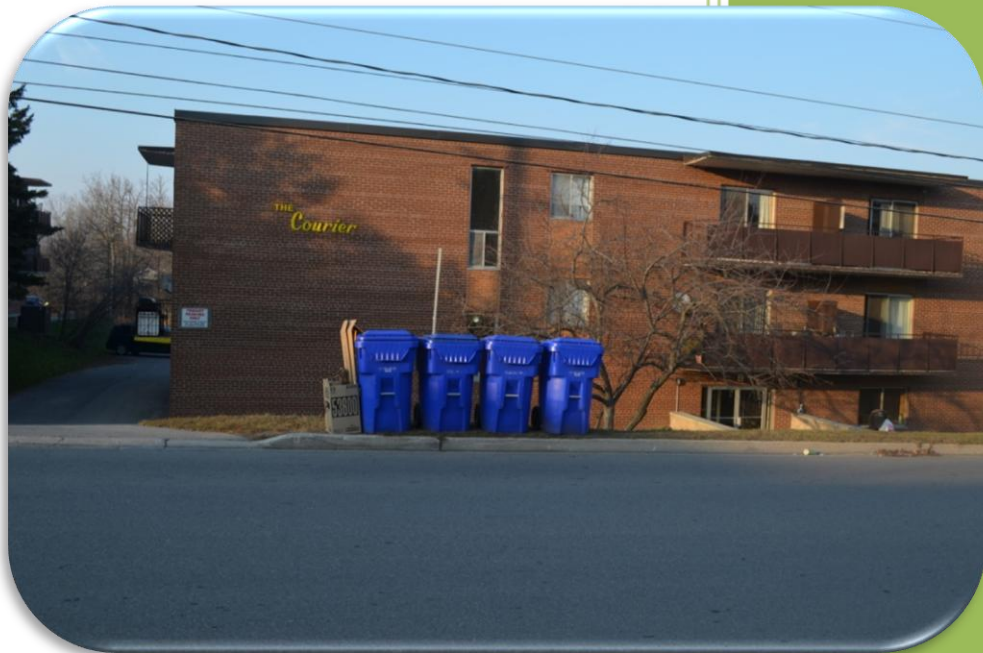


CIF 619.5

County of Dufferin Implementing Multi-residential Best Practices



Final Project Report, January 2014

County of Dufferin

CIF Project number #619.5

Acknowledgement:

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1. Executive summary

This is the final report of a project implemented by the County of Dufferin between August 2011 and December 2012. 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 assistance and were employed to work with Dufferin County staff in completing the project.

Dufferin County currently provides blue box recycling to 21,004 households, including 1,838 households (units) in multi-residential buildings. The best practices that were implemented during this project included: creating a database of multi-residential properties, evaluating the recycling performance of individual buildings and increasing the number of recycling containers at buildings, training superintendents, and distributing new promotion and education materials to residential and building staff. Additional work included in this project was the distribution of in-unit containers along with P&E material to increase recycling convenience for residents of multi-residential buildings. The following project deliverables were achieved:

- Increased recycling capacity: added 250 95-gallon carts to achieve the recommended best practice ratio of 1 cart for every 7 units (50 litre/unit);
- In-unit containers: door-to-door/bulk distribution of 1,838 in-unit recycling bags to: 1) promote recycling, 2) increase in-unit storage capacity and 3) make recycling more convenient to residents;
- New Promotion & Education materials: resident flyers, posters and superintendent handbooks hand-delivered by municipal staff and building superintendents.

The project to implement Multi-residential Best Practices in Dufferin County is part of a larger overall strategy to increase capture rates.

The cost to complete the project budget was \$29,900. Dufferin County was approved up to \$16,994 funding from the Continuous Improvement Fund.

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2. Introduction

Dufferin County is made up of eight municipalities in South Central Ontario. On January 1, 2013, Dufferin County assumed responsibility of all curbside waste collection programs, including collection, processing and disposal. Previously, each municipality was responsible of their own curbside collection programs, other than Organics collection, which the County had provided.

Dufferin County applied for funding from the Continuous Improvement Fund (CIF). A total of \$16,994 was approved.

The approved project has four phases:

- Phase 1: Develop and maintain a database of buildings
- Phase 2: Benchmarking recycling performance
- Phase 3: Increase recycling container capacity
- Phase 4: Provide promotional and educational materials

The project outcomes were:

- Increased recycling capacity through the addition of carts,
- Increased convenience for recycling by providing in-unit recycling bags,
- Superintendents training through workshops, and
- Providing new promotion and education material.

The benefits of this project are not limited to the project outcomes listed above. For example, by creating a database of multi-residential buildings and offering valuable resources to the properties, Dufferin County hopes to further increase its diversion rate. The value of executing this project was also realized in getting to know property managers, residents and front line staff within each building, and this allowed County Staff to look at offering and improving other services, such as composting, and battery and electronics recycling.

3. Background: multi-residential recycling program overview

1,838 multi residential units are located within Dufferin County, all of which are located in Orangeville, Shelburne and Grand Valley. Multi-residential units make up almost 10% of the households in Dufferin County.

The County conducted initial site visits, gathering basic site information, as well as conducting performance evaluations of 65 multi-residential sites. The sites include apartments, condos and townhouses (The townhouses have curbside Blue Box collection).

Table 3.1: Number of households in municipality (*November, 2012*)

	Households	Percent
Single Family	19,166	91%
Multi-res	1,838	9%
Total	21,004	100%

Table 3.2: Number of multi-residential buildings and units with municipal blue box service (*November, 2012*)

	Buildings	Units
Total	65	1,838
With blue box program	64	1,822
Without blue box program	1	16
% with blue box program	98.5%	99.1%

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 and training

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 is an important step towards implementing best practices. To obtain the list of multi-residential properties, Dufferin County found a number of potential sources of data, including:

- Municipal departments, such as Community Services
- Property management or rental associations had listings of their members' buildings and contact information for owners and property managers.
- Real-estate agency's in each of the different municipalities
- Waste Collection Contractors

4.1.1 Sources & collection methodology

The most effective resource in collecting preliminary data was through real-estate agencies. Each municipality's real-estate agencies were able to supply a list of multi-residential units as well as possible contacts. The lists supplied were almost complete, however most of the contact information was outdated.

While some preliminary data was collected through real-estate agencies as discussed above, in-person site visits were completed at each building to collect detailed information. Information recorded during the site visits included how well the recycling program was currently working, building characteristics that may create recycling challenges or opportunities (e.g., room for recycling bins), contact information for the on-site representative (e.g. superintendent) and the role that the on-site staff play in managing the building's recycling program.

On average, five site visits were completed each day. One staff member arranged and facilitated all of the site visits to the buildings. The visits were set up either on the collection day of the multi residential property or one day prior to collection day. Detailed notes were reported on each building. Each site was rated on their performance level and recycling area (Appendix 1).

The following **Performance** based information was collected at the site visit:

- Number and type of carts
- Cart fullness (empty, 1/2, 3/4, 1/4, full)
- Recycling area (inside, outside)

The following **Barriers** based information was collected at the site visit:

- Labels on carts
- Accessibility
- Recycling capacity
- Loose materials
- Area well lit
- Signage and educational pieces regarding recyclables
- Any visible overflow or contamination

Overall the site visits went well. A key challenge was contacting the superintended to set up an initial site visit. The staff member would call the building if a number was known. When a number was not known, the staff member would go to the building and try to call the superintendent or property manager with the intercom. If this did not work, the last resort would be to talk to a resident of the building.

This initial site visit set up the scope of what needed to be completed in implementing Multi- Residential best practices project.

4.1.2 Database and completeness of data

An Excel spreadsheet was used to compile the data collected from the site visits, detailing all properties with sufficient information to further contact the buildings. However, the data collected during the site visits was compiled into a separate spreadsheet (Appendix 1). All information was then compiled into Microsoft Access, where the information was inputted in a single document and searches could be made easier. All multi-residential properties have been inputted into the Access database.

Table 4.1: Database summary

Buildings	Total in municipality¹	Recycling provided by municipality	Site visits completed²	Data updated
Number of buildings	65	64	65	65
% of all buildings	100%	98.5%	100%	100%

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

4.1.3 Data maintenance

To ensure that the data is kept up-to date, Dufferin County is committed to doing annual reviews of the properties. Co-op students will go through and update the data on an annual basis, or as new information is learned.

Visual spot checks are being conducted to ensure that recycling carts are not overflowing, damaged or contaminated.

4.1.4 Summary and recommendation:

After successful completion of phase 1: Develop and maintain a database of buildings, Dufferin County had an up-to date database of all the multi-residential buildings. This information will be used for future projects as well as for promotional and educational information dissemination.

Recommendation 1: It is recommended that Dufferin County updates that database each year; and

Recommendation 2: It is recommended that Visual inspections of the sites occur each year.

4.2 Phase 2: Benchmarking recycling performance

A key step in implementing program improvements is to benchmark current performance so that future recycling targets can be established, and so that program improvements can be tangibly measured as the County moves towards meeting these desired 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 were monitored during site visits. Performance data collected during site visits is based on estimates only, and is not based on precise weights. However, if done consistently, research suggests that performance data has been found to be within 10-15% accuracy of actual weights. Obtaining this information from each building was helpful, both for flagging low performing buildings and for highlighting top performers. Low performers were flagged for follow-up strategies and top performers provided useful as model buildings.

Estimating how much is being recycled helps us to understand how much the buildings are diverting from landfills. This also provided a baseline measurement against which future recycling improvements can be compared.

4.2.1 Procedure for estimating recycling rates

Baseline recycling rates were estimated for all multi residential properties that receive municipal curbside collection. Additionally, a follow up visit was undertaken to measure the recycling rate of our 'featured building' after the additional carts were delivered.

As site visits were completed, staff estimated recycling rates in each building by:

- Counting the number of carts/containers/bins
- Estimating the fullness of the carts/containers/bins
- Estimating contamination levels

Estimates were based on a visual inspection and represent a brief snapshot of each building at the time of the visit. In cases where blue boxes were observed, it was as such, and a zero (0) was recorded under "number of carts" for the purposes of Table 4.2, below. This data was recorded manually and then incorporated into an electronic Excel spreadsheet.

Figure 1: Site Inspections

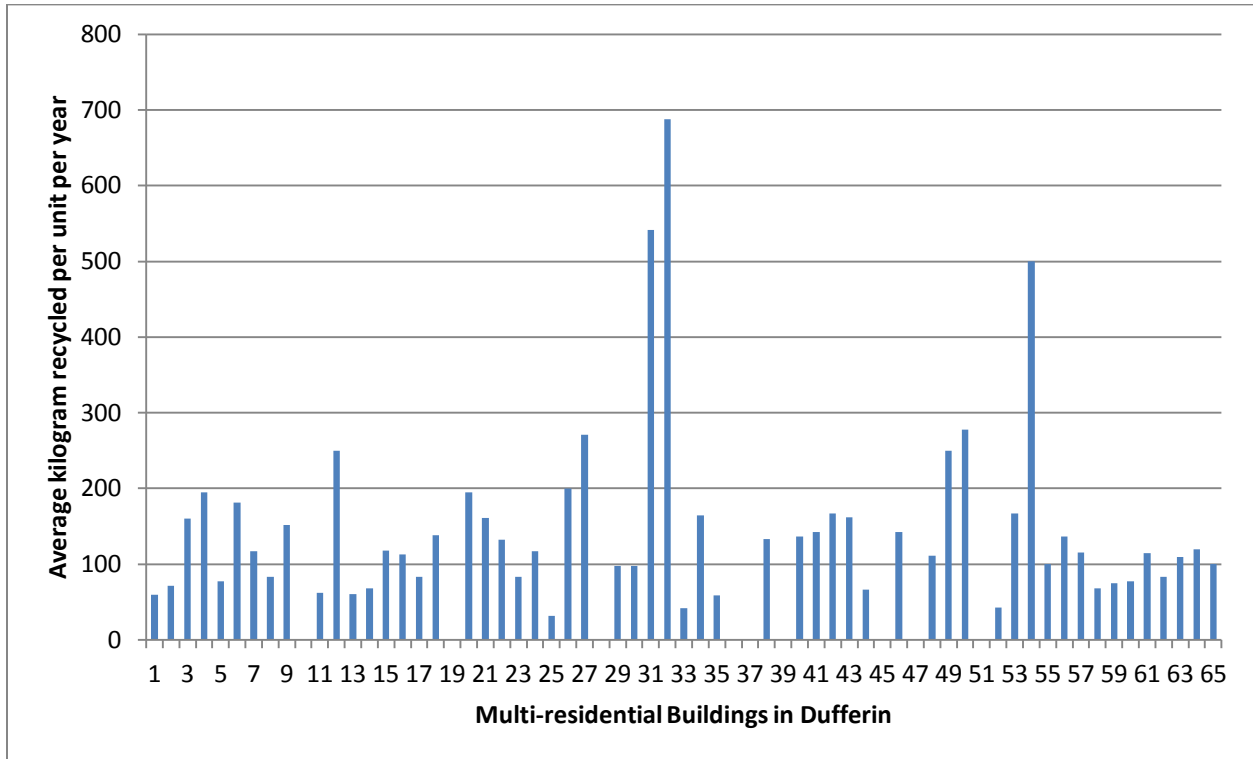


During site visits, staff inspected recycling carts (Figure 1).

4.2.2 Recycling rate estimates

The following Graph details the estimated recycling rates from the 64 multi residential buildings receiving curbside collection within the County. The average recycling rate was 127 kg per unit per year. Site visits took place in August 2011. In some cases, recycling rates could not be estimated as on-site recycling areas were restricted or because each resident had their own blue box.

Table 4.2: Building recycling rates (kg/unit/year), August 2011 - Baseline



4.2.3 Barriers to Recycling

Barriers to recycling lower the recycling rate considerably, and it is therefore essential to eliminate as many barriers as possible. During the site visits, an evaluation of barriers was conducted and is summarized in table 4.3. The evaluation was completed using a scoring system from '1' to '5'. '1' required corrective action and '5' set a high standard and was a "model building". Site visits were completed at all 65 buildings in Dufferin County.

To reduce contamination, corrective action has been considered for the barriers that have been identified. For example, posters and labels have been distributed to all buildings. The posters are intended to reduce contamination and increase capture rates, as a lack of promotional and educational materials at the facilities was identified.

To have increased access to recycling in some buildings, Staff has recommended to some superintendents the use of blue carts in mail rooms and laundry rooms. Figure 2 below demonstrates a building with limited

access to recycling for residents, in which case the recycling shed is only open from 10:00am-5:00pm each day. The shed has no lighting available and some residents identified that they felt it was unsafe. Also, the room has no signage.



Figure 2: Photo of a recycling area with multiple barriers

Container overflow was identified as another barrier. Where applicable, the number of recycling carts has been increased to implement best practices. This will increase the capture rate of recyclables and will limit the container overflow. Overall cleanliness did not act as a significant barrier to residents recycling efforts, as the recycling areas were generally clean, with the exception of some odour issues. Onsite Staff were recommended to use an air freshener in those cases where odour issues were present.

Overall, Staff and superintendents have met with a positive response to the program enhancements that have been made. The extra recycling carts have become an asset to the buildings and the promotional materials have increased the knowledge of the residents, hopefully encouraging them to recycle more. The model buildings that scored a '5' in their evaluation have been thanked for their accomplishments.

Table 4.3: Buildings where barriers to recycling were noted during site visits

Barrier to increased recycling	Require corrective action	% of total	No barrier 'model building'	% of total
Contamination	7	10%	1	2%
Access to recycling	2	3%	3	5%
Loose materials noted	1	2%	0	0%
Containers overflowing	10	15%	1	2%
Cleanliness of area	4	6%	2	3%
Area well-lit	2	3%	5	8%
Adequate signage	15	23%	0	0%
Total Buildings	41	63%	12	19%

4.2.4 Featured building

Recycling in buildings can be an inconvenience if barriers exist. 14 Fead Street in Orangeville, Ontario has improved their recycling rate exponentially since the implementation of the best practices. Before attention was given to the recycling program, the 36 residents in this building had two recycling carts that were often overflowing, and had labels that were sprayed on with spray paint. The carts were stored outside in an unlit area that was always scattered with litter, leading to rodent issues. To improve the program, extra carts were delivered, a light was put up, proper signage was put on the carts, and proper labels and posters were put up. Each resident was given an in-unit recycling bag and an information package, detailing all

pertinent program information. After nearly a year of working on improving the recycling rate at 14 Fead Street, the building is now filling up 6 recycling carts each week with 36 residents living in the building. The building improved their recycling rate by 300% over the year.

Follow up site visits at all other multi-residential buildings have not yet been completed, but will in Fall/Winter 2013.

Table 4.4 Before and After recycling rate of 14 Fead St.

Recycling Rate Calculations	Before	After
Number of full carts at the time of pick-up	2	6
Average tonnes per cart per year	1 tonne	1 tonne
Amount recycled per year = (A x B)	2 tonnes	6 tonnes
Number of residential units	36	36
Average kilogram recycled per unit= C/D x 1000 (rounded and approx.)	50 kg	160 kg

4.3 Phase 3: Increase recycling container capacity

Having enough storage space for recyclables is one of the most critical factors in a successful recycling program, and it is important to address this first before other program improvements are put in place. During Phase 1, baseline container quantities were recorded and information was collected about where containers could be relocated within the building to provide more convenience to residents. Site visits also provided the opportunity to determine if additional containers were required, and where additional containers would be stored and ultimately used. Superintendents agreed that container capacity was important, and many were unaware that they could be provided with additional containers.

4.3.1 Type of recycling containers

Dufferin County's multi-residential buildings are supplied with 360 Litre carts. Carts distribution is tracked based on how many carts have been provided to individual buildings. If a cart is broken, it can be exchanged for a new one.

Continuous Improvement Fund aided with funding the purchase of recycling carts to expand and implement best practices in multi-residential properties. With the help of this funding, 250 recycling carts were purchased, and Dufferin County increased recycling container capacity to meet the Best Practices. The carts were delivered to properties that did not have enough recycling carts to meet the 50L (1 Cart per 7 units) of capacity recommended per household.

Additional carts were used to replace damaged carts, as well as to add inventory to those buildings with large families who produce more recyclables.

4.3.2 How much recycling capacity is being provided?

Based on the provincial diversion rate target of recycling 70%, 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 seven residential units
- Bulk bins - one cubic meter for every 15 residential units (ie., a 4-yard bin for 60 units)

These guidelines represent a minimum standard and it is assumed that at the individual building level there will be ranges depending upon a number of factors.

Before the above described program enhancements, recycling capacity did not meet Best Practices. After the program enhancements however, the Best Practices standards are being met or exceeded.

Table 4.5: Total number of recycling containers

	Baseline August 2010	Post implementation November 2012
Units with recycling service	1822	1838
95 Gallon carts	177	251
50L Blue Boxes	59	59
Total program capacity in litres	66,670	93,310
Capacity per unit (L/unit)	36	51

Challenges faced in implementing the Best Practices capacity ratio were mainly due to barriers such as space and program management at the building level. Some properties have limited space available and could not accommodate any extra bins. Other challenges posed were lack of interest, extra capacity was not needed and management could not, or did not want to, handle the carts. Two sites refused recycling carts because of no on-site property manager to put out the carts on recycling days. The sites currently remain on the blue box program, even though residents expressed that they would prefer blue carts for more capacity.

Moving forward, it is a possible that if capacity increases in buildings that are not capable to handling extra carts that other measure's will be taken to accommodate them. Other measures may include increased collection frequency or on-site compaction of some materials such as cardboard.

Some challenges were also identified where the recommended capacity ratio was adjusted upwards for buildings with a higher number of residents per unit, such as families. Recommended capacity ratio was also adjusted downwards in senior's buildings where generation rates are lower and the number of residential units is lower. The majority of Multi-Residential buildings in Dufferin County are senior buildings and low income singles and families.

4.4 Phase 4: Provide promotion & education materials

4.4.1 Print materials

A project goal was to distribute new print materials to promote recycling and educate building residents and staff about what can and cannot be recycled. Dufferin County had access to print templates (resident flyers, posters and signs for buildings, container labels and a guidebook for superintendents, property managers and building owners) through the CIF website. The template materials were used and were customized with Dufferin County specific information.

The *CIF Best Practice Guidelines* recommends strategies for distribution of print materials which included that Dufferin County must take responsibility for:

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

Promotion and Education materials are integral to any successful program. As such, the following steps were taken:

- 1) Flyers were created to enhance the knowledge on acceptable recyclable items. The flyers were distributed in each multi-residential in-unit recycling bag (Appendix 2).
- 2) Posters were created to promote recycling in and around the property. Posters were distributed when bag deliveries occurred. Posters were posted on each floor, when applicable, and in any laundry rooms, lobby's mail rooms and recycling rooms (Appendix 3).
- 3) Container labels were to be put on each recycling cart. The labels were delivered during the multi-unit recycling bag deliveries.
- 4) A Recycling Handbook was created to assist the superintendents and property managers with their program, and provided details on how to improve performance (Appendix 4).

Table 4.14: Summary of Promotion & Education materials used

Promotion & Education Item	Number distributed	Method of distribution
Resident flyers	1838 1 per residential unit	By County staff to each unit
Posters	260 3-6 per building, depending on building size	Posted by County staff on each floor (chute room), laundry room, lobby, mail room, etc.
Signs	130 2 per buildings	By County staff
Containers labels	414 – 2 per cart (top and front)	By County staff
Recycling guidebook	100 One for each superintendent, property manager and property owners	Provided during site visits or training workshop

4.4.2 Outreach and promotional material

Outreach

The County of Dufferin allocated a variety of resources to enhance the promotional and educational tools provided to multi-residential buildings. Dufferin County hosted a total of four training opportunities for superintendents, property managers and owners to attend to gain valuable information regarding multi-unit recycling in Dufferin County. At the workshops, attendees were equipped with a variety of useful information and in return offered helpful hints to others to help solve problems together. The goal of these events was to provide a two way flow of information between the County and the attendees, and for information to flow between attendees as well. Information sharing is vital to program success within a community.

For convenience, two workshops took place in Spring of 2012, while the other two took place in Fall of 2012. Attendees were invited through mail

and then again through a phone call. The Spring Events were relatively well attended, with a total of 20 property managers/Superintendents attending. The Fall Events were less attended, with only 5 attending. The discussion and information sharing at these events was invaluable to our staff, as it offered firsthand accounts directly from property managers/Superintendents. Regardless of the poor attendance in the Fall, we will host such events again in the future, and will not change the format.

Promotional Material

Dufferin County invested in producing in-unit recycling bags for the residents in all of the multi residential buildings. The bags have colour graphics illustrating what is recyclable in Dufferin County, and are great for storing and transporting recyclables. The bags are aimed to improve the recycling rate of the buildings by providing convenience to the residents. The bags were purchased under a multi-municipal co-operative purchase agreement and as a result the price per bag was as much as three to four times less than had Dufferin purchased on our own.

Promotion & Education Item	Number distributed	Method of distribution	Price per unit
In-Unit Recycling Bags	1838, 1 per residential unit	By County and Building staff to each unit	\$1.54

4.4.3 Timing of Promotion and Education campaign

The promotion and education campaign targeted at the multi-residential units in Dufferin County was successfully completed over one and a half years. This timeframe was needed to ensure that all the best practices requirements were implemented. This also gave us time to re-evaluate some properties to ensure that a higher recycling rate is being achieved. The following is what was accomplished over this time period:

- Site visits at 65 buildings
- Evaluation of buildings and estimates of quantity recycled per building
- Database of 65 properties developed, updated
- Increased number of recycling containers by 74 and replaced some broken containers

- Hosted 4 recycling training workshops
- Printed and distributed P&E material
- Distributed 1838 in-unit recycling bags
- Built relationships with residents and building staff

5. Project budget and schedule

Table 5.1 Project budget, planned and actual

Description	Unit	Quantity (est.)	Unit Cost (est.)	CIF Approved (upset limit)	Quantity (actual)	Unit Cost	Cost
Staff support	Building	60	\$70	\$2,100	60	\$70	\$2100
Increase capacity	Recycling Carts	250	\$60	\$7,500	250	\$55.08	\$6,885.30
Final report	Report	1	\$4,000	\$2,000	1	\$4,000	\$2,000
Superintendents Handbook	Handbook	1	\$800	\$400	60	\$2.26	\$136
In-unit containers	Bags	1,800	\$3.00	\$2,700	1,800	\$1.54	\$1,390
Display Banner	Banner	2	\$2000	\$1,000	2	\$403.5	\$403.5
Develop superintendents workshop	Workshops		\$2,000	\$1,000	4	\$2,000	\$1,000
Total				\$16,700			\$13,915

Table 5.2 Project schedule, planned and actual

Project Deliverables	Approved Payment (upset limit)	Percent	Expected Completion Date	Completion Date
Phase A and B details	\$4448.50	100%	Sept-11	Sept-11
Phase C and D details	\$4448.50	100%	Feb-12	Nov-12
Submit final report	\$4448.50	100%	Fall-12	Jan-14

CIF Funds Requested	\$16,994	100%		
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6. Concluding comments

This project was undertaken to enhance the multi-residential recycling in Dufferin County. The enhancement included increasing the number of carts, in-unit blue bags, updating P&E material and training opportunities for multi residential superintendents, property managers and owners. All multi-residential buildings with six or more units were included in this project.

The implementation of the best practices in Multi-Family recycling is aimed to increase diversion from landfill, decrease contamination of materials, increase capture rates, and increase participation in recycling. Improvements in recycling rates can already be seen in buildings across Dufferin County.

The next steps for Dufferin County will be to get 100% of the buildings recycling. Dufferin County is also planning on continuing to give annual performance reviews to buildings in hopes of seeing further diversion. The county will continue to support the superintendents and property managers to enhance their programs. Superintendent and property managers training workshops will also continue. Overall, this project has been a great success.

7. Appendices

See attached.