of these overall municipal initiatives to increase and enhance multi residential waste diversion. The nature of work completed during the course of this project included implementing the following CIF best practices for multi-residential locations:

- 1) Creating a database of multi-residential properties
 - a) Accessing and utilizing the database designed by Competitive Edge and provided by CIF project #236.
 - b) Inputting all existing multi-residential location information
 - c) Maintaining and updating site location data
- 2) Conducting site visits for all new and existing properties
 - a. Arranging and meeting property staff onsite to compile levels of service, building design and contact information
 - b. Evaluating building waste diversion performance using the CIF barrier evaluation guide and staff knowledge for site visits
 - c. Updating the existing database with site visit information for future reference and evaluation
- 3) Increasing recycling collection capacity at new and existing buildings
 - a. Delivering approximately 3,000 - 95 gallon recycling carts (new and replacing broken)
 - b. Providing adequate recycling capacity to ensure each building meets or exceeds the CIF Best Practices threshold of 50 litres per unit or one cart for every seven units.
 - c. Increasing collection frequency when needed to accommodate volumes.
- 4) Increasing program awareness to residents and building staff
 - a. Developed promotion and education (P&E) materials under CIF project #166
 - b. Distributed printed promotional and educational material, such as a resident recycling guide, paper and coroplast recycling signs
 - c. Customized, updated and distributed superintendent/property manager guidebooks

- d. Updated existing and providing new program recycling posters and stickers to inform residents of materials accepted in program

Halton Region staff also distributed approximately 25,000 reusable recycling tote bags with educational material inside to inform residents on their recycling program. Extra P&E materials were left with superintendents or property managers to ensure adequate supply for building turn over.

Additional work included ensuring that all new carts ordered had in mold recycling labels and RFID tags.

3. Background: Multi-residential recycling program overview

Halton Region provides recycling collection service to multi-residential properties within the four municipalities of Burlington, Oakville, Milton and Halton Hills. Halton Region has approximately 570 buildings with 6 units or more. These buildings represent 37,332 units, which is approximately 12% of the Region's population and is expected to increase with the ongoing development of new high density multi-residential dwellings. Households in the Region are presented in Table 1, below.

Table 1: Number of households in municipality (December 2014)

	Households	Percent
Single Family	157,237	81%
Multi-res	37,332	19%
Total	194,569	100%

Halton provides a single stream recycling program to the multi-residential sector. Recycling material is collected either once or twice a week depending on the number of totes and size of building. Halton Region's waste By-law 123-12 governs the collection of waste with the Region. It states that the amount of recycling set out is unlimited.

Recycling carts with a capacity of 95 gallons are provided free of charge to all new and existing locations. Carts are distributed in accordance with the CIF Best Practice of one cart for every seven units, or 50 litres per unit. It is always recommended that buildings meet or exceed this threshold if possible. At the request of a property, additional or replacement carts are also provided free of charge. Broken or damaged carts are collected to be recycled by a contractor. There is no cost to Halton, or the property, for the pick up or processing of broken carts.

Currently three over the top side loader trucks are utilized for the collection of multi-residential sites. School recycling material is also mixed in on these collection routes.

Halton Region offers the recycling program to 100% of multi-residential properties. Twelve locations, approximately 2%, have decided to employ private recycling and garbage collection, leaving 98% of multi-residential locations accessing the service, as presented in Table 2.

Table 2: Number of multi-residential buildings and units with municipal blue box service Post Implementation (December, 2014)

	Buildings	Units	Average # of units per building
Total	571	37,332	88
With recycling	559	36,950	77
Without recycling*	2%*	382	42
% recycling	98%	98%	

*Note: Buildings that do not have recycling collected by the Region, is due to their choice of utilizing private contracts for waste collection.

Performance measures for this project included recycling cart capacity, an estimate of recycled tonnes per year and the amount of kilograms per unit recycled prior to, during and after project completion. These numbers are an estimate due to the mixing of multi-residential and school recycling material during collection.

Garbage collection varies across multi-residential buildings. Most locations have garbage chutes with compactors. A small percentage of older buildings have closed the chutes and utilize front end container bins which are moved outdoors for collection. All new buildings are recommended to install tri-sorters to ensure the smooth implementation of all recycling, garbage and organics programs. If they are not able to install the tri-sorter, then a chute system with a compactor is recommended. Garbage collection varies from once a week to three times a week depending on building and container size.

Implementing the best practice of increased P&E materials for residents and superintendents increases recycling rates and ultimately decreases contamination and garbage weights as knowledge and awareness of what is accepted in the recycling program is enhanced.

As well, the increase in recycling capacity aids in capturing more recyclables from each unit, as residents may be deterred from recycling if the carts are already full or not placed in a convenient location.

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: Conduct site visits & performance evaluations
- Phase 4: Increase recycling container capacity & 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

Creating and maintaining a database of all multi-residential properties was an important step towards implementing best practices. To obtain the list of multi-residential properties, a number of sources of data were utilized including:

- Halton Region departments such as planning and technology services through a mapping application, to identify properties and provide basic information (addresses, owners, property codes, number of units, etc.)
- Property management or rental associations were contacted and provided listings of buildings and contact information for owners and property managers.

4.1.1 Sources & collection methodology

The data sources staff accessed in order to establish a list of multi-residential locations within the Region included, MPAC – Municipal Property Assessment Corporation as well as the various Property Management and rental companies. Halton Planning and technology departments provided information through a mapping tool where owner, property code and other information was made available. As well, several spreadsheets of archived multi-residential location data was used as a preliminary list of locations to complete further data collection on, and conduct site visits at.

In-person site visits to each building to meet with an on-site contact were found to be the most reliable means to collect detailed site information. Information gathered from these site visits included evaluating program and site recycling performance, building characteristics that may create recycling challenges or opportunities (e.g., room for extra recycling bins), contact information for the on- site contact (e.g. superintendent) and off site managers, and the role that the staff play in managing the building's recycling program. Consistency was ensured by all staff utilizing Appendix #6- "Site Visit Form" to gather extensive information which was later forwarded to another co-worker to be entered into a database.

It proved important, when able, to call ahead and schedule to meet a contact onsite to conduct site visits with, in order to ensure that the site could be accessed (someone to unlock the doors), specific information could be gathered and new promotional material could be handed out simultaneously.

When no contact information was available, it was necessary to conduct a preliminary site visit to the property to gather information and find out if there was any contact information.

4.1.2 Database and completeness of data

The final storage of all the information gathered from the various sources is an Access Database. This database was designed by Competitive Edge for CIF for use in municipal multi-residential recycling programs. Excel spreadsheets were utilized to input all the initial data about each location into the database and then archived. Site visit forms were completed manually, scanned and all the information, as well as the document, is saved to the site specific record in the database. When available, pictures were also added to each site specific record. A staff member was also able to tailor the database records and add in new fields for additional data that Halton Region felt it important to collect. The project was successful in creating a database of all multi-residential properties with full detailed information. There was a high degree of confidence in the data collected and input in the database. Any incomplete data was able to be compiled in a follow-up list through database records, for staff to complete additional research and site visits in an effort to complete the data. See Table 3 below for the data summary.

Table 3: Database summary (Post project implementation, December, 2014)

Buildings	Total in municipality¹	Recycling provided by municipality	Site visits completed	Data updated
Number of buildings	571	559*	538	538
% of all buildings	100%	97%*	94%	94%

Notes

¹ Total number of buildings of six or more residential units.

*Note: this number is not 100% only due to the fact that 12 buildings have decided to utilize private companies for waste and recycling collection

4.1.3 Data maintenance

Data maintenance is an important part of the completeness and confidence of the data. Once the site visits were conducted and the information was gathered all the updates were sent to one staff person who was responsible for inputting and updating building records within the database. It was important for quality control to have one designated staff person for the database as in the past; it was found that if too many staff were entering the database errors ensued. Using the query function of the database, staff was able to generate lists with outdated or missing information. As these lists are checked often, this is the mechanism to trigger any needs for staff to update the data.

4.1.4 Summary and recommendation:

A total of 538 buildings site information was updated during the course of this project. The information is stored within the database with a designated staff member to complete the updates of information and generation of lists for any outdated or missing information. By keeping the data up to date and complete, Halton has been able to utilize this database to summarize multi-residential property data to assist with implementing best practices, collection contracts, ordering materials and WDO data call information.

4.2 Phase 2 Benchmarking Recycling Performance

Recycling performance was evaluated using two measurements:

1. How much material is being recycled collectively (tonnes/year)
2. How much each unit is recycling (kg/unit/year)

4.2.1 Procedure for Estimating Recycling Rates

As mentioned above, amount of recycled material collected is best estimates. As the school and apartment material is collected within the same vehicle, it is necessary to manually separate the type of building (and amount of material from each location). For the annual WDO data call, the approximate amount of multi-residential recycling tonnage is calculated.

4.2.2 Recycling Rate Estimates

The following graphs represent recycling amounts prior to and during project implementation.

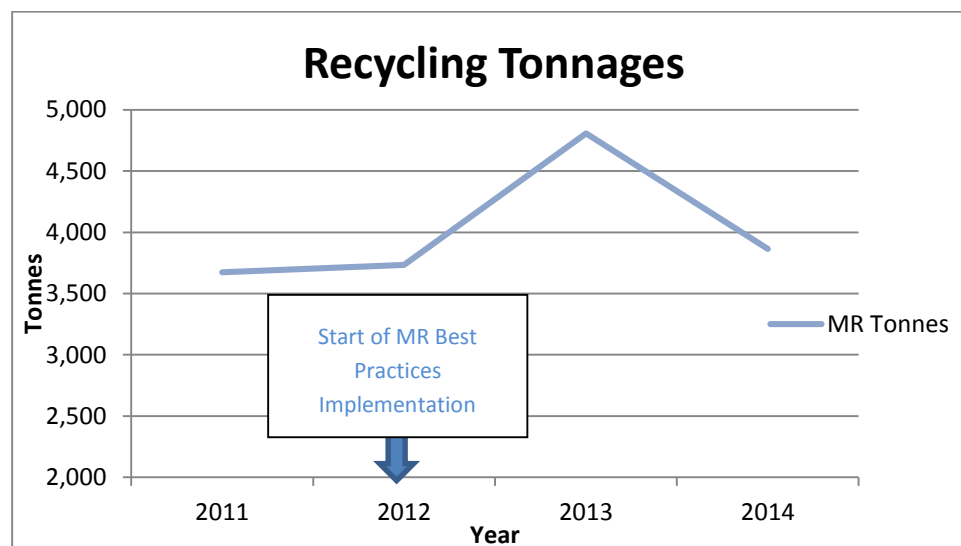


Figure 1: Recycling tonnages

Figures 1 & 2 are based on the data in Table 6. These graphs demonstrate the estimated recycling tonnages from all the multi-residential locations collectively. After project implementation recycling continuously increased. There is a slight dip in recycling tonnage in Figure 1. This can be accounted for by examining the WDO data call information for that year. The data shows that while tonnage may have

decreased, the volume of recycling (the amount of truckloads) actually increased. Therefore it is not a decrease in the amount of recycling, only in the weight of the materials being placed into the blue bins.

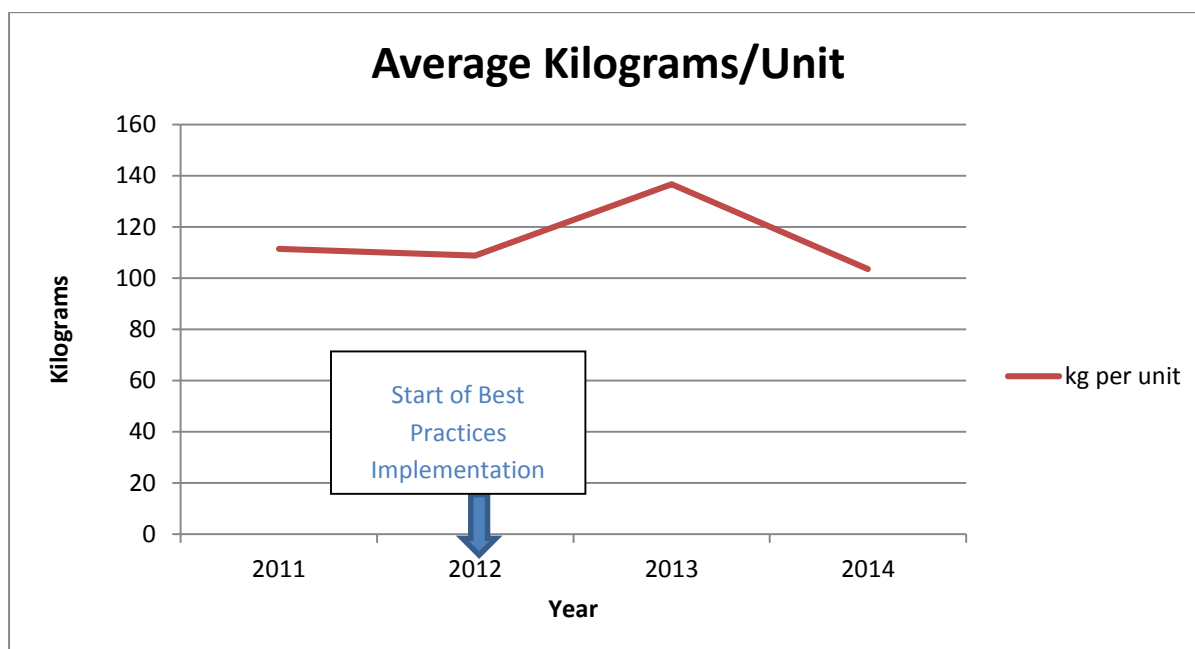


Figure 2: Recycling rate on per unit base

Figure 2 also demonstrates an increase in the average amount of recycling per unit after the start of implementing multi-residential best practices in 2012. As well in 2013 there were recycling program changes that allowed residents to place more items into the blue bins.

Table 4: WDO Data call details for Halton Region

Year	MR Population	MR Households	Region Population	Region Households	# of MR Locations	MR Tonnes	AVG kg/unit
2011	57,030	32,973	494,578	179,013	544	3,673	111
2012	58,524	34,325	498,687	183,677	557	3,734	109
2013	59,746	35,162	511,521	189,124	558	4,806	137
2014	63,522	37,332	523,532	194,569	571	3,865	104

In future collection contracts, an effort is being made to separate the collection of multi-residential recycling material from school material. However if that is not possible, best estimates of recycling tonnages will continue to be made to track program performance. Site visits and follow ups with performance evaluations will continue to be made as well.

4.2.3 Barriers to Recycling

In order to properly assess multi-residential recycling programs at each building it was necessary to complete site visits and performance evaluations. During these evaluations, barriers to recycling were

evaluated using the CIF site visit template which is included in Site Visit form which can be found in the Appendix.

As of December 2014, approximately 196 buildings were evaluated with this template. This is an ongoing process and every week more are being completed in an effort to evaluate all 571 multi-residential locations. After the evaluation is complete, the information was input into the database, in which the barrier evaluation data was summarized.

If a building is noted to need follow up or corrective action, the database record for that building is flagged. Staff then ensures that the location receives action. The majority of corrective actions included updating labelling and signage in recycling areas. Staff delivered new recycling program signs (after mixed plastics were added in 2013) and updated labels, including posters, either paper or coroplast for an outdoor recycling area, and recycling cart stickers.

Another area of improvement for locations included managing OCC. If there was adequate room, staff would deliver extra recycling totes, or suggest a front end recycling container to deal with the excess cardboard.

Table 5: Barriers to recycling noted at site visits completed at 205 buildings

Barrier to increased recycling	Required corrective action	% of total	Set high standard 'model building'	% of total
OCC managed well	51	26%	116	59%
Contamination	6	.03%	104	53%
Access to recycling	1	.01%	120	61%
Loose materials noted	8	.04%	151	77%
Containers overflowing	5	.02%	156	79%
Cleanliness of area	4	.02%	158	80%
Area well lighted	16	.08%	131	67%
Well labelled & signed	122	62%	30	15%
Total				

4.3 Phase 3: Increase recycling container capacity

A vast effort was made by staff to ensure multi-residential properties met or exceeded the best practice threshold of 50 litres per unit or one cart for every seven units. After each site visit and recycling performance evaluation the database was utilized to determine if the recycling capacity needed to be increased.

During the course of the project, staff delivered approximately 3,000 95 gallon recycling carts. These deliveries included replacing broken or damaged carts, increasing recycling capacity at existing and supplying new locations with new carts.

4.3.1 Type of recycling containers

Halton Region uses a single stream multi-residential recycling program in which all recycling material (paper, plastic, metal) is co-mingled within the recycling carts. Recycling storage space is referred to as 'capacity' and is the shared recycling containers used by building residents to place their recyclables into. Halton Region uses 95 gallon carts for recycling at all apartment buildings. The Region purchases carts through a tender process and supplies them free of charge to all buildings. Any broken or damaged carts are also replaced, free of charge, and are then collected by a contractor to be recycled. We encourage various buildings to rent or buy an OCC front end recycling container through a contractor if they have a large amount of cardboard.

4.3.2 How much recycling capacity is being provided?

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

95 gallon carts – one cart for every 7 residential units

Halton Region recommends and follows this best practice to help buildings meet or exceed this guideline in regards to recycling capacity. Continuous Improvement Funding is provided on the basis that municipalities implement these best practice ratios.

To determine the number of carts per building the database was utilized. Within the database, after inputting number of units, container quantities and location data, a calculation is automatically made informing staff of the number of litres of recycling available to each unit. This information is then weighed against the best practice, informing staff as to whether an increase in recycling capacity was needed or not. As well, visual inspections at the location and conversations with onsite contacts was a way to determine if additional capacity was needed or a more convenient location for the carts was available.

Recycling capacity saw a significant increase after project implementation. Capacity increased from approximately 16 litres per unit to 43 litres per unit. The before project numbers are best estimates as data was not readily available for this information. Data collection and storage has improved with the use of the database during and after the project. Table 8 summarizes the pre and post project recycling capacity data.

Table 6: Total number of recycling containers

	2011 Baseline	Post Implementation Dec 2014
Units with recycling service	32,972	37,323
95 gallon carts	1600	4,462
Total program capacity in litres	576,000	1,606,320
Capacity per unit (l/unit)	16	43

Challenges faced when implementing the best practices capacity ratio were:

1. Lack of convenience
2. Lack of awareness/education
3. Lack of recycling 'tools'
4. Lack of space for extra totes

Recycling needs to be convenient and easily accessible for the resident in order for the program to be used properly. By making recycling convenient, this will increase recycling capacity and tonnage. Lack of convenience will often lead to contamination of bins and lack of use. This is a challenge when space is limited and prevents the recycling from being in the same convenient location as the garbage.

Education and awareness speaks to educating residents in the proper disposal of recyclables. Due to the multicultural demographic of Halton Region it is sometimes difficult to engage everyone. A way to overcome this challenge was to find out the demographic of the building in order to deliver language specific promotional and educational material to that building. A further challenge with educating residents is ensuring all materials are being utilized properly. For example, not all properties allow Regional staff to hang posters within recycling rooms and prefer to use their own staff to complete this task. Regional staff then had to re-visit the property to ensure the posters have been put up for residents to refer to.

A deficiency of recycling tools tends to lead to a lack of education and program usage by the residents. The more tools provided, including increasing recycling capacity and promotional and educational material, the better the building will perform in their recycling program.

Space is a necessity in most building recycling programs. A lack of space can be difficult when trying to achieve best practices of one recycling cart per seven units, for a building. Each location should be looked at on an individual basis and assessed for their space and recycling needs. If space for more recycling capacity is not available, Halton staff defer to the option of increased collection frequency.

In regards to all challenges of implementing recycling best practices, it is very important to communicate with superintendents and property managers as they can help in determining where

more space can be found, which educational materials the buildings needs and help with educating residents on the programs. Example recycling areas indoors and outdoors are presented in figures 3 – 6.



Figure 3: Recycling area – 685 Surrey Lane, Burlington – Before



Figure 4: Recycling area – 685 Surrey Lane, Burlington – Before



Figure 5: Setup of recycling and organics inside an apartment building



Figure 6: Recycling setup outside of an apartment building in the parking lot

Table 7: Recycling capacity and recycling rate, post implementation

Capacity range	Post-implementation (Dec 2014)	
	Number of Buildings	Avg Kg/unit
Best practice range: 45 to 55 litres/unit	68	50
Low: less than 45 litres/unit	177	31
High: more than 55 litres/unit	186	93

The information in Table 9 is also represented in the Figure 7 below. Figure 7 shows that the average recycling rate for buildings that provide 45 to 55 litres per unit capacity is 50 kg per unit per year. Buildings with more or less than the recommended capacity are shown to have greater and lesser recycling rates as indicated in the Graph.

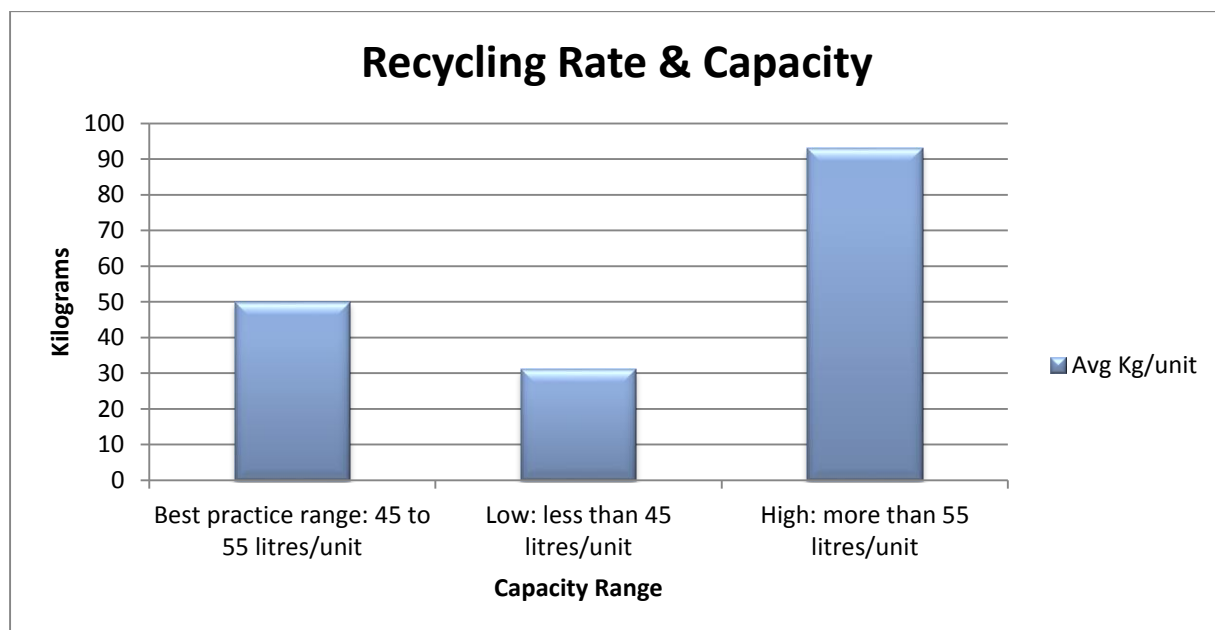


Figure 7: Recycling rate & Capacity

4.3.3 Specify other initiatives to increase recycling

There were other elements of the waste diversion strategy designed to increase recycling that coincided with the timing of the project. One of these was a roll out of new items being captured by the blue carts. In April of 2013, Halton Region added “New in Blue” items to the recycling programs, which included mixed plastics. Promotional material and cart labels were updated to educate the public about the new acceptable recycling items. According to a waste audit completed by contractor for Halton Region in both 2011 and 2014, container recycling at multi-residential locations increased 2%.

4.4 Phase 4: Provide promotion & education materials

4.4.1 Print materials

Phase 4 of the project included increasing program awareness to residents and building staff by providing print materials. By providing these supplies the Region could educate building staff and residents about what can and cannot be accepted in the recycling program.

Resident and superintendent guidebooks, posters, cart stickers were all customized and developed under CIF project #166. (copies of posters and guidebooks distributed can be found in the Appendix.

The *CIF Best Practice Guidelines* recommends strategies for distribution of print materials which included 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.

Region staff delivered resident guides (inside a reusable tote bag) door to door to ensure the resident received the updated recycling information. The reusable recycling bags are blue with clear images on what is acceptable in the recycling program on the side of the bag.

Superintendent guidebooks as well as all posters were hand delivered to on site staff either during a recycling cart delivery or a site visit and evaluation. After delivery, all quantities of each material that was delivered and recorded in the site communications section of the database to use for future reference and ordering of materials.

A summary of the P&E materials used by the Region during this project work and other relevant information is presented in Table 10 on the next page.

Table 8: Summary of Promotion & Education materials used

Promotion & Education component	Number distributed	Method of distribution
Resident recycling bag	25,332 1 per residential unit	By Regional staff to each unit (hung on each door handle)
Corplast Posters	463	By Regional Staff to Building staff to be posted at outdoor recycling areas
Paper Posters	3029	By Regional Staff to Building staff to be posted by staff on each floor (chute room), laundry room, lobby, mail room, etc.
Cart Stickers	2021 1 per top of cart	Affixed by Regional staff onto carts
Recycling Superintendent guidebook	550 For each superintendent, property manager and property owners	Provided by Regional staff during site visits delivered directly to superintendents and PM's
Recycling Resident guidebook	25,596 1 per residential unit	Provided by Regional staff during site visits delivered directly to units inside recycling bag (hung on each door handle)

5 Project budget and schedule

Table 9 presents project costs eligible for funding from CIF. The maximum funding limit for CIF project 631.5 is \$89,712. Total actual eligible project costs totaled \$85,508.

Table 9: Eligible project costs budget, planned and actual

Description	Unit	Quantity (est.)	Unit Cost (est.)	CIF Approved (upset limit)	Quantity (actual)	Unit Cost	Actual Cost
Staff support	Building	500	\$70	\$17,500	500	\$35.00	\$17,500
Increase capacity	Carts	1,200	\$65	\$39,000	1,472		\$41,326
Final report	Report	1	\$2,000	\$2,000	1	\$2,000	\$2,000
In-unit containers	Bag	30,000	\$1.20	\$18,000	30,000	\$0.80-0.96	\$13,790
P&E Print costs	Resident Handbook	20,000	\$4.23	Under CIF #166	30,000	\$0.40 -0.20	\$0
	Cart labels	1,200	\$2.50	\$3,000	1,472		\$2,969
	Super Handbook	1,000	\$5	\$2,500	550	\$8	\$4,393.00
	Paper Posters	8000	\$4.78	Under CIF #166	3,029	\$4.78	\$0
Lobby Display Banners	Corplast Lobby Display Boards	700	\$1,000	\$1,000	470	\$7.70	\$2,389.00
Other costs	HST	1	\$2,500	\$1,250			\$1,177
Total				\$88,160			\$85,508

6 Concluding comments

As a result of this project work and the efforts of Region staff in achieving the goals set out in the Solid Waste Management Strategy, an additional 4,359 MR units are now provided with municipal recycling, as presented in Table 3 below.

Table 10: MR recycling before and after project (December, 2014)

	Before project	After project	% change
Buildings with recycling	544	571	5%
Units with recycling	32,973	37,332	13%

In addition to more MR units participating in the municipal MR program, there is also more capacity in the system to collect these materials. 3,000 additional 96 gall recycling carts have been distributed throughout the program along with 25,000 recycling bags. The investment in capacity, provides each MR unit with approximately 43 litres of recycling container capacity. Up from 16 litres of capacity prior to the project, and in line with the best practice recommendation of 40 – 50 litres capacity per MR unit.

The result of municipal recycling being available to more residents, and best practice levels of container capacity, is an upward trend in the volume and recycling rates from MR. The amount (tonnes) recycled in the MR program today is approximately 5% more compared to baseline. The recycling rate per unit appears to be down versus baseline, however staff note that recycling volumes are on the increase. The declining recycling rate, as it is a weight based measure, is rather a reflection of light weighting of materials in the program.

Table 11: Recycling program performance measures (December, 2014)

	Pre-Project	Post-Project
Quantity*	3,673 tonnes	3,865 tonnes
Multi-res units	32,973	37,332
Per unit	111 kg per unit	104 kg per unit**

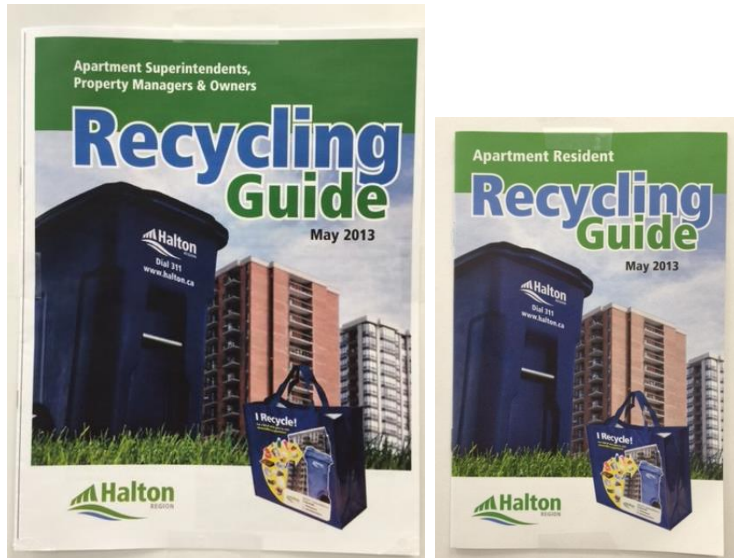
***Note:** These quantities are best estimates as the school and multi-residential recycling material are collected within the same truck. By subtracting out the school location tonnages, we are given an estimate of the multi-residential tonnage quantities.

****Note:** WDO data call information for Halton Region in 2014 demonstrates that there was a decrease in the tonnage (weight) of recycling material from multi-residential locations in 2014, however the volume (amount of truckloads) increased.

Staff are pleased with the success following the implementation of best practices in the municipal MR program and are expecting to see continued improvements in diversion performance in the future. Next steps for the MR diversion program as a whole include the addition of organics collection in MR buildings. The Region is committed to achieving 65% diversion through the full implementation of the Solid Waste Management plan.

Appendix

Appendix 1 - Apartment Superintendents, Property Managers & Owners Recycling Guide & Apartment Resident Recycling Guide



Appendix 2 – Apartment Blue cart Recycling Poster



Appendix 3 – Apartment Garbage Poster



Appendix 4 – Apartment blue cart sticker



[illegible]

Appendix 6 – Site Visit Form

MR Waste Diversion Program
Data Collection 2014

Staff Performing Visit: _____ Pictures ☐
Visit Date & Day: _____ M Tu W Th F

Site Visit Form

Address (full mailing): _____ Burlington / Halton Hills / Milton / Oakville
Building Name: _____

Units: _____ Property Type: Condo / Rental / Co-op / Freehold
Floors: _____ Apt Building / TH complex / Multi-Plex / Other _____

Contact Information:

Property Manager: same as Owner ☐

Primary: Owner / Property Manager / Super

Secondary: Owner / Property Manager / Super

Company: _____

Company: _____

Name: _____

Name: _____

Phone #: _____

Phone #: _____

Cell #: _____

Cell #: _____

E-mail: _____

E-mail: _____

Address: _____

Address: _____

Barrier Evaluation:

Rating scale of 1 to 3: 1 = bad and requires attention; 3 = Excellent no improvements needed.

___ OCC

___ Accessibility

___ Area Clean

___ Contamination

___ Loose Materials

___ Area well-lit

___ Stream Mixing

___ Overflowing carts

___ Labels & Signage

P & E:

Item	#Delivered			#Required		
Posters	100	50	5	100	50	5
Compost Posters	100	50	5	100	50	5
Bags						
Kitchen Catchers						

Item	#Delivered	#Required
Booklets		
SuperBook		
Totes		
Stickers		

Demographics:

Age Range: Variable / Predominantly Senior / Other: _____

Languages: Predominantly English / Variable / Other: _____

Supply flyers in: French / Spanish / Polish / Punjabi / Simplified Chinese

Comments and Follow-up:

Recycling:

Pick-up: Drive Through or Curbside

Pick-up Area: _____

Recycling Type:

Collection Day(s):

Bins Size & #:

Blue Tote or Blue Box

M Tu W Th F

____ 95 gal

Municipal or Private

Weekly or Bi-weekly

____ Blue Boxes

Contractor: _____

Recycling Area: Same as Garbage? Yes ____ No ____

a) Waste/Recycling Room:

b) Each Floor:

c) ____ Outdoor

• ____ Main Floor

• ____ Chutes

d) ____ Outdoor Enclosure

• ____ Underground Garage

• ____ Tri-sorter

e) ____ Other Area: _____

• ____ Other _____

• ____ Collection Room

OCC collection:

Bin Size & #:

Collection Day(s):

____ Yes ____ No

____ 3 yd ____ 4 yd ____ 6 yd

M Tu W Th F

Contractor: _____

Other: _____

Weekly or Bi-weekly or _____

E-waste Bin: ____ Yes ____ No

Front-End recycling possible? ____ Green ____ Yellow ____ Red

Comments:

Garbage:

Pick-up: Drive Through or Curbside

Pick-up Area: _____

Garbage Type:

Collection Day(s):

Bins Size & #:

Front End or Bag or Cart

M Tu W Th F

____ 3 yd C ____ 3 yd L ____ 4 yd

Municipal or Private

Weekly or Bi-weekly

____ 6 yd ____ 8 yd ____ 95 gal

Contractor: _____

Other: _____

Bin ID #: _____

Black Cart Garbage possible? ____ Green ____ Yellow ____ Red

Garbage Area: Same as Recycling? Yes ____ No ____

a) Waste/Garbage Room:

b) ____ Chutes w/compactor

f) ____ Outdoor

• ____ Main Floor

c) ____ Chutes Loose

g) ____ Outdoor Enclosure

• ____ Underground Garage

d) ____ Chutes Bagged

h) ____ Other: _____

• ____ Each Floor

e) ____ Tri-sorter

Comments:

GreenCart:

Acceptance: ____ On program ____ Green ____ Yellow ____ Red

Collection Day(s): M Tu W Th F

Pick-up Area: ____ same as recycling ____ other _____

Pick-up: Drive Through or Curbside

Bins Size & #: ____ 95 gal ____ ~~GreenCarts~~ (note # of bins if on program; check type if not yet on program)

Comments: