

Final Report

CIF 640.6

**City of Kingston
P&E Initiatives for Plastic
Packaging Recovery**



All rigid plastic food, beverage and household containers can go in your blue box.

Space provided through a partnership between industry and Ontario municipalities to support waste diversion programs.

Final Project Report, April 29, 2014

City of Kingston

CIF Project number 640.6

Acknowledgement:

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Executive summary

In the spring of 2011, the City of Kingston added mixed plastic packaging to its Blue Box program. Promotion and education campaigns were undertaken at the time that mixed plastic packaging was added to the collection, as well as throughout 2012. Staff determined that additional promotion should be undertaken as there was still resident confusion as to what items could be accepted as part of mixed plastic packaging.

In partnership with the Continuous Improvement Fund, a promotion and education campaign was completed for mixed plastic packaging that was to take place in May and November 2013. An objective of increasing the capture rate of mixed plastic packaging to 75% by the end of 2013 was established. This objective was to be met through the use of radio, print, billboard and Facebook advertising, as well as signage placed on collection vehicles. The success of the promotion and education program would be measured through data gathered from an annual single-family curbside waste audit, as well as monitoring tonnages of material collected. The total budget for the project would be \$ 16,290.

The results of the curbside waste audit showed that the capture rate for mixed plastic packaging did not increase to 75%; rather it remained the same as the previous years' capture rate, 64%. Two specific categories within the mixed plastic packaging category, # 4 LDPE & # 5 PP tubs & lids and # 2 - # 7 rigid plastic containers, did experience an increase in capture rate. Comparing the data from tonnages collected between the periods of May 2012-February 2013 and May 2013-February 2014, an additional 1.36 tonnes of mixed plastic packaging was collected in Kingston.

Lessons learned in the project include the monetary value and ability to focus a message to a specific target audience through the use of Facebook advertising. It is recommended that Facebook advertising be seriously considered by all municipalities as an additional medium in their advertising toolbox for both the metrics available for measuring the success of advertising and the ability to reach a target audience that may not consume traditional media (i.e. newspapers, radio, etc.). Additionally, a valuable lesson about the importance of constantly refreshing the message and presentation of advertising to avoid message saturation, and therefore a tuning out of messaging, was learned. Where possible, municipalities should invest in testing advertising with residents to determine if a given advertisement will communicate effectively the key messages of the campaign.

Promotion and education endeavours towards mixed plastic packaging are certainly worthwhile and can have an impact on the capture rates for that material, but ensuring that the appropriate timing and planning of the message to avoid message saturation is critical.

For more information on this project please contact Derek Ochej, Public Education and Promotion Coordinator with the City of Kingston: 1-613-546-4291 extension 2703 or dochej@cityofkingston.ca.

BACKGROUND INFORMATION

1.1 Introduction/Municipal Information

The City of Kingston provides waste management services to 53,160 households. Blue box recycling is provided through weekly multi-stream curbside collection services. The City of Kingston targets the following materials: old newsprint, glass, aluminum cans, steel cans, PET plastic, corrugated cardboard, boxboard, gable top cartons, Tetra-Pak cartons, other aluminum packaging and foil, HDPE containers, other bottles and containers, LDPE/HDPE film, tubs & lids, polystyrene foam and polystyrene crystal . Collection of recyclable materials is completed by both municipal forces and Progressive Waste Solutions. There is no revenue sharing agreement in place between the municipality and the collections contractor. The City of Kingston's blue box recycling program is a member of municipal group 324, on the Waste Diversion Ontario datacall, and operates at a net cost of \$ 211/tonne material collected.

1.2 Project Description

In 2010, the City of Kingston Solid Waste Division created a multi-year waste recycling strategy (WRS) set to span from 2010 to 2013. Each year would see goals and objectives set and initiatives devised to achieve those goals and objectives. Measurement and monitoring techniques would be used to determine if the goals and objectives of each year were met, along with a report on the effectiveness of the previous year's efforts. This report helps the formation of new goals, objectives and initiatives for the oncoming year. As of writing Kingston has gone through two of these cycles.

In the spring of 2011, the City of Kingston added mixed plastic packaging (# 1- # 7) to its blue box recycling program. A promotion and education initiative followed the introduction, as well as separate promotion and education initiatives in 2012, aimed at informing Kingston residents that a series of new plastics could now be recycled in Kingston.

CIF Project 640.4 looks to build upon the previous years' promotion and education initiatives with a goal towards increasing the capture rate of the targeted plastics and also decreasing the amount of plastics sent to landfill.

2 IMPLEMENTATION

2.1 Goals and Objectives

The goal of the project is to increase the capture rate of specific plastic packaging types in residential curbside blue box program.

The objective of the project is to increase the capture rate of the mixed plastic packaging stream of recyclables in the residential curbside blue box program from 64% to 75% by the end of 2013.

2.2 Key Messages

1. This is not garbage.
2. Blister plastics (plastic packaging commonly used for toys and electronics), #1 PET containers (clamshell containers, bakery trays, etc.) and tubs and lids go in your blue box.
3. Waste less. Recycle more.
4. Don't know where it goes: www.cityofkingston.ca/wasteless

Key messages # 1, 3 & 4 are reflective of the City of Kingston Solid Waste Division's corporate branding initiatives. The phrases 'This is not garbage' and 'Waste Less. Recycle More.' are slogans used in all print advertising. The phrase 'Don't know where it goes' along with the supporting hyperlink are included in all advertising as it directs residents to the City's award-winning waste sorting lookup tool.

Key message # 2 is specific to the goal of increasing the capture rate of specific plastic packaging types in the residential curbside blue box program.

2.3 Target Audience

The target audience for this initiative is residential home owners and tenants in properties that receive curbside collection of Blue Box material in the City of Kingston. Properties classified as single-family homes with 6 units or less receive curbside Blue Box collection, as well as some multi-residential properties with 25 units or less, in the City of Kingston.

2.4 Implementation Schedule

The table below outlines the communications tools that will be utilized as a part of this initiative. The campaign will run month long during the months of May and November 2013. Information regarding key messages, cost and scheduling are included in the table as well.

Table 1: Promotion and Education Initiatives Scheduling			
Communications Tool	Messaging	Cost	Scheduling
Online media - Twitter/ Facebook	<ul style="list-style-type: none"> Weekly reminders during campaign months about what goes in the blue box. <p>Note: the social media posts remain online indefinitely. As new postings occur older posts gradually drop to position of lower visibility. Posts remain highly visible for a period of 5-7 days.</p>	\$0	May and November
- Facebook advertising	<ul style="list-style-type: none"> Facebook ads remind followers what goes in the blue box. 	\$500	May and November
Print advertising - Kingston This Week	Full page ads with one spot colour (blue box) will remind residents that blister plastics, #1 PETs and tubs & lids go in the blue box.	\$ 1300 for ad with one spot colour (\$2,600)	May 9 Nov 7
Paid radio	Remind residents that blister plastics, #1 PETs and tubs & lids go in the blue box.	\$1,700 per week (\$6,800)	Week of May 6 and Nov 4 each followed by one per day for three weeks
Information radio	City owned public radio station.	\$0	
Billboards	This is not garbage. It goes in your blue box. 3 boards each month	\$4,900	May and November
Trucks	This is not garbage- plastic containers belong in your blue box	\$1,000	ongoing
Display stand	This is not garbage. Plastic containers belong in your blue box.	\$250	ongoing
Total Budget		\$16,290	

2.5 Budget

The total budget for this project was \$ 16,290.

3 RESULTS

3.1 Results

Using data gathered from the City of Kingston's annual single-family curbside waste audit, conducted by 2cg Consulting in October 2013 in accordance with WDO and Stewardship Ontario standards, the capture rates for mixed plastic packaging obtained in 2013 can be compared to capture rates from previous years. The table below contains a breakdown of the four separate categories that comprise mixed plastic packaging that the City of Kingston uses in its waste audits as well as the cumulative capture rate for all four categories:

Table 2: Capture rates for mixed plastic packaging, 2011-2013			
Material category	2011 capture rate (%)	2012 capture rate (%)	2013 capture rate (%)
# 1 PET clear plastic containers	63.1	71.7	66.0
# 4 LDPE & 5 PP tubs & lids	59.6	68.5	72.2
Polystyrene crystal	35.7	58.8	52.4
# 2 - # 7 rigid plastic containers	51	52.1	62.0
Total mixed plastic packaging	53.9	63.6	64.0

Two of the above categories of mixed plastic packaging, # 4 LDPE & # 5 PP tubs & lids and # 2 - # 7 rigid plastic containers experienced an increase in capture rate comparing the year 2013 to the year 2012. The two other categories of mixed plastic packaging, # 1 PET clear plastic containers and polystyrene crystal, experienced a drop in capture rates when comparing the year 2013 to the year 2012, although the capture rates for both categories are still an improvement over 2011 capture rates.

There is a limitation to using the capture rate data as the promotion and education plan took place over the months of May and November 2013, and the waste audit data was gathered in October 2013.

Data gathered from recyclable material collected by both Kingston municipal and contracted collection staffs, which are compiled for both internal tracking purposes as well as reporting for the WDO datacall, can be compared for mixed plastic packaging. The table below contains a comparison of the tonnes collected per month in the period of May 2012-February 2013 to tonnes collected per month in the period May 2013-February 2014. The reason for this comparison range is that the promotion and education initiatives took place during the months of May 2013 and November 2013.

Table 3: Tonnages comparison for collected mixed plastic packaging			
Month	Tonnes collected	Month	Tonnes collected
May 2012	32.71	May 2013	51.10
June 2012	51.38	June 2013	50.80
July 2012	34.03	July 2013	34.24
August 2012	33.93	August 2013	35.88
September 2012	35.07	September 2013	35.24
October 2012	33.92	October 2013	46.51
November 2012	51.19	November 2013	31.94
December 2012	16.79	December 2013	33.54
January 2013	47.49	January 2014	31.10
February 2013	31.17	February 2014	16.65
Total	367.68	Total	369.02

The information in the table above indicates that overall, six out of ten months experienced an increase in tonnes for the collection of mixed plastic packaging, while four out of ten months experienced a decrease in tonnes for the collection of mixed plastic packaging, with one of those months (June) experiencing a decrease of only 0.58 tonnes. Overall, comparing the ranges of May 2012-February 2013 to May 2013-February 2014, there was an increase of 1.34 tonnes of mixed plastic packaging collected in the City of Kingston.

Analytics also exist to measure the success of the Facebook advertising campaign that took place as part of the promotion and education plan to increase the recovery of mixed plastic packaging. Facebook advertising campaigns were run throughout May and November of 2013, with two separate advertisements being used in each month; one advertisement focused on plastic packaging (i.e. blister packaging) with the other focusing on # 4 LDPE & 5 PP tubs & lids. The success of these ads can be measured through the number of views for each ad (impressions), the number of unique users who viewed the ad, the frequency with which each ad was viewed by each user, the number of times each ad was clicked on and sent the user to the City of Kingston website and the percentage of the target audience that viewed the ad. The ads were targeted specifically at residents over the age of 18 who self-identified as living in the City of Kingston through their Facebook profiles; this feature ensures only Kingston residents are viewing the advertisements. The metrics are available in the table below:

Table 4: Metrics for Facebook advertising						
Advertisement	Length	# of total views (impressions)	# of unique user views	Frequency	Clicks	Percentage of target audience reached
Plastic packaging	May 8, 2013 – May 17, 2013	1,351,470	49,820	27.1	69	53 %
# 4 LDPE & 5 PP tubs & lids	May 18, 2013 – May 27, 2013	1,563,137	49,538	31.6	69	52.7 %
Plastic packaging	November 4, 2013 – November 13, 2013	2,366,601	54,796	43.2	118	72.1 %
# 4 LDPE & 5 PP tubs & lids	November 14, 2013 – November 23, 2013	2,281,815	52,288	43.6	86	68.8 %

Both sets of ads can be considered successful from an affordability standpoint, as the total cost for all ads was \$ 488.55 USD. The improvement in both number of total views, unique user views and percentage of target audience reached in the ads run in November can be attributed to a narrowing of the target audience for that set of advertisements; the target audience for advertisements in May was 94,000 users, while the target audience in November was 76,000 users. The ability to easily define a target audience that will be the only viewers of your advertisement is an advantageous feature to Facebook advertising, as this ability to specify a target audience cannot be accomplished via traditional advertising mediums such as newspaper, radio or even direct mail.

3.2 Analysis of project

The majority of communications tools outlined in the original promotion and education campaign were carried out as described, however some exceptions did occur: due to an increase in the cost of full-colour print advertising in the Kingston this Week newspaper, the budget originally allocated for the creation of a display stand had to be used to cover the cost increase for the newspaper advertisements. For the billboard advertising, the company in charge of installing the billboard artwork was two weeks delayed on installing the artwork for the November campaign, and as a result the billboards ran from mid-November to mid-December, contrary to the original plan which would have seen the billboards run the entire month of November.

The results of the promotion and education campaign with respect to the stated goal of increasing the capture rate of mixed plastic packaging and the stated objective of increasing the capture rate of mixed plastic packaging to 75% were mixed. The objective of 75% capture rate for mixed plastic packaging was not achieved, as the capture rate remained level at 64%; however, the goal of increasing the capture rate of mixed plastic packaging was partially accomplished as two categories of plastics within the larger category of mixed plastic packaging, # 4 LDPE & # 5 PP tubs & lids and # 2 - # 7 rigid plastic containers, experienced an increase in capture rate.

Using the measure of tonnages collected, which although not a measure directly related to capture rate but one that can be used to measure the success of the promotion and education program, also indicates some degree of success; comparing tonnages from the period of May 2012-February 2013 to May 2013-February 2014, there was a 1.34 tonne increase in mixed plastic packaging collected. Using a monthly comparison within those timeframes, six out of ten months experienced an increase in tonnages collected as compared to the previous period's month.

Though the goal and objective of the project was not fully achieved, valuable insight was provided with respect to value for money through different communications tools. The Facebook advertising completed in this campaign was affordable and provided specific analytics that traditional communications tools, such as newspaper and radio advertising, cannot provide. Additionally, the target audience for the advertisements could be easily customized to ensure that only a specified audience would be viewing the advertisements; traditional communications tools cannot provide this level of customization. In spite of the affordability and ability to customize a target audience one should not move all promotion and education efforts strictly to Facebook or other social media advertising, but regard the use social media advertising as another option in their advertising toolbox. Social media advertising can be a great asset, but much depends on the message that is being put out and the target audience for the message.

A final lesson learned through this project concerns the length of time in which a message should be communicated. The City of Kingston devoted significant resources to promoting the inclusion of mixed plastic packaging in its Blue Box program since it began to accept such materials in May 2011, carried

out over the 2 year period that lead up to the start of this promotion and education campaign. With this frequency of messaging on the same topic, it is very likely that message saturation was achieved- enough residents had seen the message that they either already were aware that mixed plastic packaging was recyclable, or if they weren't aware, the message was repeated to the point where it became easy to ignore. An important point that will be noted in the future is the need to change messaging on a relatively frequent basis so it cannot become easily ignored. Where possible, funds should be devoted to testing promotional material with residents to see if the messaging will achieve its stated goals and objectives. Promotion and education endeavours towards mixed plastic packaging are certainly worthwhile and can increase the capture rates for that material, but ensuring that the message that is being communicated is one that residents want/need to hear is critical.