



Multi-Residential Report

A Review of CIF Multi-Residential Projects from 2009 to 2011:

Key Learnings and Future Directions

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Date

March 21, 2014

Contents

Tables.....	3
Figures.....	3
1. Introduction	4
2. Implementing Best Practice #1: Initiate & Maintain an MR Database.....	7
2.1 Database – Round Table Discussion Summary.....	8
2.2 Database – Round Table Discussion Analysis: Key Learnings & Improvement Opportunities	10
3. Implementing Best Practice #2: Benchmark Performance.....	13
3.1 Benchmarking – Round Table Discussion Summary.....	18
3.2 Benchmarking – Round Table Discussion Analysis: Key Learnings & Improvement Opportunities	18
4. Implementing BP #3: Providing Collection Container Capacity at BP Levels.....	20
4.1 Capacity – Round Table Discussion Questions & Responses.....	20
5. Implementing BP #4: Provide Promotion and Education Materials.....	24
5.2 P&E – Round Table Discussion Questions & Responses	25
6. Conclusions	27
6.1 – Conclusions – Round Table Discussion Summary	28
6.2 CIF Staff Recommendations for Continue MR Support.....	30
Funding Area 1: Develop a MR Measuring and Monitoring (M&M) toolkit.....	30
Funding Area 2: P&E Materials Development – Continued Support of Project #433.....	31
Funding Area 3: MS Access Database Support and Training – Continued Support 236.....	31
Funding Area 4: Key Stakeholder Training Toolkit Development	31
Funding Area 5: Multi-Municipal Containers Purchase.....	32

Tables

Table 1: Key learnings and opportunities for improvement	10
Table 2: Change in MR Units Served in MR Units Served Through Ontario Blue Box Programming as a Result of MR BP Implementation.....	14
Table 3: Pre versus Post Collection Container Capacity per Unit for Municipalities with Report & Corresponding Projected Increases in Recyclables Collected	14
Table 4: Pre versus post recycling rate estimates for municipalities with data submissions on file & Corresponding Projected Increases in Recyclables Collected	15
Table 5: Projected versus actual tonnage increases for municipalities with interim or final data	15
Table 6: Key learnings and Improvement Opportunities	18
Table 7: Providing Container Capacity	22
Table 8: Key Learnings and Improvement Opportunities	25
Table 9: CIF staff recommendation for funding areas in order of priority	32

Figures

- Figure 1: Comparison of recycling rates as a function of collection container capacity for completed MR best practice implementation projects. Each measure has a basis of per unit.**Error! Bookmark not defined.**
- Figure 2: Comparison of the municipal average pre (light grey) versus post (dark grey) implementation measures for completed MR best practice implementation projects. Each measure has a basis of per unit
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1. Introduction

Early work by the CIF revealed that Multi-Residential (MR) Blue Box programming across the province lacked structure and organization. Unlike curbside efforts, the MR sector was not actively managed. In many municipalities, the number of buildings served and the diversion levels achieved were not well documented. One of the first CIF MR projects¹ took a closer look at a sample of eight MR programs and attempted to establish baseline ranges for program costs and diversion rates. These metrics were difficult to determine due to the limited availability and inconsistency of the data gathered. There was little monitoring of costs, number of buildings served and not served, total number of units per building, number and type of recycling carts at each building and tonnes diverted. As Ontario Regulation 103/4 only required municipalities to collect recyclable materials from MR buildings in certain instances, MR programs were generally treated as a lower priority that warranted little staff attention.

Establishing the Multi-Residential Funding Portfolio: Rationale & Objective

Multi-Residential Blue Box programming presents the next least cost per tonne diversion option after curbside collection. To capitalize on this, the CIF has invested \$2.8 million to equip municipal staff with the tools and the know how to manage their programs and maximize diversion in this sector. The objective was to facilitate the standardization of MR programming for Ontario and to begin to bring its performance into alignment with that of curbside recycling. The CIF offered funding to municipalities to implement the following four MR Best Practices (BP):

1. Populate and maintain a database of buildings
2. Benchmark and monitor performance
3. Increase collection container capacity
4. Provide Promotion and Education (P&E) Materials

Funding the Implementation of MR Best Practices

The four Best Practices identified by CIF as priority areas were selected to allow a systematic approach to standardizing service, making the opportunities to improve diversion and delivery costs easier to identify and plan. The first BP, populating and maintaining a database of MR properties, provided the tools necessary to document and consolidate the details needed to assess the size, scope and nuances of each individual municipal program. It also created a basis for on-going monitoring and tracking of MR programming. Municipalities were required to complete site visits at all of their MR buildings and inventory the number of units, the collection container capacity per site and enter key data it into the tracking system. The second BP, benchmarking of current container capacity and diversion rates, identified the number and locations where additional carts and bins were needed. The third step, increasing capacity to the recommended 50-litres per unit BP level, supplied the containers to sites where the need was identified. The carts and bins provided the means for capturing additional tonnage, and the final BP, implementing a P&E campaign, tied all aspects of the MR blue box program together. The P&E campaign would ensure all MR stakeholders: building owners, superintendents, and residents were aware of the recycling program, encouraged to take part, and provided the necessary instructions on how to participate.

Funding Distribution

Over 100 municipalities in Ontario have an MR component to their recycling program². Roughly 30% received funding through the CIF to begin to implement the MR best practices outlined above. The idea

¹ CIF Project 183

² Statistics Canada

was to partner with this initial group of municipalities and help cover the costs to pilot and refine the new tools, and later, make these resources available free of charge to programs that were not part of the start-up phase (i.e. municipalities would be given access to the database, P&E templates and training aides at no cost, but CIF would not support the cost to implement them beyond the start-up phase).

Over 90% of the funding portfolio was allocated directly to municipalities to implement MR BPs. The remaining 10% was allocated to initiatives with broad-based, province-wide applications including a review of and recommended changes to the Ontario Building Code, to allow for better management of the MR sector. Appendix A contains a detailed list of all the MR projects approved funding between 2009 and 2011.

Interim MR Funding Portfolio Assessment

In the spring of 2013, the CIF staff organized a series of round table webinars with 22 of its 27 MR project municipal representatives. The purpose of the webinars was to conduct an interim assessment of the MR projects and determine the extent to which they were achieving their objectives. MR project reps were asked to discuss their progress to date, **key project learnings**, and **future support needs**. Participants were broken into 3 groups based on the size of their MR programs: small (7 municipalities, <4,000 MR units), medium (8 municipalities, 4,000-20,000 MR units), and large (7 municipalities, 20,000+ MR units). Appendix B contains a list of the participating municipalities and the current status of their projects. There were five municipalities that had received CIF MR project funding that were not able to participate.

Round Tables

The goal of the webinar series was to determine if CIF's strategy to improve the management of MR programming had been successfully implemented. A professional facilitator was hired to develop discussion outlines and lead the round table talks via webinar. The focus of the discussions was on the four key MR programming BPs. CIF staff were specifically interested in feedback on: what was working, what was not working, and which processes if any needed to be fine-tuned. The round tables also provided an opportunity to gauge the increase in:

- units served compared to the baseline
- collection storage capacity compared to the baseline (litres per unit)
- annual recycling capture rates compared to the baseline (kg per unit)

Round Table Format

The webinar format was chosen as it allowed municipalities to participate from their offices (no travel), and it allowed for a high level of interaction. Webinar services have polling, hand raising and texting features, which enable the facilitator to keep the group highly engaged throughout the discussion.

Round Table Preparation

To prepare for the round tables, participants were asked to complete a pre-webinar survey. This helped CIF staff to gauge the municipal understanding of, support for, and agreement with the BPs that had been included as part of the MR program improvement efforts. The surveys also highlighted issues that municipalities wanted to see included in the discussion outline. Appendix C contains the survey and its results.

The next step was to gather all of the reports, from the municipalities that had submitted data updates for their MR projects, and consolidate the data. This allowed the CIF team to assess both what was

happening within individual municipalities and to look for early province-wide trends. The data was also analyzed on the basis of group size to determine the extent to which the size of the municipality affected performance. The data from this analysis was put into PowerPoint slides along with the other discussion prompts and visuals and shared with municipalities during the webinars. Appendix D contains the slide decks.

The pre-survey results and consolidated report data was then used by the facilitator to create discussion outlines for each webinar. Appendix E contains the discussion outlines. Municipal answers to the discussion questions are provided in the following sections of this report.

Round Table Outcomes

This report provides:

- a full explanation of each BP and how it was implemented
- consolidated summaries of the minutes from each round table webinar
- analysis of the round table discussion

The analysis of what is working, what isn't, and what requires fine-tuning is presented as a list of 'key learnings' and 'improvement opportunities'. Insights or experiences shared by the majority of the callers in the discussion were considered a 'key learning'. Similarly the 'improvement opportunities' reflect the list of ideas that were supported by the majority of the participants on the call.

2. Implementing Best Practice #1: Initiate & Maintain an MR Database

In order to effectively budget for and manage a Multi-Residential recycling program, an inventory of the number of buildings and the number of units to be served is essential. Programming cannot be effectively developed and its costs determined if the number, size and location of the buildings are not known. Other program information such as the number of carts or bins at each site, where the carts or bins are located on the property, and the contact details of key building staff is also important. Creating and maintaining a database of all MR property specific information was therefore determined to be a Best Practice and a logical first step in standardizing MR recycling services. The CIF staff identified a number of data points required to properly monitor the MR sector and hired a company to create an MS Access database to manage the information. The database program was provided to participating municipalities, as was training for its employees on the use of the program. Municipalities also had the opportunity to have the design company customize the data prompts within the database. In smaller municipalities, where there was not time available to be trained to use the CIF Access Database, a simplified Excel Database template was provided.

To populate the database, municipalities were required to complete a site visit to every one of the MR buildings in their municipality. During the site visit they documented all the relevant details for that site including:

- the address
- contact names
- phone numbers
- email addresses
- number of units in the building
- number of recycling carts
- recycling and garbage collection schedules
- dates and time of the site visit
- interactions with residents/contacts

Municipalities were provided with a site visit form (Appendix F) to facilitate the collection of information. All of the data for the site visit was to be entered into the database. Image 1: CIF MR Database,

The screenshot displays a complex data entry form for a property. At the top, there are dropdown menus for 'Civic#', 'Street Name', 'City', 'Province', and 'Postal Code'. Below these are sections for 'Building Information' (Building Name, Property Type, Property Number) and 'Property Management' (Company, Contact, Work Phone, Email). A 'Recycling Capacity' section shows '200 Units' and '27 Bins/Unit'. The 'Collection Days' section has checkboxes for days of the week and a 'Frequency' dropdown. A 'Containers' section at the bottom right shows a list of recycling containers with columns for 'Recycling Container Type', 'Quantity', and 'OCC'. An inset image on the right shows a row of blue recycling bins outside a building.

Image 1: CIF Database, Sample Data Input Page

Sample Data Input Page, inset on the right, is a screen shot of one of the Database input pages used to capture all of the information collected during the site visit. The database was designed to be very robust, allowing for information to be uploaded as an image or as text for queries and reports to be generated.

One of the outcomes of implementing the database was that CIF was able to begin to more accurately determine the number of buildings and units served through the municipal Blue Box program and assess the extent to which standardizing MR programming was leading to an increase in the number of units served.

2.1 Database – Round Table Discussion Summary

The Round Table discussion regarding use of the database tool is summarized below. The discussion questions along with the municipal responses have been provided.

Are you using the CIF database template(s)?

- Small municipalities - 7/7 (MS Excel database template), 0/7 (Access database)
- Medium – 5/8 yes, 1/8 no (using their own database), 1/8 unsure (CIF project is not yet complete), 1/8 no response (municipality was late for the webinar and missed this discussion point)
- Large - 6/7 yes, 1/7 (using their own database)

Does this data help you now? Do you better understand your buildings?³

Small municipalities:

- Consensus: Yes, it helps create a better understanding of each building
- There is now sharing of this MR information with other municipal departments as the other departments have their own uses for it (e.g., track missed garbage collection, or by-law infractions).

Do you plan to make maintaining your municipal MR database a priority?

- Small - 0/7 Consensus: not enough staff time to dedicate to this
- Medium - 6/8 yes, 1/8 unsure (CIF project is not yet complete), 1/8 no response (municipality was late for the webinar and missed this discussion point)
- Large - 6/6 yes

How much time will you dedicate to the maintenance of this information?³

Medium and Large municipalities:

- Update on an ongoing basis, with the goal of having a ½ FTE dedicated to MR
- Currently we have a dedicated person on a 1-year contract. Once that is complete we will have someone maintaining it for a few hours each week
- Update whenever calls come in, and assigning a summer student to do the updating for a couple of weeks every summer

What practice did you find the most challenging to implement?³

Small municipalities:

- Completing site visits and measuring results (58%)
- Database inputting (14%)
- Carts distribution (14%)
- Reporting (14%)

How did you get in touch with the building contact in order to conduct the site visits and how long did it take to complete it?

All:

³ The discussion outline was refined between round table sessions. Questions were added, deleted and reworded between webinars to continuously improve the process. Therefore each of the three groups were engaged in a discussion of the four MR Best Practices, but they were not asked exactly the same questions. In the summaries provided in this report, omission of a response from the small, medium or large groups reflects that the group(s) not shown in the summary were not asked that specific question.

- Contacts were gained through MPAC, GIS Department, Housing, taxation, water service, collection contractor
- Generally, this process took between a couple of days to two weeks
- Medium and large municipalities already had most of the contact information and were tracking this data in some way

What was *the* most effective solutions for making first contact with the building operator? ²

Medium:

- Just show up/cold call (38%)
- Call in advance (38%)
- Other (24%):
 - Be aggressive with the difficult or unresponsive superintendents; when delivering small in-unit bins just show up, gain access, and distribute
 - Just show up. In this case you will get along better with the building superintendents if you bring them coffee
 - Sending letters in advance sometimes works

Does your team need database training and support?

- Small - sure, training is helpful, but it is only part of the issue; finding time to collect the data, maintain it and then make use of the database is the bigger obstacle
- Medium – currently receiving this support and would like additional support in customizing their database. On-going training support would be helpful
- Large - 4/7 yes

Any recommendations on how CIF can improve support in developing the database?

- Small - hiring temporary staff would help. The greatest challenge is collecting the data in the first place. CIF and SO have funded province wide waste audits and hired consultants to go from municipality to municipality to do the work. Having a team of people travel around and do site visits and collect the data on a regular basis, perhaps annually, would help
- Medium, Large - Continuation of the support for the database currently in place (i.e. training and customization)
- All - Update/change the Ministry of Environment (MOE) recycling regulations. There is no enforcement support, and large disparities between what the MOE considers a recycling program and what the municipalities consider acceptable

What were the most common barriers you encountered in your site assessments?

All Municipal Groups:

Communication

- Difficulty getting in touch with the on-site contact
- Getting, engaging, and keeping in touch with residents, superintendents and building managers

Promotion & Education

- Lack of, or, improper labeling of carts
- Getting material to MR that they would recognize as useful and keep on hand

Ongoing Management Issues

- Welfare housing residents. This sector consumes a lot of prepackaged food, but is poor at recycling/managing the waste material
- Negligent landlords and property management companies
- Contamination of the in unit containers

Physical barriers

- Location for pickup
- Accessibility to recycling in some buildings
- Space for recycling
- User friendliness of recycling bins slot design
- The convenience of the garbage chute

What are some solutions you tried or ideas/tips related to overcoming these barriers?

All Municipal Groups:

- Highlight the benefits of recycling in MR
- Highlight how new equipment makes it easier for residents to recycle (i.e., additional carts).
- Retrofitting 4 yard bins with a smaller openings, similar to a mailbox slot, to address safety and contamination concerns
- Act as a liaison between stakeholders

What were some of the MR 'Bright Spots' (i.e. things that were going well):

- Great tenants. Seniors are particularly excellent recyclers
- MR were very accepting of new containers for programming
- Site superintendents were very good/helpful once contact was made

2.2 Database – Round Table Discussion Analysis: Key Learnings & Improvement Opportunities

From the consolidated updates of all three round tables, key learnings and improvement opportunities were distilled and are presented in Table 2.

Table 1: Key learnings and opportunities for improvement

Discussion Point	Key Learning	Improvement Opportunity
Initial Site Visits:	There is a time requirement concern here. The initial time required to complete the site visits and populate a database was a significant challenge for all municipalities.	Investigate the potential of a municipal policy change where the onus is on the building operators to schedule the initial meeting and input the basic building data (i.e., no data = no recycling collection service). This might be accomplished by aligning the delivery of recycling service to that of utilities such as hydro, gas or telephone in so far as there is an obligation on the part of the end user to initiate services by providing key information.
Maintenance:	There is also a time requirement concern here. It is expected to take anywhere from a couple hours a week to half a year's worth of one staff's time to maintain the database records.	Explore ways to make the database portable so that updates can be uploaded while staff are on site (e.g. make database software available for iPads or other tablet devices). Currently there

Discussion Point	Key Learning	Improvement Opportunity
	Medium and large sized municipalities see the value in completing this work and will maintain this activity over time despite it being a drain on their staffing resources. Small municipalities do not see this as something they will be able to maintain. They will continue to work with the initial data they collected because they do not anticipate having the time to update it.	<p>is a duplication of effort. Site evaluations are completed on paper only to have the data managed a second time when it is inputted into the database or spreadsheet.</p> <p>Additionally, split up the data updates into parts. Put the onus on the building operator to update some of the data fields such as contact names and numbers, and put the onus on the contractor to update diversion data. Suspended service if building staff do not update their information. For the collection contractors include the data updates as part of their service delivery and assess liquidated damages if they do not fulfill the obligation. The building superintendents and collection contractors are in the buildings on a regular basis; municipalities need to find a way to take advantage of this for data collection.</p>
Database Utility:	All municipalities agree that setting up and maintaining a database is useful. It has helped to gain clarity around management issues and to develop solutions (e.g., retrofitting 4 yard bins with a smaller opening to reduce contamination). It has also opened up opportunities for interdepartmental sharing of information resources (e.g., logging by-law infractions, missed garbage collections).	<p>Find a way to share out the database updating between departments.</p> <p>Place greater emphasis on sharing updates on how the use of the database is helping municipalities improve and manage their programs. Updates should demonstrate the tangible benefits or 'return' on the investment of staff time to maintain these records.</p> <p>This may encourage other groups to do the same. What's more, it may justify the allocation of staff time to database maintenance. Updates can be shared at the MWA Multi-Residential Working Group Meetings or through the CIF e-newsletter.</p>
Database Software:	<p>There is a training issue here. Smaller municipalities are not using the Access database. They use some of the prompts from the CIF database, in an Excel sheet, in what they view as, a simplified tracking system.</p> <p>They do not see the value of using an Access database over an Excel spreadsheet. Access database concerns include:</p> <ol style="list-style-type: none"> 1. Difficulty in using the Access software – navigating the screens, migrating existing data into the Access format and running reports 2. Difficulty in finding the time required to have the database prompts customized 3. Time – maintaining a database takes up more of their already limited work time. 	<p>Investigate an online tutorial that can be watched and reviewed at any time. Break the tutorial into shorter clips that address specific topics to reduce the amount of dedicated time needed for training. Staff could break their training into smaller intervals or they could simply go directly to the tutorials relevant to them. This would also provide an easy way to train summer students to do this work.</p> <p>Maintaining the database is added work. Without the information, however, it is difficult to effectively interact with the MR community, measure the size of sector and monitor spending in this area, or to gain insights into what drives strong or poor performance.</p>

Discussion Point	Key Learning	Improvement Opportunity
Regulations	Through their site visits, small municipalities realized they faced a regulation compliance issue. Their recycling programs are relatively new, and it has been difficult to get the building owners to agree to initiate and maintain one. For larger municipalities it was acknowledged that stricter guidelines would make implementing program improvements easier.	Investigate a way to legislate it such that if you want hydro, etc. for your building you have to provide recycling services. York region did this; tied their water allocation to requirement that buildings have a collection system (i.e., enforcement through an agreement). Data was not available on the impact of this.

3. Implementing Best Practice #2: Benchmark Performance

A key step in implementing program improvements is to benchmark current performance. This helps set realistic improvement targets and ensures the impact of program investments can be measured. As part of the CIF MR projects, municipalities were required to establish benchmarks for:

- Buildings and units served
- Barriers to recycling
- Collection container capacity (litres (L))
- Diversion- kg/unit/yr and overall tonnage captured (metric tonnes (MT)).

Recycling container capacity is directly linked to diversion rates. Experience has demonstrated that for every litre of additional capacity, there is a corresponding increase in the diversion rate. Recognizing this, CIF set out to increase recycling capacity within all MR buildings served to 50-L per MR unit⁴ which equates to 1, 360-L cart for every 7 units, or 1, 4-yard bin for every 60 units (assuming weekly collection of recyclables). CIF projected that for every additional cart or container equivalent added to the MR program there would be a 1 tonne increase in diversion⁵.



The number of units served and existing container capacity had to be benchmarked, so that municipalities would be able to calculate the level of investment needed to bring their sites up to the Best Practice level. Each participating municipality documented the number of units served at their project's outset and updated their records throughout the course of the funding agreement as additional buildings were added to the program. The benchmarking results for units serviced, for the first 12 MR projects that have submitted data, have been consolidated and are shown in Table 2. The Pre MR units reflects where municipalities were at the beginning of their funding agreement and Post MR units reflect when they finished implementing the best practice.



⁴ 2007's KPMG report recommended that each residential unit be provided with the equivalent of 50-L of storage capacity for weekly collections (the equivalent of a standard 14 gallon blue box which is what was recommended for each curbside collection stop at the time of that report).

⁵ Recycling Coordinators, working together as part of a MR Working Group in 2008, first put the theory forward that 1 cart yields 1 tonne. This came after reviewing a number of Efficiency & Effectiveness project reports. The City of London (the lead) had historic data that showed a direct correlation of 1 tonne of recycling collected for every cart in the system. As their cart numbers increased from 2,000 to 3,300 in 2009, this relationship remained almost constant.

Table 2: Change in MR Units Served in MR Units Served Through Ontario Blue Box Programming as a Result of MR BP Implementation

MR Units Served	Stratford	Oxford	Barrie	North Bay	Peterborough	Quinte	Sarnia	Sudbury	Durham	EWSWA	London	Peel
Pre MR units	2,358	1,196	7,940	5,157	6,830	5,000	7,509	13,275	23,000	19,348	43,950	83,000
Post MR units	2,358	2,323	7,940	5,553	6,217	5,000	7,792	14,077	23,000	24,950	49,900	89,000
Total Pre (MR units)											218,563	
Total Post (MR units)											238,110	
Total Increase											19,547	

The number of units served in 12 municipalities has increased by 19,547, just short of 10%. There are 15 municipalities with MR projects still in progress.

Similarly container capacity (L/unit) was documented at a project's outset and updated throughout the course of the funding agreement as additional containers were added to the program. The benchmarking results for L/unit, for the first 12 MR projects that have submitted interim or final data, have been consolidated and are shown in Tables 3. All municipalities added container capacity, but three fell short of achieving the recommended Best Practice level. Reasons for this included a lack of adequate space in a building's recycling area to set out more carts, and budget constraints, especially if the municipality was hoping to pass along the container costs to the buildings or collection contractors, but found these groups unwilling to take on the expense.

The second part of Table 3 shows the projected annual increase in kg/unit anticipated as a result of the increase in container capacity as well as the total projected tonnage increase in recyclables collected annually. The kg/unit/yr projections are based on the premise that 1, 360-L cart will yield a 1 metric tonne increase in recyclables collected or 360 litres = 1,000 kg and 1 litre = 2.78 kg.

Table 3: Pre versus Post Collection Container Capacity per Unit for Municipalities with Report & Corresponding Projected Increases in Recyclables Collected

Container Capacity Increases	Stratford	Oxford	Barrie	North Bay	Peterborough	Quinte	Sarnia	Sudbury	Durham	EWSWA	London	Peel
Pre L/unit	28	45	47	43	52	44	34	54	46	33	25	20
Post L/unit	33	69	50	52	54	65	50	99	52	42	40	55
Added L/Unit	5	24	3	9	2	21	16	45	6	9	15	35
% Increase	18%	53%	6%	21%	4%	48%	47%	83%	13%	27%	60%	175%
Corresponding Projected Increases in Recyclables Collected												
Projected Increase kg/unit/yr	13.9	66.7	8.3	25.0	5.6	58.3	44.4	125.0	16.7	25.0	41.7	97.2
Projected increase tonnes/yr	33	80	66	129	38	292	334	1,659	384	484	1,832	8,067
Total Projected Increase in Recyclables Collected/YR:											13,400 tonnes	

Based on the capacity increases listed above, a projected annual increase in recyclables collected of 13,400 tonnes was anticipated. This value is calculated by comparing the reported recycling rates from preliminary data pre and post MR Best Practice implementation.

$$Eq\ 1: \text{ New MT/year} = (\text{kg/unit} \cdot \text{year}_{post} \cdot \text{units}_{post}) - (\text{kg/unit} \cdot \text{year}_{pre} \cdot \text{units}_{pre}) \cdot \frac{1}{1000 \text{ kg/MT}}$$

Municipalities were asked to benchmark the current MR diversion rates and then measure again after the carts were installed so that the impact of adding the additional containers could be assessed to see if the projected impacts to diversion were realized. Tonnage data was to be acquired through actual weight measurements where possible or through visual audit estimations of weight⁶. The baseline recycling rates and tonnage broken down on a per unit basis, can be found in Table 4.

Table 4: Pre versus post recycling rate estimates for municipalities with data submissions on file & Corresponding Projected Increases in Recyclables Collected

Diversion Increases	Stratford	Oxford	Barrie	North Bay	Peterborough	Quinte	Sarnia	Sudbury	Durham	EWSWA	London	Peel
Pre kg/unit/yr	42	42	85	42	115	110	60	94	99	70	68	95
Post kg/unit/yr	53	95	103	72	125	115	75	123	100	90	73	99
Added kg/unit/yr	11	53	18	30	10	5	15	29	1	20	5	4
% Increase	26%	126%	21%	71%	9%	5%	25%	31%	1%	29%	7%	4%

Based on the follow up assessments completed after the carts and bins were put into usage, each municipality experienced an increase in its recycling rate. Table 5 shows a comparisons of the projected versus the actual tonnage increase. The negative numbers reflect the number of tonnes below the projected target and the positive numbers reflect the number of tonnes above the projected target.

Table 5: Projected versus actual tonnage increases for municipalities with interim or final data

Projected vs Actual Tonnage Diversion Increases	Stratford	Oxford	Barrie	North Bay	Peterborough	Quinte	Sarnia	Sudbury	Durham	EWSWA	London	Peel
Projected Increase tonnes/yr	33	80	66	129	38	292	334	1,659	384	484	1,832	8,067
Actual Increase tonnes/yr	26	170	143	183	62	25	134	484	23	872	645	926
Variance	-7	90	77	54	24	-267	-200	-1,175	-361	388	-1,175	-7,141
Total Projected Increase in Recyclables Collected/Yr:										13,400 tonnes		
Total Actual Increase in Recyclables Collected/Yr:										3,700 tonnes		
Annual Variance/Yr:										9,700 tonnes		

⁶ CIF MR Project 201 established material density conversion factors to be applied when translating visual estimates of bin or cart fullness to weights.

Figure 4.1 plots the recycling container capacity versus the recycling rate (or tonnes diverted). Both measures are per unit, and are based on data identified in the data updates for MRs who had completed BP implementation. A linear trend is observed, meaning, as collection container capacity increases so does the amount of material recycled. Additionally, Figure 4.2 compares the pre versus post implementation measures for completed projects to date. Both figures confirm an improvement in the MR sector by showing that as capacity increased, so too did the recycling rate (kgs/ unit / year collected).

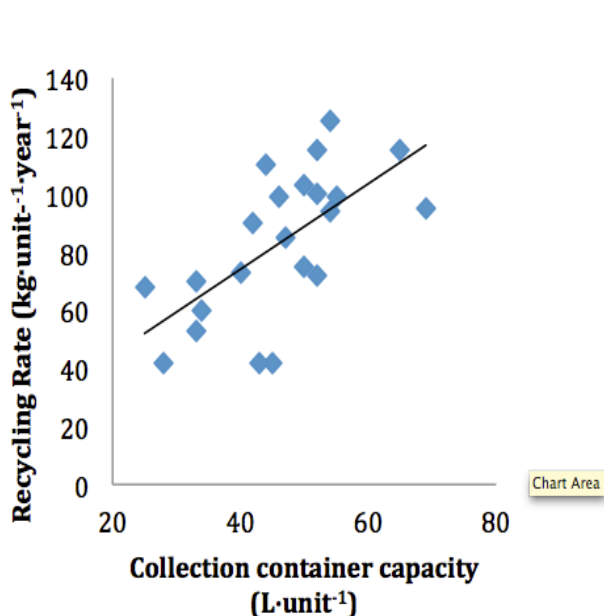


Figure 1: Comparison of recycling rates as a function of collection container capacity for MR best practice implementation reports. Each measure has a basis of per unit.

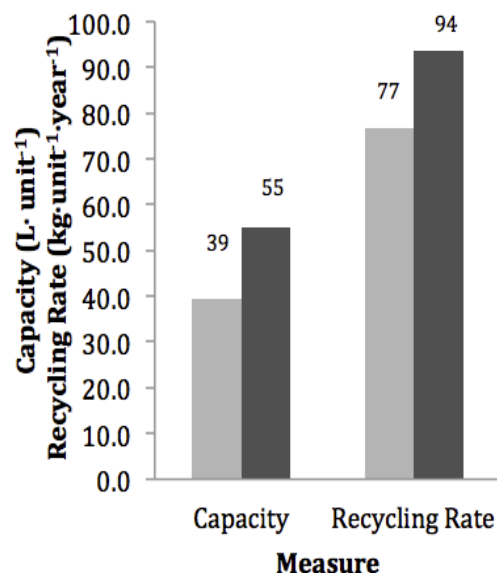


Figure 2: Comparison of the municipal average pre (light grey) versus post (dark grey) implementation measures for MR best practice implementation project reports. Each measure has a basis of per unit

The 12 Municipalities that reported on their projects at the time of this report collectively experienced an actual tonnage increase of 3,700 tonnes (28% of projection). The theory that a 1 tonne increase could be expected for every 360-L cart equivalent installed was not substantiated by these results. That is to say, the measure by which each additional litre of recycling capacity added to a program increased the number of tonnes diverted annually was not consistent from program to program (e.g. the addition of each 360-L cart did not necessarily equate to one additional tonne of recyclables diverted). While Oxford, Barrie, North Bay, Peterborough and EWSWA realized an increase in tonnage that exceeded the projection based on the 1:1 relationship, Stratford, Quinte, Sarnia, Sudbury, Durham, London and Peel's increases fell short. Factors such as the extent to which a municipality is below 50-L/unit and above it affect the impact additional container capacity has expected tonnage increase. Analysis suggests the impact of each additional litre of capacity diminishes as the number of containers rises (i.e. as a building near the recommended recycling storage capacity, the rate of return, or number of additional tonnes collected, begins to drop off). Other factors such as the length of time MR programming had been in place as well as the rate of resident turn over in the buildings were suggested to influence this outcome. Additional follow up into how and when tonnages were calculated will be needed to confirm these results.

Bringing MR Recycling Rates into Alignment with Curbside Recycling Rates

A purpose of the MR Best Practices implementation funding was to bring MR Blue Box recycling performance into closer alignment with curbside collections. In 2012, the provincial waste generation rate for single-family homes was 366 kg/household and the recycling rate of blue box materials was 167 kg/household. The waste generation rate per MR unit is 600kg/unit⁷. The mean annual recycling rate of blue box materials for municipalities who participated in this MR programming increased from 77 kg/unit pre-implementation to 94 kg/unit post (based on the data in Table 4).

While a gap between the performance of the curbside and MR programming sectors remains, it is narrowing.

Benefits of Benchmarking

The results from the 12 sets of data submitted show that while all municipalities experienced an increase in kg/unit diverted after installing additional 360-litre carts and 4-yard bins, it was less than the anticipated 1 tonne per cart equivalent. Now that these baselines have been established, municipalities can begin to compare and contrast their results with others to determine where others are out performing them and how the other groups are accomplishing that. Examining factors such as:

- *Data collection accuracy* can be improved upon. To ensure the calculations of recycling rate are accurate, some municipalities, who had relied on visual inspections to determine the recycling rate, are switching to a system where they have their contractors complete dedicated MR runs which are then weighed at the MRF on a monthly or quarterly basis to determine their diversion rates.
- *Collection frequency* can be looked at. If municipalities are constrained by limited storage space for carts or bins, increasing the frequency of collections will reduce the volume of collection container capacity required to adequately service households.
- *Container fullness* can be monitored at the time of collection to better assess if additional container capacity is needed to encourage an increase in tonnes collected, or, if an investment into a P&E campaign that encourages recycling will ensure that container capacity on site is fully utilized.
- *Diminishing returns can be assessed*. Municipalities who have not yet increased their MR collection container capacity to the recommended best practice levels appear to perform poorer than those at best practice levels (i.e. those with container capacity at the best practice levels have higher recycling rates). Conversely, municipalities who have greatly exceeded the best practice level do not experience a significant increase each time they add container capacity. Their investment may be better allocated to P&E.
- *Container type*. A limitation of this report is that the comparison between the performances of carts versus front-end loader bins cannot be made. Bins while requiring a bigger investment up front could last longer and therefore require less budget allocation over time.

Municipalities on an ongoing basis may monitor issues and successes in their day-to-day programming using these performance criteria. The next steps for municipality's who have completed the implementation of MR Best Practices should be to start monitoring the costs to service each MR building and the overall sector.

⁷ A waste generation rate of 600 kg/unit was established through waste audits completed as part of E&E project 301.

3.1 Benchmarking – Round Table Discussion Summary

Municipal updates on the implementation of this best practice are summarized below. The discussion questions along with the municipal responses have been provided.

Did you benchmark MR performance, and if yes, how did you do this?

- Small - 2/7 yes
 - 2/2 Visual audits
- Medium - 6/8 yes, 1/8 unsure (CIF project is not yet complete), 1/8 no response (municipality was late for the webinar and missed this discussion point)
 - 2/6 Tonnage
 - 4/6 Visual audits
- Large – 7/7
 - 4/7 Tonnage
 - 3/7 Visual audits

Do you intend on measuring kg/unit in the future?²

- 3/7 yes; 4/7 no

If no, why not?

- Not enough time
 - Other tasks take priority
 - Challenges in collecting material weights from collection vehicles that service both curbside and MR residences. To monitor kg/unit in MR programming would require dedicated collection routes that serviced MR or curbside residences exclusively.

Brainstorming ways to Benchmark more efficiently

- Develop a simple process that can be done yearly (at least); include in the municipal waste recycling plan/strategy
- By law: give owners a semi annual audit sheet
 - Enforce all buildings to provide recycling to their residents
- Have a staff member ride along side the driver to complete a site audit
- Peterborough has paid for quarterly dedicated truck runs for MR @ \$500/run
- Have high school students to perform the visual audits as part of their volunteer hours
- Have the contractor photograph all the carts before tipping. Staff can interpret % full from the photos and translate % full into tonnage reports

3.2 Benchmarking – Round Table Discussion Analysis: Key Learnings & Improvement Opportunities

From the consolidated updates of all three round tables, key learnings and improvement opportunities were distilled.

Table 6: Key learnings and Improvement Opportunities

Discussion Point	Key Learning	Improvement Opportunity
Measuring & Monitoring	This area presented the greatest challenge for municipal staff for the following reasons:	<i>Data Accuracy</i> The process to capture tonnage data through visual audits is requires further refinement to ensure accuracy.

Discussion Point	Key Learning	Improvement Opportunity
	<p><i>Blended Routes</i> Most MR buildings are collected on a blended route meaning the collection vehicle servicing individual households or single-family homes will also collect from Multi-Residential buildings. This measures it difficult to separate out the MR tonnage from the SFD tonnage with any degree of accuracy.</p> <p><i>Data Collection Methodology</i> Some municipalities have worked from actual weigh bills from dedicated routes to determine the number of tonnes to report while other municipalities have calculated their tonnage based on their visual observations at a sample set of buildings. The visual observations have not audited or verified to determine their accuracy. Many municipalities expressed the need for training and support to help determine the tonnage derived from MR programming.</p> <p><i>Staffing Resources</i> The amount of time required to carry out this task was cited as the main reason that smaller communities would not be carrying out this activity on a regular basis.</p>	<p>Other suggestions to improve tonnage data capture included writing a clause into collection contracts requiring contractors to perform dedicated MR building runs quarterly that would be weighed at the processing centres to determine the average number of tonnes captured through the MR program. This dedicated run would also allow program coordinators to gain a general sense of the degree to which residual from MR sites is affecting their overall contamination rates.</p> <p><i>Staffing Resources</i> The value of data collection needs to be more clearly articulated. Efforts must be undertaken to minimize the amount of time it requires to capture the necessary information; visual estimates of bins, conversions to tonnage, and report output for analysis.</p> <p>Measuring and monitoring of MR performance in small municipalities does not appear sustainable, yet many of the medium and larger municipalities are doing this regularly and claim it does not require significant resources.</p>

4. Implementing BP #3: Providing Collection Container Capacity at BP Levels



Adequate recycling container capacity is a critical element of program success. To achieve Ontario's goal of capturing 70% of the recyclable materials in the waste stream, it is estimated that approximately 50 L of collection container capacity per household, or in this case, per MR unit, is needed⁸. Multi-Residential buildings are generally under-resourced in this regard, therefore adding capacity was predicted to be the simplest way to increase the number of tonnes diverted annually. As part of its efforts to position MR programs for success, CIF encouraged municipalities across the Province to purchase enough 360 L carts and 4-yard bins to bring their programs up to the recommended capacity levels. In-unit containers or bags were also promoted as they provide the means necessary for residents to move recyclables from their units to the designated recycling areas within each building.

Purchasing and distributing carts, bins and bags is the most costly Best Practice to implement. In the interest of municipalities, CIF developed and issued a Request for Tender as a cooperative procurement venture. The goal was to coordinate a bulk purchase that would achieve the economy of scale needed to secure the highest quality containers at the lowest possible price.

CIF then offered up to 50% funding toward the purchase of these containers to help municipalities overcome the budgetary obstacle of bringing all their MR buildings up to the recommended capacity level at one time.



In total 13,475 carts and 1,450 4-yard bins were added to the system through CIF funded initiatives. This amounted to just under 10,000 cubic meters of additional recycling container capacity. Round Table participants indicated the pricing achieved through the cooperative tendering presented significant cost savings for their municipality, which would otherwise not have been realized.

The impact of the cooperative venture extends beyond the number of carts and 4-yard bins purchased through CIF funded agreements. Non-subsidized carts and bins were also sold to municipalities through the joint procurement agreement, however, as these containers were bought without CIF funding support, these collection capacity increases were not documented, as municipal purchasers were not obligated to report their updates to CIF.

4.1 Capacity – Round Table Discussion Questions & Responses

“Does your experience with this project support the following assumption: increasing capacity increases recycling rates (more kg/unit?)”

- Small – 5/7 yes, 2/7 unsure (projects incomplete)
- Medium – 7/8 yes, 1/8 no
- Large – 7/7 yes

⁸ As per 2007's KPMG report

“In the future, how will you supply carts to buildings? Is this different from your previous practice (i.e. before the CIF project)?

- Most municipalities indicated they would continue to add container capacity, until the recommended level is reached (50 L per unit or 1 360 L cart for every 7 units). Also, they indicated they would continue to provide bags until each MR unit has this in unit capacity
- The larger municipalities indicated they would continue to provide carts, and where space is available, they would introduce 4-yard bins for collection of fibers (cardboard), and larger front end loading bins.
- Most municipalities indicated they would continue to purchase containers through the cooperative purchase to keep costs low. Especially in cases where the municipality plans to pass the cost of the containers over to the building owners or operators.

“Single stream programming allows a transition from 360 Litre carts to 4-yard bins or larger for some municipalities. “What has been successful/good or not so good/bad about this?”

Positive Outcomes:

- Use of 4-yard and larger bins has promoted diversion (i.e., the number of tonnes collected has increased, especially cardboard), while collection costs have decreased substantially.
- 4-yard and larger bins are more durable than carts and are expected to last longer. The reduction in need to replace broken carts is expected to save money.
- The scales designed for the front end collection trucks (forks) are excellent. Scales designed for loading the carts are much less accurate. Thus, a more accurate and precise measure of materials captured is collected through the front end bin system.

Negative Outcomes or Drawbacks:

- Physical constraints, takes up even more space than carts, especially in the larger buildings
- Growing pains in the bin design
- Need to overcome some resistance and concerns, as site-staff see moving the bins around on collection day as a health and safety issue.
- A barrier exists when buildings have to purchase the bins, similar to the carts.

“What is the importance of in-unit containers, and will you provide them again?”

- Residents and managers were pleased with in unit containers, in general they are very popular
- Joint tender was a resounding success
- Most will purchase again in joint tenders
- Benefits to having split bags and differently coloured bags, for two stream systems
- Bonus, having P&E on side of bag, with contact info
- Some negative feedback from site superintendents – dirty/messy containers



Table 7: Providing Container Capacity

Discussion Point	Key Learning	Improvement Opportunity
Impact on Tonnes Collected	<p><i>Increasing Capacity Increases Tonnes Collected:</i></p> <ul style="list-style-type: none"> All municipalities reported an increase in the tonnes of recyclables collected after the containers were installed. Interim results show the kg/unit/year increases to range from 77 to 95 While it is effective, adding the carts was the most difficult Best Practice to implement. 	<p><i>Practical Data Monitoring & Measuring:</i></p> <ul style="list-style-type: none"> Measuring & monitoring activities are still not uniformly carried out. Continued work through the CIF to improve upon its initial efforts to standardize this practice would allow for greater understanding and clarity of which activities or combination of activities yields the greatest return on investment (i.e., allows the greatest increase in tonnes captured at the lowest price). Improved measuring & monitoring will improve budget and contract management.
Cooperative Tender	<p><i>Cooperative Purchase Presented Meaningful Cost Savings:</i></p> <ul style="list-style-type: none"> The average price for a 360-L carts ranges from \$65 to \$100 each. Through the tendering process, carts were made available to municipalities for \$45 - \$55 each (depending on resin values). 13, 475 carts were purchased through CIF funded agreements. Assuming a conservative \$20 saving per cart, minus the cost for CIF to prepare and issue the Tender, this process achieved a \$250,000 savings to the system for carts alone. The savings resulting from the 4-yard bins, in-unit bags as well as the non-CIF funded containers will push the overall savings higher. Alone, small & medium sized municipalities would not have the buying power needed to garner prices as low. Small & medium sized groups requested CIF continue to prepare and issue cooperative tenders on behalf of municipalities. 	<p><i>Require that all Ontario Municipalities participate in the cooperative procurement activity:</i></p> <ul style="list-style-type: none"> Large sized municipalities have the buying power needed to attract competitive pricing. Therefore, there is little incentive for them to participate in the cooperative tendering exercise. -- There is, of course, an obvious benefit to the small and medium sized groups when large sized municipalities participate as the large groups drive up the economy of scale. For this reason, consideration should be given to mandating that all municipalities participate. The implications and enforcement of such presents the possibility of additional cost savings and should be evaluated as an improvement opportunity.
Overcoming Barriers to Success	<p><i>Building Owners Are Reluctant To Take On Container Costs:</i></p> <ul style="list-style-type: none"> Charging building owners and operators for carts, bins or bags creates a disparity between what the system has and what it needs. Generally Building owners need to be compelled to take on the cost of additional containers. 	<p><i>Improve Building Owner Awareness:</i></p> <ul style="list-style-type: none"> Face to face visits explaining the cost savings to be realized by purchasing carts subsidized by CIF was effective at promoting the carts to managers and property owners. There was also great value in educating building representatives on value of meeting best practices. Professional P&E materials would help municipalities with these in-person engagements.
	<p><i>Limited Floor Space for Cart Storage</i></p> <ul style="list-style-type: none"> Municipalities are moving towards an on 	<p><i>Ontario Building Code Changes & Alternative Storage Solutions:</i></p>

Discussion Point	Key Learning	Improvement Opportunity
	site requirement for enclosures to include space for the 7:1 formula for new buildings approval	<ul style="list-style-type: none"> Move building code changes forward so that for new buildings, on site requirements for enclosures include space for an adequate number of carts or bins.
	<i>Coordination & Logistics</i> <ul style="list-style-type: none"> There is extensive leg work that goes into identifying what buildings need capacity and then convincing them that it is worthwhile 	<i>Support for Populating & Maintaining the Database</i> <ul style="list-style-type: none"> Municipalities indicated that having a database with a list of all the buildings, and notes for each (i.e. do they need additional capacity or not, what has been the contact to date), was critical to managing program updates. Given that initial database set up is time consuming, support may be required to bring other municipalities on board.
	<i>Support Is Needed from the MOE</i> <ul style="list-style-type: none"> In small municipalities recycling is not a priority and it is difficult and time consuming to bring property management companies into compliance with the legislation. They prefer to offer only garbage service, as it is a simple and inexpensive practice. 	Legislative changes are needed

5. Implementing BP #4: Provide Promotion and Education Materials

Continuous communication is essential for engaging MR stakeholders in Blue Box programming. The MR stakeholders include: Building residents, site superintendents, building managers, building owners, collections staff, and municipal staff. MR residents require information as to which materials are acceptable for collection in the Blue Box program, how to properly sort materials into the appropriate streams, and where the recycling facilities are located within their building. This information may be provided by municipal staff or building management. MR recycling programming is complex as buildings may have recycling rooms, shoots or outdoor facilities. Often where and how to recycling is not clear to building residents or management.

To tackle this challenge, the CIF developed tools and strategies to assist municipal staff in providing the necessary information and materials to MR residents to encourage participation in the recycling diversion. CIF contracted P&E experts to develop P&E material templates for participant municipalities. The material templates included posters, signs, labeling for collection containers, in unit containers, and a superintendent/property manager handbook. CIF also covered the costs to have its designer customize the templates to meet the needs of the individual municipality. This ensured that CIF's template materials retained their professional aesthetic and branding. Municipalities were required to pay for printing and distribution costs of the materials. Municipalities were also required to select the P&E materials for MR distribution (from the materials templates provided by CIF and materials produced/designed by municipal staff) and were responsible for communications planning and scheduling.

Additionally, engaging site superintendents, building managers, and property owners through communication and training efforts has been successful through this programming. This engagement and training was supported through the MR train the trainer courses and toolkits developed and offered by the CIF. Municipalities then prepared and delivered workshops & open houses for building superintendents, managers, owners, and residents. The workshops were geared towards MR superintendents, buildings managers, and owners and typically consisted of a full or half day session. Open houses were targeted toward all MR stakeholders and followed an informal drop-in format.



5.2 P&E – Round Table Discussion Questions & Responses

Table 8: Key Learnings and Improvement Opportunities

Discussion Point	Key Learning	Improvement Opportunity
P&E materials templates & resources	<p>All municipalities, that have completed the P&E section of their MR program implementations, reported that they used the CIF material templates. These municipalities also identified that the resources were of value & they would continue to use materials templates and resources in their MR programming in the future.</p> <p>Posters, signs, in unit containers, container (cart) labels & the superintendent handbook were produced by most municipalities and used for MR programming.</p> <p><i>Receiving complaints:</i> Municipalities did receive some negative feedback by way of pictures of municipal calendars in the recycling bin, comments about wasting tax payer's money, etc.</p>	<p>There is high demand for the P&E materials templates and a history of their use by municipalities. This type of tool also promotes harmonization between municipal recycling programs. Suggestion: Using the same P&E materials (look, images, messaging) between municipalities would increase familiarity for transients and maintain recycling behaviours</p> <p>Municipalities have identified that they need to answer the question: What form, or what is the right type of information can they get into someone's unit to inform them on how to recycle? By answering this question, municipalities can hope to improve the efficiency of P&E</p>
Does using P&E improve MR recycling capture	<p>All municipalities, that have completed the P&E section of their MR program implementation and follow up assessments on recycling performance, identified that completing a dedicated MR P&E campaign increases capture of materials (kg/unit).</p> <p>Municipalities identified that they felt the best bang for their bucks was realized through the use of posters, signs, & in unit containers</p>	<p>Next steps are to better correlate and demonstrate improvements in recycling performance will center on targeting specific MR buildings with P&E campaigns and monitoring the immediate building specific performance impacts.</p> <p>Peel plans on using their RFID technology and tracking to identify and distribute P&E materials to low/med recycling performance MR buildings.</p>
Best Practices in P&E	<p>The key ideas to keep in mind when preparing P&E for MR</p> <ul style="list-style-type: none"> • Large posters, stickers & labels with good high quality graphics work best • Setting up a policy with building owners and operators to provide P&E materials for move ins/outs will ensure the performance of MR buildings • Diversity of P&E material will ensure success • Face to face interactions with residents appears to be an effective way to communicate key aspects of MR recycling programming ,but is resource intensive in terms of staff time 	<p>Create best practices in MR P&E guiding document for use by municipal staff. Included in the guide, provide examples of high quality P&E materials as identified by CIF staff and communications experts.</p> <p>Include expectations for P&E investment established by correlation between P&E campaigns and building performance identified in the previous improvement opportunity (above)</p> <p>Municipal staff should focus on getting P&E materials directly into the hands of buildings residents, rather than relying on the</p>

Discussion Point	Key Learning	Improvement Opportunity
	<ul style="list-style-type: none"> • Successful P&E in one building may not work for another; consider building specific P&E tactics <p>Three tactics to make the biggest improvement:</p> <ol style="list-style-type: none"> 1. On site meeting of tenants, superintendent, & municipal recycling staff persons 2. High resolution pictures of acceptable and unacceptable materials for cart labels and other P&E materials 3. Distribution of in unit containers directly to MR units. This is more effective than dropping the containers off at the MR building for distribution by the site superintendent or building manager 	distribution of materials through the site superintendent
Engagement	The train the trainer workshops put on by the CIF were very popular amongst municipal staff participants. However the costs and resources to put on a training sessions for MR stakeholders is observed to be high and has met with variable success. ¹²	Previously, MR open houses & workshops have been voluntary, but with the implementation of other programming some municipalities have made them mandatory. Uptake seems to be much better when the open houses & workshops are mandatory. Also, targeted letters (when there were contamination issues, etc) to tenants stating “oh we noticed this in your cart” have been effective and municipalities will continue to use them in the future; similar to Oops stickers in curbside recycling programs

6. Conclusions

Was the \$2.8 M investment worth it?

The work undertaken as part of this interim evaluation of CIF's MR portfolio included a review, consolidation and analysis of data updates from 12 participating municipalities, and round table discussions with 22 of the 27 municipalities who received CIF funding for MR initiatives. The outcomes:

Tool Development

- Database management tool, piloted by 27 municipalities
- P&E campaign tool kit complete with posters and label templates
- Training resources including a superintendent handbooks and workshop curriculum
- Cooperative procurement agreements which secure high quality containers at a low price point

Capacity & Tonnage Increases

- Just over 9,000 cubic meters of additional capacity installed which breaks down to 13,475 carts and 1,450 4-yard bins
- A projected 16,800 new tonnes of Blue Box materials collected annually (based on current trends)

Infrastructure Improvement Initiative

- The Ontario Building Code has been reviewed and recommended changes have been formally requested. The recommendations focus on strict requirements for buildings to be designed to meet the storage needs for successful waste diversion programming (i.e., adequate dedicated floor space for recycling cart storage).

Through the MR portfolio, CIF set out to equip municipal staff with the tools and the know how to manage their programs and maximize diversion in this sector. The objective was to facilitate the standardization of MR programming in Ontario and to begin to bring its performance into alignment with that of curbside recycling. The results demonstrate that CIF has been successful. Through an investment of \$2.8M or roughly \$165/tonne⁹, systematic changes have been implemented. Data availability and consistency has improved through the use of the database. The number of tonnes collected has increase as a result of adding carts and bins to buildings in tandem with a P&E campaign aimed at increasing awareness, and inroads have made toward aligning MR performance with that of curbside recycling¹⁰.

The database management and P&E tools as well as the cooperative procurement agreements are legacy pieces that continue to be made available to municipalities through the CIF website¹¹. While CIF is no longer providing funding to support their implementation, efforts to standardize programming carry on as municipalities continue to access and utilize these items. Should the Ontario Building codes be approved, that too will contribute to service delivery consistency.

Final comments from municipalities participating in the round table series provide further evidence that the intended programming changes have taken hold.

⁹ 16,800 new tonnes recycled annually at a cost of \$2.8M invested, or \$165/tonne.

¹⁰ The Recycling Rate for the province based on datacall results is 167 kg/household/yr. The mean MR Recycling rate, based on the data submitted, is 94kg/unit/yr, which is up from the baseline figure of 77 kg/unit/yr.

¹¹ <http://cif.wdo.ca/resources/multi.html>

6.1 – Conclusions – Round Table Discussion Summary

“Has this project changed how you will be managing your MR programming?”

- Small - 6/7 yes
- Medium 6/8 yes, 1/8 unsure, incomplete, 1/8

“How has it changed your MR management strategy?”

Small:

- The database facilitates ongoing communication and monitoring
- Municipalities have more resources (P&E, in unit containers), and it is easier to make changes in programming
- The train the trainer work shops were new: continue to provide workshops for managers/superintendents
- Encouraged with success (especially with quantitative measures of performance improvements)

Medium:

- Focus on maintaining contact with the superintendents, for issues and problems
- Commitment to monitoring and measuring the MR sector
- Will use the database information to custom tailor building specific P&E and programming

Large:

- Incorporating the building code and waste management planning by requiring waste recycling and organics features in addition to garbage shoots in new buildings
- Will continue to maintain the relationships with property managers that have been developed and keeping them as champions of recycling

“Which of the 4 best practices resulted in the greatest difference?”

Large:

- 12% Creating & Maintaining a database
- 22% Completing site visits & measuring quantitatively
- 44% Adding more carts
- 00% Developing & distribution of P&E
- 22% Reporting out on your results

“What were the qualitative results of this project?”

Small:

- Building communications/relationships with superintendents/managers and getting an on-site contact for buildings, helped ease implementation of P&E and capacity on site
- Developing internal municipal synergies with other departments
- P&E was a great output. Strong support for the tools available online. Also, talking through P&E with onsite contact to develop best strategies for each individual building
- Educating managers/superintendents about the financial benefits help initiate and maintain the relationship

Medium:

- Increased engagement and connection of municipalities with the MR superintendents and residents
- Response from superintendents was quite strong; municipal staff received requests for P&E and other support to increase the recycling efforts by building representatives
- Increased awareness through P&E with tenants

- Increased awareness of cost savings with supers and owners (through cooperative cart purchase, etc.)
- Reduced physical & ergonomic hazards, vandalism

Large:

- Increased awareness and education of residents, buildings staff, and managers
- Increased customer satisfaction
- Standardization of service across MR
- Recycling correctly and being aware that it does make a difference

“Knowing what you know now, if you could take only one action to improve performance in MR buildings, what would it be? “

Small:

- Develop a relationship with the building management
- Provide P&E materials to all units
- Provide a larger area for recycling. Enforce the establishment of this area in new buildings
- Set up a two way communication specifically for building superintendents/managers and the municipal employee
- Issue regular P&E to keep stakeholders engaged
- Ensure adequate number of carts

Large:

- Use a multi-factorial approach including: P&E, capacity, and constant interaction with stakeholders
- Follow up with residents, superintendents, and property management on a regular basis to ensure building performance does not drop off, especially as a result of high resident turnover
- Adopt a top down approach when issues in dealing with on-site superintendents present themselves, contact property management.

What are your recommendations for how CIF should move forward? Where should they go from here /how can CIF best support MR activities and improvement in this sector? What are your suggestions?

- Containers: continue to provide funding for containers up to best practice levels
- P&E: continue to develop professional P&E templates; develop new items; facilitate joint MR P&E initiative between municipalities
- Tool kits: how to engage site staff and residents; how to implement an ambassador program
- Studies: user pay system for MultiRes
- Leadership: Teleconferences support for sharing information between MR coordinators
- Legislative Changes: CIF needs use its power to lobby the higher levels of government for greater enforceability of recycling services (the municipalities feel they are not powerful enough to leverage effects); identify/evolve what the MOE and building code can do for MR
- Training courses: for staff on how to run a MR program, continue with Superintendent training support and database training support
- Waste Audits: include MR in provincial waste audits; separate MR from curbside, make apparent the importance of this sector

How can CIF continue to support you?

Small

- Tools on website (43%)
- Webinars and MR training (43%)
- Supporting the MR working group (14%)
- Providing a list of tenders that are going out for joint purchases (like the bags and bins for in unit)

Medium [1 municipality did not complete survey]

- Supporting the MR Working Group (57%)
- Webinars & MR Training (29%)
- Other (14%)

Large

- Tools on a website (0%)
- MR training courses, webinars (57%)
- Supporting the MR Working Group (43%)
- To continue with a large group (same as existing format), or would it be valuable to have a group which is made up of other similar sized municipalities, like on this call 0%

The needs of small, medium, and large municipalities are different. Small municipalities require the most support for tools and training, in addition to the support requirements identified for monitoring the buildings in the MR sector and measuring their performance. Medium and large municipalities appear to have sufficient resources to capture, manage, and analyze data from the MR sector, their needs surround continued training for staff and support for an MR working group.

6.2 CIF Staff Recommendations for Continue MR Support

Providing adequate container capacity, data tracking tools, and promotion & education materials have proven to be effective strategies to improve performance. CIF has received ongoing requests from municipalities to continue to support MR programming. Given the success realized after its first concentrated effort to standardize programming, CIF staff recommend additional financial support in the following five areas to ensure continued momentum.

Funding Area 1: Develop a MR Measuring and Monitoring (M&M) toolkit

CIF conducted a container density study which provided the means for converting visual estimates of container fullness or bundled cardboard to an actual measure of kg/cart or kg/m³. Municipalities who do not have dedicated routes for MR collection are using the visual estimate conversion method outlined in the report. To ensure the accuracy of the visual estimate method, or to determine an alternative means of collecting this information, four further steps must be taken, the costs of which are outlined in Table A1 (Appendix A). Total budget for developing the MR M&M toolkit is approximately \$20,000.

Step 1: Test conversion formulae

The conversion formulae for estimating tonnage based on volume was completed in 2009 by professional auditing staff from 2cg. CIF Staff recommends further work in this area to determine if municipal staff are carrying out the conversion work accurately. This could be accomplished by working with municipalities that have trucks with onboard weigh scales to weigh materials in carts and bins *in situ* in coordination with visual estimates for ease of comparison. Step 1 will confirm that the visual estimation method remains accurate, reproducible and reliable when completed by municipal, consultant and/or contractor staff.

Step 2: Identify costs to collect, convert and analyze visual data

The amount of staff (or student) time required to collect visual estimates from the field, carry out the conversions and enter data, and produce usable reports is unknown. Step 2 will determine this. This will provide the information needed to properly plan and allocate staff time and resources to carry out regular assessments of MR programming.

Step 3: Compare

Consider alternative methods for gathering MR data. For example, determine the cost to have the collection contractor complete a dedicated run of MR building. Determine which is most cost effective and practical.

Step 4: Establish Standards

The steps necessary for analysis and reporting and the amount of municipal resources required for assessment are not clear. Step 3 will consolidate, clarify, and establish the standards for collecting and reporting tonnage information.

As an added improvement to measuring and monitoring MR programming, a system for determining the cost to deliver MR programming should be developed and piloted. Improvements in capturing tonnage data have been essential to evaluating whether or not programming changes had taken hold and the extent to which they improved the system. Determining the MR programming costs, as it is not currently tracked separate from curbside programming, would help municipalities to refine their planning activities and aide in the determination of whether or not to invest further in this sector.

Funding Area 2: P&E Materials Development – Continued Support of Project #433

CIF has produced a series of P&E templates available to municipalities online. CIF offers funding support to have the materials professionally customized with municipal logos and contact information. This ensures that materials retain a consistent and professional branded look. The municipalities are responsible for the printing and distribution costs. The uptake has been good, and the round table feedback maintains that this support is of high value to MR coordinators. CIF Staff recommends that this support service to the MR sector continue. Additionally, CIF staff recommends that the materials be refreshed with new images, and a P&E strategy for targeting low to medium performing MR buildings be created. The use of CIF templates should require that municipalities track pre and post measures of performance to assess success of P&E campaigns. Table A2 outlines the cost breakdown for continued P&E support. Total budget for continuing P&E materials development support is approximately \$10,000.

Funding Area 3: MS Access Database Support and Training – Continued Support 236

The MR Microsoft Access database template was created to assist municipalities in managing building specific information from MR programming. The MS Access database is a powerful tool for consolidating, organizing and reporting data. Although this software is user friendly, the webinar series identified a continued need for training and troubleshooting support for MR coordinators. Currently, the creator, Competitive Edge, provides support to MR coordinators. CIF staff recommends that this support service be maintained to meet the needs of the MR sector. Table A3 outlines the costs for database support. Total budget for continuing Database support and training is \$6,000.

Funding Area 4: Key Stakeholder Training Toolkit Development

CIF has run four Train-the-Trainer (TTT) workshops for MR municipal staff since 2011. The TTT is geared towards providing municipal staff with the skills and resources for training site superintendents,

property managers and owners. The workshops were well attended; municipal staff indicate that the training is of high quality and value. The City of Toronto runs what staff calls an Ambassador program. Ambassadors are resident volunteers that wish to participate in promoting waste diversion in their buildings.

CIF staff recommends combining these two programs into a single toolkit for training key stakeholders in MR buildings. CIF staff recommends running two training sessions for municipal staff in 2015; to familiarize staff with the toolkit, strategies for engaging key stakeholders, and providing insight into how to mold the MR culture towards waste diversion. Table A5 identifies the costs for creating the toolkit and training municipal staff. Total budget for the development of a train the trainer toolkit and municipal staff training is approximately \$12,000.

Funding Area 5: Multi-Municipal Containers Purchase

Staff recommend that CIF continue to coordinate cooperative procurement activities for containers, and for any other supply or resource that is commonly purchased for MR programming. The total budget for this activity is \$25,000.

Funding Area 6: Support MR Working Group

CIF staff recommends supporting a (MWA) MR working group by providing funding for administrative support, long distance fees, and other meeting support costs. CIF staff recommends that this group focus on development of policy initiatives with the MOE, municipal by-laws focused on placing the onus on MR building owners to annually provide information to update MR databases, and working towards aligning the performance and costs of the MR sector with that of curbside collections.

Table 9: CIF staff recommendation for funding areas in order of priority

Funding Areas	Budget	Deliverable
Development of an MR M&M toolkit: <i>update & expand on Project #201</i>	\$20,000	<ul style="list-style-type: none"> Standardized tonnage tracking system Standardized cost tracking system Standardized reporting system
P&E Materials Customization Support: <i>continuation of Project #433</i>	\$10,000	<ul style="list-style-type: none"> Updated Materials for 2014/2015 Development of a campaign to target low performing buildings Ongoing customization of templates
MS Access Database Support & Training: <i>continuation of Project #236</i>	\$10,000	<ul style="list-style-type: none"> Upgrade data tracking to include cost fields Ongoing training and customization Development of portable database update tool/application Short online training “how to” videos
Key Stakeholder Training Toolkit: <i>continuation of Project #434</i>	\$12,000	<ul style="list-style-type: none"> Staff training
Multi-municipal Containers Purchase: <i>reissue of CIF tenders</i>	\$25,000	<ul style="list-style-type: none"> Cooperative procurement update for 2014 (& 2015 if necessary)
Support MR Working Group <i>new initiative</i>	\$12,000	<ul style="list-style-type: none"> Provincial policy development Municipal by-law development Performance reporting for MR sector Consolidated learnings and proposed next steps for MR programming

TOTAL	\$89,000	
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APPENDIX A – DETAILED LIST OF CIF FUNDED MR PROJECTS

MR Funding Approved Projects & Units			
Project #	Municipal Proponent	Units	Funding Approved
432	Aylmer	800	\$8,073.00
286	Barrie	10,000	\$37,961.00
534.4	Brantford	6,800	\$36,567.00
617.5	Cornwall	4,200	\$21,370.00
619.5	Dufferin County	1,800	\$16,994.00
193	Durham Region	23,000	\$72,685.00
156	Essex Windsor Solid Waste Authority	27,000	\$41,790.00
513.4	Essex Windsor Solid Waste Authority		\$62,353.00
517.4	Greater Sudbury	13,000	\$37,081.00
631.5	Halton Region	28,000	\$89,712.00
508.4	Kawartha Lakes	1,600	\$20,207.00
218	London	50,000	\$198,230.00
366	London		\$18,000.00
212	Niagara Region	30,000	\$262,238.00
358	North Bay	6,100	\$17,316.00
514.4	Oxford County	1,500	\$23,618.00
566.4	Peel Region	88,500	\$610,560.00
328	Peel Region		\$244,733.00
301	Perth	500	\$6,128.00
174	Peterborough City	7,000	\$13,913.00
565.4	Peterborough City		\$10,176.00
149	Quinte Waste Solutions	5,000	\$64,785.00
125	Sarnia	10,500	\$60,052.00
417	Sarnia		\$3,307.00
359	Smiths Falls	900	\$3,329.00
221	St. Thomas	3,800	\$28,350.00
124	Stratford	3,300	\$35,100.00
178	Toronto	540,500	\$38,500.00
315	Toronto		\$62,709.00
237	Toronto Community Housing	55,000	\$216,325.00
250	Waterloo Region	63,100	\$174,587.00
399	Wellington County	2,000	\$15,773.00
525.4	Woodstock	4,000	\$24,208.00
	TOTALS	987,900	\$2,576,730.00

APPENDIX B: ROUND TABLE PARTICIPANTS AND PROJECT STATUS

MR Project Round Table Participants & Project Status		
Project #	Proponent	Project status
286	Barrie	completed
534.4	Brantford	incomplete
619.5	Dufferin County	incomplete
193	Durham Region	incomplete
156	Essex Windsor Solid Waste Authority	completed
513.4	Essex Windsor Solid Waste Authority	completed
517.4	Greater Sudbury	completed
631.5	Halton Region	incomplete
508.4	Kawartha Lakes	incomplete
218	London	incomplete
366	London	incomplete
212	Niagara Region	incomplete
358	North Bay	completed
566.4	Peel Region	completed
328	Peel Region	incomplete
301	Perth	completed
174	Peterborough City	completed
565.4	Peterborough City	completed
149	Quinte Waste Solutions	completed
125	Sarnia	incomplete
417	Sarnia	incomplete
359	Smiths Falls	completed
221	St. Thomas	incomplete
124	Stratford	completed
178	Toronto	completed
315	Toronto	completed
237	Toronto Community Housing	incomplete
399	Wellington County	incomplete

APPENDIX C: CONSOLIDATED SURVEYS PRE - MR ROUND TABLE

C.1 Consolidate survey results for pre-round table survey of small municipalities

Table C.1: Consolidated survey results for pre-round table survey of small municipalities

	St Thomas	City of Kawartha Lakes	Wellington	Perth	Stratford	Oxford	Smiths Falls	Totals
1. Creating & Building a Database of MR Properties								
How successful were you at doing this?	4	4	4	3	3	4	4	3.7
How relevant was this for your municipality?	3	5	5	2	5	5	4	4.1
Will you continue to maintain this practice?	3	5	5	4	4	4	5	4.3
2. Benchmarking & Measuring Performance								
How successful were you at doing this?	2	3	3	3	4	4	3	3.1
How relevant was this for your municipality?	2	3	5	2	4	4	4	3.4
Will you continue to maintain this practice?	2	3	5	3	3	5	4	3.6
3. Increasing Recycling Container Capacity								
How successful were you at doing this?	5	4	3	5	5	4	3	4.1
How relevant was this for your municipality?	5	4	4	5	5	5	4	4.6
Will you continue to maintain this practice?	5	4	5	5	5	4	4	4.6
4. Providing P&E Materials								
How successful were you at doing this?	2	5	5	4	4	4	5	4.1
How relevant was this for your municipality?	3	5	5	4	5	5	4	4.4
Will you continue to maintain this practice?	5	5	5	4	2	5	4	4.3

1. Creating & Building a Database of MR Properties

Has the project changed how your municipality works in this respect? Comment.

- There are not a large number of Multi-Residential Properties in St. Thomas. Much of the Information can be maintained in a simple spreadsheet as effectively as a database.
- This project has helped to 'open the lines of communication' with multi-res managers, however, this project has not changed the way collection is provided to multi-res buildings.
- We now have an accurate count of the number of MR households in the County which we didn't have before. The DB is a great tool to keep track of communications and our activities related to each individual MR building. It also gave us a contact list we can use for educational information or programme/service changes.

- We had a data base of our MR which was updated on a yearly basis. We will keep updating the database as we have done in the past.
- Yes, we are tracking our buildings more and performing annual audits to assess capture rates and contamination; this was never done before.
- All apartment complexes have been given the tools necessary to promote the program – large totes provided for external collection, workshops available through the summer with environmental assistant, easy to read and leaflets provided to property managers to provide to tenants. We would need to provide bags to tenants to facilitate from apartment to totes.

2. Benchmarking & Measuring Performance

When you benchmarked your program's performance at the beginning of your project, what were the benchmarks you measured (e.g., kgs/unit; cost/unit)?

- Could only benchmark based on participation/fill rates of carts.
- The City of Kawartha Lakes began this project during the summer of 2012, we are not going back to multi-res buildings to measure changes until Spring 2013.
- The number of buildings recycling either through our service or private contractor. The number of carts/blue boxes in use at each facility. Whether the buildings had up to date programme information or not (e.g. posters, cart stickers)
- We measured the kgs/unit. We estimated the amount of recyclables that each building was recycling by taking the numbers from what type of container and how many containers they put on the curb.

Please outline/ describe how you calculated your benchmark(s) (i.e., what data did you use, where did you obtain the data, did you use assumptions, if yes what were they).

- All done through in-person visits to the properties.
- We went to each building to see if they recycled, if yes how many boxes/carts did they use and which recyclables did they put out on the curb.
- Each site was visited, we checked for the capacity, estimated fullness, checked for mixing, contamination, overflow and OCC present.
- Data collected through visual audits - assessing container fullness and contamination levels.
- We reviewed several totes / weighed and divided by unit in the building.
- There was no previous recycling in many of our buildings so initial audit used as our baseline.
- This summer will continue to do audit to see if changes additional changes.

Has the project changed how your municipality works in this respect? Comment.

- Under our current contract it is difficult to benchmark as much of the data required cannot be garnered from the collection contractor.
- We will be enhancing our performance and participation studies to better evaluate the success of recycling at MR buildings.
- We switched programs from 5 stream to 1 stream so another site visit to check for capacity and re-labeling carts.
- Yes, we had never performed audits before and now do them on an annual basis.
- Yes: multi res makes up 21% of our population which is not to be ignored. They are to be accountable under our recycling by-laws.

3. Increasing Capacity (number of carts/bins) For Recycling

Has the project changed how your municipality works in this respect? Comment.

- The City of St. Thomas has and will continue to provide the 95 Gallon Carts for collection free of charge. This guarantees enough capacity is in place for all buildings. The only limiting factor would be physical space for storage.
- We have visited half of our multi-res buildings to date and provided them with carts at a subsidized cost. We will be visiting the remaining multi-res buildings during 2013.
- Yes, in that we are actively trying to recruit MR buildings onto our programme, where before we simply promoted the service was available. We maintained our principle of "user pays" and charging for the

carts, but are able to provide carts at 1/3 of our previous costs due to the joint tender and CIF funding, which has helped with bringing some buildings on-line.

- We were able to increase recycling in many of our MR building with help from this project. Out of the 31 MR building in the Town of Perth, 6 building managers were actively recycling for their building in 2009 and in some of the others a few residents were putting out blue boxes out on their own. By providing carts to all building 15 MR building took the P&E material and carts and started to recycle. A new total of 21 MR buildings recycle currently.
 - We now know how many carts at each location, how often they are serviced, if they meet capacity.
 - Yes, we are more aggressively promoting in-unit containers and carts.
 - We are working with other municipalities to get costs down. Requests are being made for totes. After a year in the new program I am running into broken carts – especially at the lift bar and breakage at the bottom of the carts - Those that are about to break; I have a fibre glass repair kit to reinforce around the lift bars. Again; cost is issue; gave free to apartments ; now breaking want free new ones- Contractor says they did not do damage and owner is saying same thing; We want them to continue to recycle but at a cost to the municipality.
-

4. Providing P&E Materials

Has the project changed how your municipality works in this respect? Comment.

- Prior to the Project no Multi-Residential specific P&E was available. The project, though not very successful so far, is a planned to improve this in the future.
 - We now have a dedicated publication (Recycling More Handbook) to provide to multi-res buildings.
 - We now offer in-unit bags to MR hhlds where before we only were able to provide blue boxes, and we are developing a policy for replacement of in-unit bags as tenants move in and out. We improved P&E for each and every tenant by providing them with a magnet and in-unit bag, where before we just provided cart stickers and posters for education. The superintendent handbook is also a brand-new educational product to assist superintendents/managers/landlords with understanding the programme and giving them the appropriate contact information.
 - We were able to provide posters and bags to MR units as well as information sheets to all residents that decided to take advantage of our program.
 - With the switch of streams, new literature was not created for the Multi - residents
 - Yes, we did not have any multi-res material prior to initiating the project. We now distribute P&E material to new buildings.
 - Summer student available to do audits and P/E for us. Will push more this summer for conformance to by-law –fines to those who still refuse to provide recycling to tenants.
-

5. Additional Feedback

Please tell us about your key project take away (s): any insights you gained or tips you picked up as a result of participating in your CIF project.

- Property owners while interested in Recycling for their buildings are far more apprehensive about implementation when there is physical work (rolling carts to curb) involved in the project.
 - So far, showing up to a building without an appointment is working best for us to get site visits completed.
 - Most of our buildings are fairly small (more than half are under 20 units) and a third are for seniors. Many buildings don't have a dedicated superintendent to look after taking carts out to the curb.
 - One thing that learned from completing this project would be to gauge how interested the MR Building managers would be prior to ordering P&E material and bags. We ended up with a lot unused P&E as well as bags.
 - Need more follow up with the buildings.
 - How to monitor and measure and what metrics to use for benchmarking. As well, use of the CIF database has been helpful.
 - Landlords/ property management only want to do as little as possible So.. workshop great idea. Keep it simple philosophy. One page information. Collection as 2 cycle – fibre one week and all other
-

containers next. Working out well for us.

Please indicate one topic you are most interested to learn more about from the other MR project participants.

- In developing waste collection contracts, is there a clause directly related to the collection of Multi-Residential Properties and if so does in mandate on site collection wherever possible?
- How other projects measured their results.
- How to encourage building owners to participate in our programme without bringing out the big stick MOE Reg 103.
- How did others contact and provide information to building managers for their programs?
- I would be interested to find out how other municipalities manage the upkeep on each building with very limited staff.
- How people are using the CIF Access Database to enhance reporting and extraction of information.

What are the main MR program undertakings your municipality has planned for 2013 and 2014.

- Currently nothing has been planned, though another round of site visits and attempt at implementation may occur in the near future.
 - Complete site visits, Distribute carts at subsidized costs, Follow-up to 2012 site visits and measure results, Distribute in-unit recycle bags, Complete CIF final report
 - Continue to actively recruit new buildings onto our programme.
 - Continue to increase recycling capacity at buildings that don't meet identified BP.
 - Determine why some buildings are choosing to use a private contractor rather than our municipal programme.
 - Develop a reward programme for MR households similar to our "gold box" reward programme we have for our single family households.
 - Currently we have no undertakings planned in the 2013-2014 years.
 - Create brochure for 1 stream recycling. See if we can get a pilot of multi-residential buildings interested in backyard composting.
 - At this time we do not have anything new planned. We intend to maintain the program by continuing with our annual audits and program P&E.
 - Organics - Still weighing upfront costs related to amount of material collected. We do not have landfill - so trucking issue (work with other municipality or go to business - ie ORGA world). Council still not buying into program - Town consistently 23% organics (674 tonnes +/- = \$ 74,140 as garbage annually) Need \$120,000 start up (\$ 55,050 annually for truck and collect). Would take 5 + years to cover start up. And we do not have any money!
 - Bags for multires. Piggy back Halton program..
-

C.2 Consolidate survey results for pre-round table survey of medium municipalities

Table C.2: Consolidated survey results for pre-round table survey of medium municipalities

	Barrie	Cornwall	North Bay	Peterborough	Quinte	Sarnia	Sudbury	Totals
1. Creating & Building a Database of MR Properties								
How successful were you at doing this?	5	5	5	5	5	4	4	4.7
How relevant was this for your municipality?	5	5	4	5	5	3	5	4.6
Will you continue to maintain this practice?	4	4	5	5	5	4	5	4.6
2. Benchmarking & Measuring Performance								
How successful were you at doing this?	5	3	3	5	4	2.5	4	3.8
How relevant was this for your municipality?	5	4	3	3	5	5	3	4.0
Will you continue to maintain this practice?	5	3	3	4	5	4	1	3.6
3. Increasing Recycling Container Capacity								
How successful were you at doing this?	5	5	4	5	1	5	5	4.3
How relevant was this for your municipality?	5	5	3	4	5	5	4	4.4
Will you continue to maintain this practice?	5	3	4	4	5	5	5	4.4
4. Providing P&E Materials								
How successful were you at doing this?	5	4	5	5	5	3	5	4.6
How relevant was this for your municipality?	5	4	4	5	5	4	5	4.6
Will you continue to maintain this practice?	5	4	4	5	5	4	5	4.6

1. Creating & Building a Database of MR Properties

Has the project changed how your municipality works in this respect? Comment.

- We already had a very detailed Excel Database for all of our Multi-res. properties but this project gave us an opportunity to fine tune and update the existing database. We really try and keep this information current but with limited staff and a MR sector that is constantly changing, it is a challenge and not always a top priority.
- Recording of contact with Multi res
- no
- If a Superintendent calls, information is at our fingertips. Information is updated regularly. Notes are made about buildings which is helpful when reviewing information. Serial numbers of carts are in the database for warranty information. Pictures of buildings are included as well. Very useful database – love it. I do not know how to run or create reports from the database – so learning this information would be very useful to me
- No, we were doing the database before the project
- Previously, we had an excel sheet to track all of our MR property data (number of units, contact info for owner, collection day etc.). The MR database allowed us to clean up and simplify our data as well as tie up any loose ends and collect any missing data that was brought to our attention.

2. Benchmarking & Measuring Performance

When you benchmarked your program's performance at the beginning of your project, what were the benchmarks you measured (e.g., kgs/unit; cost/unit)?

- We tracked the program performance by tonnages collected because we have a separate collection for Multi residential and the contractor is required to provide those weights monthly. Using this data we were able to calculate tonnes/unit.
- Number of carts, and if they participated in program
- full carts
- In Peterborough, we measured cart fullness. Multi-residential buildings are collected with single-family dwellings so we have no separate weights for these buildings.
- MT's on inbound truck - dedicated truck not always available
- full carts
- The number of full otto carts and/or front end recycling bins on the day of collection were estimated (MR's that had curbside collection could not be estimated/measured).

Please outline/ describe how you calculated your benchmark(s) (i.e., what data did you use, where did you obtain the data, did you use assumptions, if yes what were they).

- Contacting the owner and determining what was there (I assume at the building). Got information from collection contractor
- Used existing stats on average weight per full 95-gallon cart (visual inspection)
- We had absolutely NO data before the first project. So this project was able to give us baseline data. We did a visual audit of the fullness of the bins at the beginning of the project, then gave out P&E materials and then did a final visual audit for the fullness of the bins. We did the audits the day before collection, so we did estimate the numbers for a 7-day collection instead of the actual 6-day collection.
- Our own weight scale tickets for a dedicated truck
- Looked at the carts prior to collection and counted the carts with material. Carts that were half full were counted as one cart
- A staff member went to each MR property and inspected the otto carts and/or front end recycling bins to see how full they were. The fullness of the cart/bin was determined based on the next day of collection i.e. if the inspection occurred on a Monday and the carts were half full and collection was not until Thursday, we assumed that the carts would be full by the next collection day.

Has the project changed how your municipality works in this respect? Comment.

- Yes. We always received the tonnages from BFI on a monthly basis but this project gave me the incentive to track and trend the tonnages.
- Challenges - Time
- The project gave us the baseline data, which was great. But we also found at the second project where the audits were performed by Trent Students, that the numbers were the same as the first audit so nothing had changed. This is a very time-consuming task – a week of work – and staff time is expensive to perform all of this work.
We have in Peterborough; just performed our first collection of only our Multi-Res buildings for one week and this initiative was very valuable. Compared to the above task which is very time consuming – performing this pick up is a more worthwhile task. We performed a visual audit of the materials brought into our MRF from all the buildings that day (much less time consuming) and gave us an approximate percentage of our material coming in compared to the single family dwelling totals. We are going to perform this task once per quarter in 2013.
- No we did this before as well
- The City is attempting to check on the carts and with the supers to try and ensure that as much recyclable material as possible is being diverted.

- No

3. Increasing Capacity (number of carts/bins) For Recycling

Has the project changed how your municipality works in this respect? Comment.

- This (7 units :1 bin formula) has become the standard for all buildings in Barrie and a requirement for new ones. Our Planning Department has agreed to make it a requirement of the Site Planning approval process.
- After project, cost of bins will go back on owner responsibility
- no
- Peterborough has a huge population of senior citizens, so we had many buildings that were not up to the Best Practice level. We found in our second project that not all buildings should be required to be at this level.
Example: Marycrest has 60 units, and has 64 seniors living in this building. Most of the units have only one person living in the unit. And, a couple of the units have 2 people in the unit. Best Practices assumes that families live in the units. Therefore, we found that senior buildings do not need to have the Best Practice level applied to them.
- We were turned down on our application for funding for carts. We need 340 more carts
- In general, most if not all of our MR properties met the best practice minimum as CGS had a similar formula for calculating recycling capacity based on units for a MR property. Twinning garbage and recycling was important for CGS for this project so that MR tenants disposed of their garbage the same way they disposed of their recycling i.e. all curbside or all front end bins.

4. Providing P&E Materials

Has the project changed how your municipality works in this respect? Comment.

- Yes we use the P and E material developed through this program and it has been well received so has the Site Super handbook. We also still get requests for lobby display which we can accommodate when we have staff but at least we have the retractable banner stands and lots of professionally designed visuals to provide at these outreach events
- Yearly calendar is delivered to all households including multi res. Produced handbook and some posters. Labelling of carts.
- no
- Our buildings now have new graphic signage placed in recycling rooms to give the information needed about our program
Last year, we made GRAPHIC cart labels and they are fantastic. Stream mixing and contamination has decreased (as per BFI and the Supers).
The buildings that came to the workshop received a handbook that they liked
I would now, make sure that graphics are a large part of any P&E that we do
- No, we were doing this before
- We have a lot more resources available for tenants, property owners, superintendents etc. All materials have been distributed, as well, we have all of our info on our website (did not have this P&E material prior to the MR project).

5. Additional Feedback

Please tell us about your key project take away (s): any insights you gained or tips you picked up as a result of participating in your CIF project.

- The project was valuable and it identified the need to have a full time staff dedicated to Multi-res in Barrie. As we grow and intensify, multi residential buildings will represent a significant portion of the housing developments in Barrie. It has also allowed us to gather foundation data that will be instrumental in launching Organics in the multi residential sector in Barrie, which was identified in our Sustainable Waste Strategy completed in 2012. It will however be difficult for us to seek opportunities or address multi residential issues if we do not receive additional staff resources to direct solely to multi residential sector diversion programs.
- Creating database. The database assists with complaint resolution
- no
- Got to meet the people running each building and have built relationships with them. Having these relationships is key.
- We had a special bin built and used for OCC the design is a key item
- Our project was to install signs at all locations that had recycle carts. The main item from this project is that lowest pricing does not always ensure quality work. If there are issues with the contractor it may be better to terminate the contract and pay the higher pricing vs. trying to get the contractor to complete the project.
- The importance of attractive, informative P&E for tenants and superintendents/property owners; The importance of distributing all materials directly to each unit (P&E, in-unit containers etc.); The need to keep up-to-date contact info for property owners (built into our agreement with MR properties – they must notify us of a change in ownership).

Please indicate one topic you are most interested to learn more about from the other MR project participants.

- I'm interested in how others used P and E to improve their programs and also learn if and how others utilized their Planning Depts to improve their recycling programs.
- No
- If other municipalities do not have dedicated pick-ups like Peterborough – how do they measure performance?
- What penalties have worked with their collection company
- Outcome/turnout from any meetings/info sessions with superintendents/property owners/tenants and their feedback.

What are the main MR program undertakings your municipality has planned for 2013 and 2014.

- Working closely with the Planning department to align our goals and requirements at the Site plan approval stage and to implement organics collection in these buildings.
- Continue with project. Encourage buildings that are not recycling to start a program
- Would love to do some more workshops, with Betty instructing them. Database training for the creation and running of reports
- If more money is available from CIF – perhaps a collection like we are doing above would give municipalities a baseline number as well. Hopefully, there will be more money available for the multi-res section, it is an important area.
- At the workshop, a provider decided to take away the 95-gallon caddies at two of their sites due to stream-mixing and contamination issues.
- Blue boxes were given to the tenants.
- Since this has happened, we have received literally no complaints (and we were getting complaints regularly). And, the stream-mixing and contamination problems have diminished (each person is responsible for their own recycling ~! Making them accountable).
- We will continue to monitor carts, labels and public relation needs in order to maintain them and will piggy back with a proposed electronics program

C.3 Consolidate survey results for pre-round table survey of large municipalities

Table C.3: Consolidated survey results for pre-round table survey of large municipalities

	London	Durham	EWSWA	Halton	Niagara	Peel	Waterloo	Totals
1. Creating & Building a Database of MR Properties								
How successful were you at doing this?	5	5	5	5	5	5	n/a	5.0
How relevant was this for your municipality?	5	5	5	5	5	5	n/a	5.0
Will you continue to maintain this practice?	5	4	5	5	5	5	n/a	4.8
2. Benchmarking & Measuring Performance								
How successful were you at doing this?	5	3	3	3	4	4	3	3.6
How relevant was this for your municipality?	5	3	4	5	5	4	2	4.0
Will you continue to maintain this practice?	5	3	3	5	5	4	1	3.7
3. Increasing Recycling Container Capacity								
How successful were you at doing this?	4	5	3	4	4	4	2.5	3.8
How relevant was this for your municipality?	5	5	5	5	4	4	n/1	4.7
Will you continue to maintain this practice?	5	5	5	5	4	5	1	4.3
4. Providing P&E Materials								
How successful were you at doing this?	5	5	5	5	5	5	3	4.7
How relevant was this for your municipality?	5	5	5	5	5	5	2	4.6
Will you continue to maintain this practice?	5	5	5	5	5	5	1	4.4

1. Creating & Building a Database of MR Properties

Has the project changed how your municipality works in this respect? Comment.

- In-person site visits to each building was found to be the most reliable avenue in collecting detailed site information such as how well the recycling program is currently working, building characteristics that may create recycling challenges or opportunities (e.g., room for extra 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. Information was later entered into an excel database. NOW – The Region strives to maintain the database aims to follow up with properties once a year or every other year with student employment over the summer. In addition, the information in the database is verified every time a site super or property manager calls in to the Region.
- We are able to focus on our time and money in a more useful way and have data to support it. When MR people call I can look them up quickly and read all the issues to trigger memory about the particular building.
- yes, more organized
- Somewhat, we had a fairly up-to-date database. Now we use the CIF database, which is a better way for us to manage data.
- Niagara Region developed an Excel database during the roll-out and implementation of the MR recycling program. The database information has been transferred to the CIF Microsoft Access database template. Arrangements are being made for training on the database prior to regular use by Regional staff.

- The database has allowed us to keep more up to date with building contacts for mailing purposes and also get an understanding of the building characteristics, improving customer service.
- None
- n/a we already had a database for the majority of the information we collected during CIF 250.

2. Benchmarking & Measuring Performance

When you benchmarked your program's performance at the beginning of your project, what were the benchmarks you measured (e.g., kgs/unit; cost/unit)?

- Visual inspection of recycling carts and waste bins were conducted as an indicator of how well individual locations were recycling. Buildings that were under performing or had overflowing bins with a great deal of recyclables within the waste bins were documented and additional recycling carts were provided. Where necessary, the one cart for every 7 units best practice guideline was enacted to ensure adequate recycling capacity or if space issues could not provide for additional carts, such locations were increased to twice a week recycling collection services.
- Full carts. Half full and quarter fullness of the paper and container stream.
- Have not measured performance yet
- Both, actual tonnes and visual audits at individual buildings. The tonnes provide us continuous data on a monthly basis of tonnes being collected. This is easily obtained for us as we have designated truck route for mr only. We have also done visual audits at buildings, to enable us to determine individual building performance. (knowing that the visual is only a snapshot of the building at the time of the audit).
- Pre-implementation site visits completed in 2009/2010 revealed that 29-32% of Niagara's MR properties did not have a recycling program in place and a further 17% had partial service in place with the collection of only the container stream.
- Performance was measured in tonnes collected, kg/unit/week, capture rates.
- City of Toronto reports annually on its waste diversion performance. We report on overall diversion as well as single family and multi-family diversion separately. For our most recent diversion statistics, please visit our web page at: <http://www.toronto.ca/garbage/residential-diversion.htm>
- The City of Toronto has not received direct funding for benchmarking, we measure our performance on a tonnage basis. We also monitor improvements at individual buildings (pilot projects, Tower Renewal, 3Rs Ambassador buildings) on a volume of waste measure based on billing information for the buildings on front end bulk collection.
- Not determined yet although our raw data consisted of inspecting fullness of carts.

Please outline/ describe how you calculated your benchmark(s) (i.e., what data did you use, where did you obtain the data, did you use assumptions, if yes what were they).

- Performance indicators such as container fullness and contamination were monitored/identified during site visits. Performance data completed during site visits were estimates only as it is not based on precise weights as no audits were conducted during this project. Obtaining this information from each building was instructive both for flagging low performing buildings that could use additional recycling carts and for highlighting top performers.
- Based on monthly recycling tonnage from 2009 to 2011, it is estimated that by implementing best practices as part of this project, it has had the effect of increasing recycling tonnage by 3 per cent or 64 tonnes when comparing 2010 to 2011. Garbage tonnes decreased by 0.5 per cent or 73 tonnes when comparing 2010 to 2011.
- Conducted site visits of each building on collection day and recorded cart fullness
- We followed the CIF guideline for completing site visits/visual estimates
- Site visits to all existing MR buildings were completed to determine the waste collection and recycling practices at that time. The following items were noted: Recycling in place? yes or no. Contamination? Overflowing carts? Space for carts or additional carts? Adequate signage and labeling?

- Waste Audits were conducted in 2005/2006 and 2010/2011, this data provided the kg/unit/week and capture rates. Tonnage data was obtained from weigh scale data at the transfer station.
- We use weighscale data for tonnage, and bin lift quantities for volumetrics from our billing information systems.
- Visual inspections at a one-time site visit.

Has the project changed how your municipality works in this respect? Comment.

- n/a
- no
- n/a
- No, we have done this prior to the project
- no response
- Yes. Staff can now refer to the database for information on each building. They can also track container deliveries and replacements and record them in the database.
- The City of Toronto did receive funding for RFID as part of our multi-res waste diversion improvement E&E project # 32 and as a result of the RFID program we are able to track volume based information for waste and recycling and thus can track improvements for individual buildings.
- none

3. Increasing Capacity (number of carts/bins) For Recycling

Has the project changed how your municipality works in this respect? Comment.

- The number of carts or sizes of bins for buildings are determined by the number of units and/or space limitations. Typically as a rule of thumb the best practice of 1 cart for every 7 units ratio is applied where feasible. In some instances, some locations receive twice a week collection due to the unit size or space limitations.
- no response
- yes, increases our recycling capture
- Yes, completed. Prior we did not provide carts. Owner were on their own to purchase. We have doubled the carts in our program, and also added four yard bins for occ. We are not at best practices yet, but we are still on track to achieve this.
- The CIF recommended Best Practice level of 50 litres of available recycling space per unit has helped Niagara aim to achieve the 50 litre average capacity. Currently Niagara averages approximately 45 litres of available capacity per MR unit. Approximately 2,550 carts have been provided to approximately 20,480 units and are currently serviced by the Region.
- Yes, now new developments are provided with 1 cart for every 7 units or 1 cubic yard for every 14 units.
- City of Toronto has not received funding for increasing capacity. The City of Toronto does recommend and require best practice capacity in our development requirements, but it is up to the building management/owner to purchase appropriate capacity. The City of Toronto does not supply buildings with recycling bins.
- Not able to answer ensure of direction of MR Program. I am not involved with day to day operations or strategic planning.

4. Providing P&E Materials

Has the project changed how your municipality works in this respect? Comment.

- Each of the two teams delivered on average to over 200 hundred units each per delivery day. Each apartment resident received a reusable recycling tote bag, program letter, fridge magnet and recycling brochure.
- NOW – Mult-Res tenants are provided reusable totes to help encourage participation and summer students are to visit MR buildings to ensure adequate signage and tote capacity once yearly or every other year (depending on availability).
- no response

- Yes, gives the residents the information they need to recycle correctly
- Yes, we did not do P&E in mr prior to project. Now we have a full suite of P&E materials that we provide regularly, both in response to requests for in, and proactively in terms of outreach activities and regularly distributing materials
- The following P&E materials have been provided: labeled carts, in-unit tenant bags, Superintendent handbook, signs and posters. Staff also provided lobby open houses at the launch of the program as well as where they were required to help improve tenant awareness on the program. Door-to-door distribution of promotional material is also completed for buildings where lobby open houses may not be the best option.
- The Region already began providing an improved and increased amount of P&E material before the project began.
- City of Toronto completes a Multi-residential communication plan on a regular basis. Our communications would include: posters, signs, stickers, info sheets, calendars, Superintendent Waste Diversion Handbook, powerpoint presentations, 3Rs Ambassador Volunteer tool kit items, Multi-res (train the trainer) workshops, in-unit recycling containers, direct ad campaigns, transit ads, etc.
- We have received CIF funding to undertake a train the trainer style multi-res workshop last year.
- none

5. Additional Feedback

Please tell us about your key project take away (s): any insights you gained or tips you picked up as a result of participating in your CIF project.

- In-person site visits to each building was found to be the most reliable avenue in collecting detailed site information such as how well the recycling program is currently working, building characteristics that may create recycling challenges or opportunities (e.g., room for extra 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.
- Having up to date data base info helps manage the MR program and acts as a great tool when implementing programs.
- no response
- not available at this time
- It is a long process to make changes in this sector. Would like to see continued support from WDO/SO/CIF for this section to press municipalities to stay active in understanding how to increase diversion
- Managing the multi-residential recycling program requires enough dedicated staff to keep the program organized, effective and efficient.
- One of the most important factors in increasing the capture of recyclables is to provide sufficient capacity. This act alone ensures that residents have the appropriate number of containers for their recyclables. If you give residents more containers to recycle, they will likely fill those containers. Building staff may perceive their program is doing well because they are filling up all their recycling containers without being aware that they do not have enough containers and most recyclables are going down the garbage chute.
- Our multi-res workshop undertaken with the assistance of Betty Muise and in the train the trainer format was very successful. We received a lot of positive feedback – please refer to CIF report no.434.2 for more details.
- Project coordination changed approximately ¼ of the way through the project. This transition resulted in loss of resources that were originally allocated and a significant amount of time and knowledge was lost. The project became a lesser priority for the division. For future projects I would recommend making it a high priority to keep the same leadership to ensure interpretation/assumptions remain the same, to retain the historical project knowledge and to loss less time in administration.

Please indicate one topic you are most interested to learn more about from the other MR project participants.

- What programs are used to create and maintain database for MR programs?
- How do other municipalities log and monitor requests / complaints within their MR program?
- no response
- cant comment yet
- What is working at the individual building level to increase participation.
- How well does the 'Ambassador' MR program work in Toronto or in any other municipalities with similar programs? How much time is required to manage a MR building ambassador program?
- Methods to benchmark and monitor KPIs such as generation rates, capture rates, diversion rates.
- improving participation/measuring participation, improving capture rate, direct communication with residents at a unit level (such that they do not recycle the communication piece without reading it)
- overcoming the lack of convenience
- how to make recycling more of a priority for property managers/owners
- Unsure as to the direction of the MR program.

What are the main MR program undertakings your municipality has planned for 2013 and 2014.

- 2013: We are currently looking at retaining a consultant to assist in conducting a comprehensive waste composition study of multi-residential households to determine waste generation and composition, diversion potential, and investigate diversion options and potential capture rates for this sector. Our time frame for this audit is approx. late May to early June.
- 2014: Investigate options for organics recycling in MR buildings
- Converting the remaining 36 buildings that do not have a program
- Updating the database again for owner info and property management companies (they seem to change often)
- Continue to have all buildings reach best practice
- P&E we are going to for the first time create a newsletter/enivotips that will only be distributed to MR and have a MR focus
- Have ordered more in unit bags to give away for free or small fee to buildings that request more
- Continue to populate our database
- Continue to visit MR locations and supply them with the right tools to recycle
- Nothing new, but continue with the initiatives rolled out during the project. More capacity into the system. We would really like to move forward with offering MR recycling workshops. We started in 2012, but got stalled. We will be taking this one up again.
- In 2013, Niagara Region would like to offer a MR Superintendent and Manager Workshop to inspire building owners/managers and superintendents to maximize participation in their MR recycling program and minimize contamination rates. Further, in 2013, Niagara will continue to offer MR buildings a voluntary opportunity to implement an organics collection program.
- In 2014, another full round of audits at all MR buildings may be conducted to assess the effectiveness of the programs and implement new or additional tools (carts, labels, promo) where necessary. The audit results will determine what measures are required to combat low participation rates or contamination issues.
- Pilot the use of an RFID integrated solution to track and report on waste collection from 20 multi-residential buildings. System will provide data on a per building basis and be capable of producing "report cards" to all locations. Expected full scale implementation in 2014.
- Establish Multi-residential Waste Diversion Working Group and hold at least 2 meetings in 2013. Spring and Fall.
- Presently, we have approximately 1,700 buildings on the green bin program. We plan to have the green bin program rolled out to 4,000 buildings by the end of 2014.
- Unsure as to the direction of the MR program as I'm not involved in the day to day operations or the strategic planning.

Continuous Improvement Fund Multi Residential Round Table

February 25, 2013



Round Table participants

Municipality	Participant
Perth	Jamie McCarthy
Smith Falls	Vanessa Bligdon-Bernicky
Oxford County	Pamela Antonio
Kawartha Lakes	Angela Porteous
Dufferin County	Chris Fast
Wellington County	Cathy Wiebe
Stratford	Kate Simpson
St Thomas	Adam Mueller
CIF	Carrie Nash, Brad Cutler, Anne Boyd
Facilitator	Betty Muise



Assessing Impacts

#Units and Capacity

Average
Capacity
50 L/unit

Number of Units	Smith Falls	Dufferin	Stratford	Oxford	Perth	Kawartha Lakes	Wellington	St Thomas
Pre	850	1822	2358	1196	586	1560	3800	2000
Post	850	1822	2358	2323	686			
% change	0%	0%	0%	94%	17%			
Capacity per Unit	Smith Falls	Dufferin	Stratford	Oxford	Perth	Kawartha Lakes	Wellington	St Thomas
Pre	9	37	28	45	4			
Post*	45	51	33	69	41			
% change	410%	40%	18%	53%	1010%			



Assessing Impacts

Kg/unit

Kg/unit/year	Smith Falls	Dufferin	Stratford	Oxford	Perth	Kawartha Lakes	Wellington	St Thomas
Pre-project				42	42			
Post-project				53	95			
% change				26%	126%			



Property Data Base

All used Excel → CIF MS Access Data Base

Issues → Obtaining the data, access to the buildings for site visits

Data Base → Summer students, combined with staff monitoring, site inspections, and audits



Benchmarking

How performance data was obtained

	Municipalities
Collection data type	Collection Capacity, tonnage/cart, kg/unit/year
Source of data	Visual Estimates
% of Buildings Inspected	Most did 100%



Barriers & Bright Spots

Focus Areas

- OCC – managing it
- Contamination
- Accessibility of recycling area for residents
- Recycling area – clean, tidy, inviting
- P&E



Increasing Capacity – Before & After



Promotion and Education

Increasing Recycling Rate with P&E

Promotion & Education	Smiths Falls	Oxford	Stratford	Perth	Dufferin
Resident flyers					
Posters					
Signs					
Containers labels					
Recycling area guides					
Recycling Guidebook					
Summary Sheets					
In unit containers					
Book marks					



Promotion and Education

In Unit Recycling Bag



CIF MRes Round Table

The CIF MultiRes Team

Thanks YOU for your participation!



Continuous Improvement Fund Multi Residential Round Table

February 25, 2013



Round Table participants

Municipality	Participant
Barrie	Tracy
Brantford	Betty
Cornwall	Nicole
North Bay	Al Tomek
Peterborough	Janelle
Quinte	Rick
Sarnia	Frank
Sudbury	Erin Cooney
CIF	Carrie Nash, Brad Cutler, Anne Boyd
Facilitator	Betty Muike



Assessing Impacts

#Units and Capacity

Average Capacity
50 L/unit

Number of Units	Barrie	North Bay	Peterborough	Quinte	Sarnia	Sudbury	Brantford	Cornwall
Pre-project	7940	5157	6830	5000	7509	13,275		
Post-project	7940	5553	6217	5000	7792	14,077		
% change	0%	8%	-9%	0%	4%	6%		
Capacity per Unit								
Pre-project	47	43	52	44	34	54		
Post-project	50	52	54	65	50	99		
% change	6%	21%	4%	48%	47%	83%		

* Value for Sudbury are pre-project completion estimates



Assessing Impacts

Kg/unit

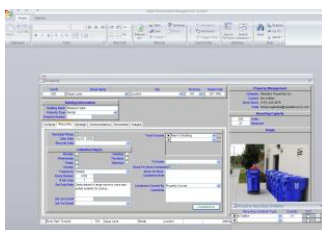
kg/unit/year	Barrie	North Bay	Peterborough	Quinte	Sarnia
Pre-project	85	42	115	110	60
Post-project	103	72	125	115	75
% change	21%	71%	9%	5%	25%

* Barrie used the average of the three previously years

* Quinte used 2011 vs 2010, but 2009 was 120. Variability, importance maybe in using an index or average of previous years?



Property Data Base



Benchmarking

How performance data was obtained

	Municipalities
Collection data type	Collection Capacity, tonnage/cart, kg/unit/year
Source of data	Visual Estimates
% of Buildings Inspected	Most did 100%

* Some muni's did actual weights: Barrie for sure and maybe Quinte and Sarnia (not clear)



Barriers & Bright Spots

Focus Areas

- OCC – managing it
- Contamination
- Accessibility of recycling area for residents
- Recycling area – clean, tidy, inviting
- P&E



Increasing Capacity – Before & After



Promotion and Education

Increasing Recycling Rate with P&E

Promotion & Education	Barrie	North Bay	Peterborough	Quinte	Sarnia	Sudbury
Resident flyers						
Posters						
Signs						
Containers labels						
Recycling Guidebook						
Summary Sheets						
In unit containers						
Lanyards and Magnets						
Biannual Newsletter						



Promotion and Education

In Unit Recycling Bag



CIF MRes Round Table

The CIF MultiRes Team

Thanks YOU for your participation!



CIF MR Round Table (Small Municipalities)

Organizer: Carrie Nash | Presenter: Carrie Nash

Audio:
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passcode - 46301489
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Chat Tool Bar

CIF MR Round Table (Small Municipalities)

Organizer: Carrie Nash | Presenter: Carrie Nash

Audio:
call in number - 1 866 518 0791
passcode - 46301489
mute *6, unmute *5

Expand Chat to full Screen

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When arrow is red, Hand IS currently raised

Type responses here

Continuous Improvement Fund Multi Residential Round Table

May 7th, 2013



Round Table participants

Municipality	Participant(s)
Durham	Danielle Luciano, Peter Veiga
EWSWA	Heather Taylor
Halton	Andrew Suprun, Melynda Paterson
London	Anne Boyd
Niagara	Lucy McGovern, Sherri Tait
Peel	Peter Kalogerakos
Toronto	Renee Dello, Charlotte Ueta
Waterloo	
CIF	Carrie Nash, Brad Cutler
Facilitator	Betty Muise



Assessing Impacts

#Units and Capacity

Average Capacity
50 L/unit

Number of Units	Durham	EWSWA	Halton	London	Niagara ¹	Peel	Toronto	Waterloo
Pre-project		19618		9341	83000			
Post-project		24950			20950	89000	540000	
% change	#DIV/0!	27%	#DIV/0!	#DIV/0!	124%	7%		#DIV/0!
Capacity per Unit								
Pre-project		33			30	20		
Post-project		42			45	55		
% change	#DIV/0!	27%	#DIV/0!	#DIV/0!	50%	175%	#DIV/0!	#DIV/0!

¹Reflects a change in region taking over Multi-residential recycling from city



Assessing Impacts

Kg/unit

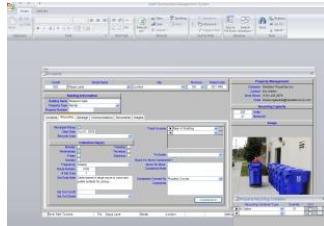
kg/unit/year	Durham	EWSWA ¹	Halton	London	Niagara	Peel ²	Toronto	Waterloo
Pre-project		70				87		
Post-project		90			67	105	82	
% change	#DIV/0!	29%	#DIV/0!	####		21%		####

¹Visual Estimates, not actual tonnages due to no designated route

²Based on 10 sample buildings



Property Data Base



Benchmarking

How performance data was obtained

Collection data type	Municipalities
	Collection Capacity, tonnage/cart, kg/unit/year
	Visual Estimates, Dedicated Route
Source of data	Visual Estimates, Dedicated Route
% of Buildings Inspected	Most did 100%



Barriers & Bright Spots

Focus Areas

- OCC – managing it
- Contamination
- Accessibility of recycling area for residents
- Recycling area – clean, tidy, inviting
- P&E



Increasing Capacity – Before & After



Promotion and Education

Increasing Recycling Rate with P&E

Promotion & Education	Durham	EWSWA	Halton	London	Peel	Toronto	Waterloo
Resident flyers		x					
Posters		x			x		
Signs		x					
Containers labels					x		
Recycling Guidebook		x			x		
Summary Sheets							
In unit containers (Bags)		x			x		
Lanyards and Magnets		x			x		
Newsletter		x			x		



Promotion and Education

In Unit Recycling Bag



CIF MRes Round Table

The CIF MultiRes Team

Thanks YOU for your participation!



APPENDIX E: ROUND TABLE DISCUSSION OUTLINES

E.1 Discussion Outlines for the Small Municipality Round Table

Brainstorm questions for MF lessons learned sessions

Overview of sequence of project work

- Create database
- Complete site visits and enter data. Data will consist of:
 - Number of buildings, units, carts
 - Estimates of how much is being recycled at each building (kg/unit) - Benchmarking
 - Assessing building barriers/brightspots
- Adding capacity
- P&E
- Final report

1. Introductions

- Objective of the call + who is participating

2. Assessing Impact

Summary data re recycling rate increases

- *Do you think you increased kg/unit? What is your estimate of the QUANTITATIVE results of this project (recycling rate or capture rate kg/unit). POLL*
- *If you didn't measure this – will you/can you measure this in future?*
- *AND/OR -- X data was provided in the summary reports – is your experience of the results similar/different? How?*
- *Name the key QUALITATIVE result or difference that this project has achieved*
- *Was writing the report a useful exercise to help you assess the project impact? POLL?*

3. Data Base (and access)

3.7 Moderate successful at doing this
4..1 Good relevant (exception - James)
4.3 Good- will continue this practice

Summary of sources of information and ways that they made contact

- *Gaining/securing access (actually talking to the building manager or super) seemed to be one of the biggest challenges: Y/N*

- Most effective solutions: (e.g. just show up/cold calling) POLL
- Summarize the key information sources – are these relevant for everyone – are there some that were better than others?
- *Is there some “good will” now in place that means contact and collaboration in the future will be easier?*
- Does this data help you to get to know your buildings in a way that was/is useful? How? What will be the value of this data base on a go-forward basis?
- Probes
 - Use of CIF data base. Was this a valuable exercise?
 - Do you use the CIF database – are you/staff confident in using it?
 - Use of Excel instead (for small muni, excel probably makes more sense).
 - See question re private collection contractors

4 Benchmarking

3.1 Mixed successful at doing this
 3.4 Mixed relevant
 3.6 Most but mixed will continue this practice

How everyone obtained information, summarized their results, use of CIF data base, Excel, etc

- Will you and what would be required /what do you need to do to be able to determine kg/unit performance for MF in the future?
- *Will you continue to use the same methodology and if not, what? Is there a better way to measure performance?*
- Based on your experience, what do you recommend we say to make a convincing case for benchmarking and performance measurement in MF
- *Did this project result in you thinking differently about the role of benchmarking and if so, how?*
- Does characterizing each building (as a low, med or high performer – see Oxford data) and tracking movement in this characteristic of value?
- Time Permitted Probe: Challenging dealing with private collection contractors

5. Barriers/Solutions

Summary of barriers

- *Was examining barriers useful? (how)*
- *Was looking for “bright spots” useful (how?)*

6. Capacity

Smith Falls and Perth Data

4.1 Most successful at doing this (2 exceptions) -(3)
 4.6 Mostly relevant
 4.6 Most will continue this practice

- Want to explore the assumption that increasing capacity leads to more recycling: *Does your experience with this project support this assumption? Does increasing capacity increase recycling rates (more kg/unit?)*
- In the future, how will you supply carts to buildings, is this different from your previous practice (ie, before the CIF project)
- Key lesson learned
- Time Permitted Probe: Cost to replace carts (expectations about being free)

4.1 Most successful at doing this (Adam – 2) 4.4 Mostly relevant – (Adam 3) 4.3 Most will continue this practice (Kate 2)

7. P and E

Summary of different tool use

- Want to explore the assumption that increased P and E leads to more recycling: *Does your experience with this project support this assumption? Does a dedicated P and E effort increase recycling rates (more kg/unit?)*
- Discuss /select biggest bang for buck P and E measure - POLL
- Probe provision of in unit containers (importance and will they provide them in future?)
- What was completely new for you in this project versus what you did before?
- What would you continue to do on a go forward basis?
- Are there some Lesson Learned/Tips regarding timing and frequency?
- What feedback did you get about various P and E tools?
- Key lesson learned?
- *Were the CIF templates of value to you?*

8. Summary

- One biggest take away – if there was ONE Single thing you would do at a site to make biggest improvements, what would it be? POLL SEE ALSO SURVEY RESULTS
- I would like to find out if and how this project has changed the way they manage their MR program on a day-to-day basis POLL?
- How can CIF continue to support you to: POLL - should I list options?
 - Finish the current project,
 - After the project completion – to support multi-res
 - Probes:
 - Tools on a website
 - MR training courses, webinars
 - Support of a working group/committee to discuss/share issues
 - To continue with a large group (same as existing format), or would it be valuable to have a group which is made up of smaller municipalities, like on this call

E.2 Discussion Outlines for the Medium Municipality Round Table

Brainstorm questions for MF lessons learned sessions (April 8 ver)

1. SET UP

- i. Call to Order, welcome and thanks
- ii. Content and objectives
- iii. Format – polls, raising of hands and discussion.
- iv. Will take a 5 min break -- put phone on mute)
- v. Demonstration/troubleshoot of webinar software

2. INTRODUCTIONS (slide 1 - names)

- i. -Name, key learning from this pjt

Overview of sequence of project work

- Create database
- Complete site visits and enter data. Data will consist of
 - Number of buildings, units, carts
 - Estimates of how much is being recycled at each building (kg/unit) - Benchmarking
 - Assessing building barriers/bright spots
- Adding capacity
- P&E
- Final report

3. ASSESSING IMPACT (slides 3 and 4 – summary results)

- i. Do you think you increased kg/unit?
- ii. What is your estimate of the QUANTITATIVE results of this project (as % increase in kg/unit)
- iii. Probe how they know this and give examples (6/7 said yes last time, but only 1 had data)
- iv. If you didn't measure this – will you/can you measure this in future? What do you require in order to be able to measure this in the future?
- v. Was writing the report a useful exercise to help you assess the project impact?
- vi. Name the key QUALITATIVE result or difference that this project has achieved

4. TRANSITION: Structure of the rest of the meeting: 4 best practices

What best practice did you struggle with the most - Poll

5. PROGRAM DETAILS/PROPERTY DATA BASE (not performance data) (slide 5)

Remind them about the type of data contained in the database (as there was some confusion about this and benchmarking):

- ✓ Descriptive information about the building (address, number of units, number of floors, rental or condos, etc.)
- ✓ Contact information (property manager, super, owner's contact info)
- ✓ Recycling & garbage data (how many & type of containers, where they are located, collection days)

- i. Does this data help you to get to know your buildings in a way that was/is useful? How? What will be the value of this data base on a go-forward basis?
- ii. Probes
 - Use of CIF data base. Was this a valuable exercise?
 - Do you use the CIF database – are you/staff confident in using it?
 - Use of Excel instead (for small muni, excel probably makes more sense).

TIME PERMITTING: Is there some “good will” now in place that means contact and collaboration in the future will be easier?

- iv. Once you have the addresses, what about actually making first contact: It seems like making that first contact (actually talking to the building manager or super) was one of the biggest challenges:
- v. Most effective solutions: (e.g. just show up/cold calling) POLL

6. MEASURING HOW WE ARE DOING (Slide 6)

- i. What do you think are some of the indicators (measures) of MR program success?
- ii. Brainstorm discussion about what are some ways we could measure how well we are doing in multi-res in terms of year-over-year and comparing buildings.
- iii. Is this important for us to know? Why?
- iv. How did you do this in your projects, and what issues they faced, what worked
- v. How they could do it differently

7. BARRIERS AND BRIGHT SPOTS (Slide 7)

- i. Most common barrier you encountered.
- ii. Was examining barriers useful? How?
- iii. Was looking for “bright spots” useful? How?
- iv. Have you used this information to follow-through on some actions – ie, working with buildings to help them remove barriers, or highlight bright spot buildings as role models

8. CAPACITY (Slide 8)

- i. Want to explore the assumption that increasing capacity leads to more recycling: Does your experience with this project support this assumption? Does increasing capacity increase recycling rates (more kg/unit?)
- ii. In the future, how will you supply carts to buildings, is this different from your previous practice (ie, before the CIF project)
- iii. Key lesson learned

9. P and E (Slide 9, 10)

- i. Want to explore the assumption that increased P and E leads to more recycling:
Does your experience with this project support this assumption? Does a dedicated P and E effort increase recycling rates (more kg/unit?)
- ii. Discuss /select biggest bang for buck P and E measure - POLL
- iii. Were the CIF templates of value to you?
- iv. What was completely new for you in this project versus what you did before?
- v. What would you continue to do on a go forward basis?
- vi. Key lesson learned?

10 . SUMMARY

- i. One biggest take away – if there was ONE Single thing you would do at a site to make biggest improvements, what would it be?
- ii. I would like to find out if and how this project has changed the way they manage their MR program on a day-to-day basis - How has the project changed what you might dedicate to the MR sector in the future?
- iii. How can CIF continue to support you to: POLL
 - Finish the current project,
 - After the project completion – to support multi-res
 - Probes:
 - Tools on a website
 - MR training courses, webinars
 - Support of a working group/committee to discuss/share issues
 - To continue with a large group (same as existing format), or would it be valuable to have a group which is made up of other similar sized municipalities, like on this call

11. EVALUATION, CLOSE and THANKS

E.3 Discussion Outlines for the Large Municipality Round Table

Brainstorm questions for MF lessons learned sessions (May 3 ver)

9.00-9.10 SET UP

- vi. Call to order, welcome and thanks
- vii. Content and objectives
- viii. Will take a 5 min break -- put phone on mute/unmute (6; *6)
- ix. Format – polls, raising of hands and discussion.
- x. Demonstration/troubleshoot of webinar software:

- ⇒ 1. TEST raise your hand question (I know how to mute and unmute)
- ⇒ 2. TEST POLL. Which of the 4 best practices do you think resulted in the greatest positive difference /results?
- 3. TEST type in answer (see introduction question below)

- ⇒ TEST TYPE IN QUESTION: When you first applied for the CIF funding, what was the main outcome/result you were expecting?

FACILITATOR COMMENT: we have just trialed the web features/technology BUT we actually only want to use these as an aid (to save time). Our MAIN hope is that we have a free flowing discussion – please feel free to jump in with your comments and insights.

9.10-9.25 INTRODUCTIONS (slide 1 - names)

-Name, key learning from this project. Knowing what you know now, if you could take only one action to improve performance in MF buildings, what would it be?

9.25-9.40 Structure of the rest of the meeting: 4 best practices

Probe first POLL results re which of the 4 best practices resulted in the greatest difference.

- i) Why?
- ii) In what best practice area do you expect to dedicate staff in the future??

9.40-10.05 ASSESSING IMPACT /MEASUREMENT(slides 3 and 4 – summary results)

The obvious intention of the project is to increase recovery in MF, through implementation of 4 best practices. One of the best practices was measurement.

Overview of sequence of project work

- Create database
- Complete site visits and enter data.
 - consist of
 - Number of buildings, units, car
 - Estimates of how much is being recycled at each building (kg/u)
 - Benchmarking
 - Assessing building barriers/br
- Adding capacity
- P&E
- Final report

- vi. Precise measurement of the quantitative recovery results from MF buildings is challenging. How did you do this in your projects, and what issues did you face?? How much does it cost to determine this? How long did it take?
 - Category 1: How many were able to obtain a dedicated weight based record?
 - Category 2: How used a visual audit (% fullness) method.
 - Other methods?
- vii. Will you continue to measure kg/unit in the future and if so, how will you do it (actual weights or estimates) what amount of staffing/resources would be required? How often?
- viii. How many of you know the extent to which MF performance affects their overall BB performance (cost and capture)?
- ix. Name the key QUALITATIVE result or difference that this project has achieved
- x. What other indicators/measures of success are valuable to track/monitor?
- xi. Time permitting: question re establishing GAPS for separate measurement of MF results

10.05-10.20 PROGRAM DETAILS/PROPERTY DATA BASE (not performance data) (slide 5)

Remind them about the type of data contained in the database (as there was some confusion about this and benchmarking):

- ✓ Descriptive information about the building (address, number of units, number of floors, rental or condos, etc.)
- ✓ Contact information (property manager, super, owner's contact info)
- ✓ Recycling & garbage data (how many & type of containers, where they are located, collection days)

For less experienced programs, collecting property information to create a program data base is time consuming, but most people have indicated that this investment is worthwhile.

- iii. Are you using the CIF data base? If yes, do you plan to maintain it? How much time will you dedicate to the maintenance of this information?
- iv. Does your team need training?
- v. Any recommendations for how CIF can improve or better support the area of establishing and maintaining a property data base?

10.20-10.30 BREAK

10.30-10.50 BARRIERS AND BRIGHT SPOTS (Slide 7)

- v. Most common barrier you encountered.
- vi. What are some solutions you tried or ideas/tips related to this barrier?

10.50-11.10 CAPACITY (Slide 8)

- iv. Want to explore the assumption that increasing capacity leads to more recycling: Does your experience with this project support this assumption? Does increasing capacity increase recycling rates (more kg/unit?)
- v. In the future, how will you supply carts to buildings, is this different from your previous practice (ie, before the CIF project).
- vi. Key lesson learned
- vii. Renee and Peter: - over the last 5 years – SS allowed a transition to roll off bins. What has been successful/good or not so good/bad about this?

11.10-11.25 P and E (Slide 9, 10)

- vii. Want to explore the assumption that increased P and E leads to more recycling: Does your experience with this project support this assumption?

ii) How did you track/monitor the change resulting from P and E activities? How did you know if P and E had any impact?

Topic of Targetting: PEEL: Invite Peter to talk about how they targeted low diversion buildings

- iii. How can we/should we be more targeted to be as effective as possible with PE?
Discuss:
- iv. What have you learned here: Does your experience with this project mean you will do P and E for MF differently in the future? If so, what/how?
- v. What should CIF do next in this area?
- vi. Were the CIF templates of value to you?

11.25-11.55 SUMMARY and WHAT NOW

- iv. If and how has this project changed the way you manage your MR program on a day-to-day basis and on a go forward basis (both in terms of what and staffing)?
- v. You guys are the most advanced on MF activities. Where does MR need to go in the future?
- vi. What are your recommendations for how CIF should move forward? Where should they go from here /how can CIF best support MR activities and improvement in this sector? What are your suggestions? Some specific probes: Play a role in enforcement. Joint purchasing (piggyback on larger contracts).
- vii. Specific POLL

- Tools on a website
 - MR training courses, webinars
 - Support of a working group/committee to discuss/share issues
 - To continue with a large group (same as existing format), or would it be valuable to have a group which is made up of other similar sized municipalities, like on this call
- viii. Make them aware of BB consultation//GAP research: Do you know the extent to which MR performance affects your overall BB performance (cost and capture). Do you know the extent to which MR performance affects funding?
- ix. Thoughts on a separate data call for MR (re follow up to the consultation sessions?)

11.55-12.00 EVALUATION, CLOSE and THANKS