

# Promotion & Education: Contamination & Abatement

Bradley Cutler, CIF  
Project Coordinator

## Why is P&E Important?

- Links the BB Program & the people participating in it
- Promotes higher diversion & lower contamination
- Brings about cost savings
- Contributes to improved capture of materials in the MRF
- Leads stronger marketability



# How to Make P&E More Effective

1. Connect with residents
  - A waste audit tells us what's in the stream, but not why
2. Combine P&E with operational reinforcement
3. Get your contractor's perspective
4. Engage all stakeholders before you roll out your campaign



# Panelists

- Renée Dello, City of Toronto
  - P&E Engagement to Establish Best Practices for the MR Sector
- Anne Boyd, City of London
  - Cleaning up the Curb...One Household at a Time
- George South, Waste Connections of Canada
  - Contamination Abatement
- Robert Demik, Region of Peel
  - Gravity Locks: Another Tool for Contamination Abatement



# **Promotion & Education Engagement to Establish Best Practices for the Multi-residential Sector**

## **CIF Project # 979**

Renée Dello  
City of Toronto



# Project Highlights

- Project goals:
  - Test different communication methods
  - Improve diversion
  - Reduce contamination
- Impacts:
  - Recollection of education tactics poor
  - Some residents recycling more
  - Small improvements observed
- More information:
  - [Renee.Dello@toronto.ca](mailto:Renee.Dello@toronto.ca)
  - [www.toronto.ca](http://www.toronto.ca)

# Why This Project?

- Contamination rates high for MR buildings
  - System-wide\*2018 estimated at \$4M, contamination surpassing 27%
  - Decrease in revenue of \$5.2M
- Continued enhancement of ongoing communication strategies
  - Recycle Right Campaign
  - Waste Wizard Promotion
  - MR Workshops
  - 3Rs Ambassador Program
  - Calendars
  - Customer Service Group Outreach

\* collection & processing for single family & MR



45% households



55% households

# Project Steps

- Undertake focus group
- Select buildings
  - Get agreements from property managers
- Undertake preliminary waste audits & qualitative surveys
- Develop communication materials
- Develop relationships (MOUs) with community groups; train groups
- Initiate project
  - Control, lobby displays, enhanced P&E, community groups

# Focus Group Findings

- Recycling
  - Convenience (chutes for recycling and compost)
- Terminology
  - “*Contamination*” means HHW; use “*wrong items*” or “*non-recyclable items*”
- Engagement
  - Stickers & posters best; less text; more images
  - Show what recyclables become; how they are reused
- Sceptical of info from others
  - Look to City first
  - Look to PM





# Test Scenarios - 20 Buildings Selected

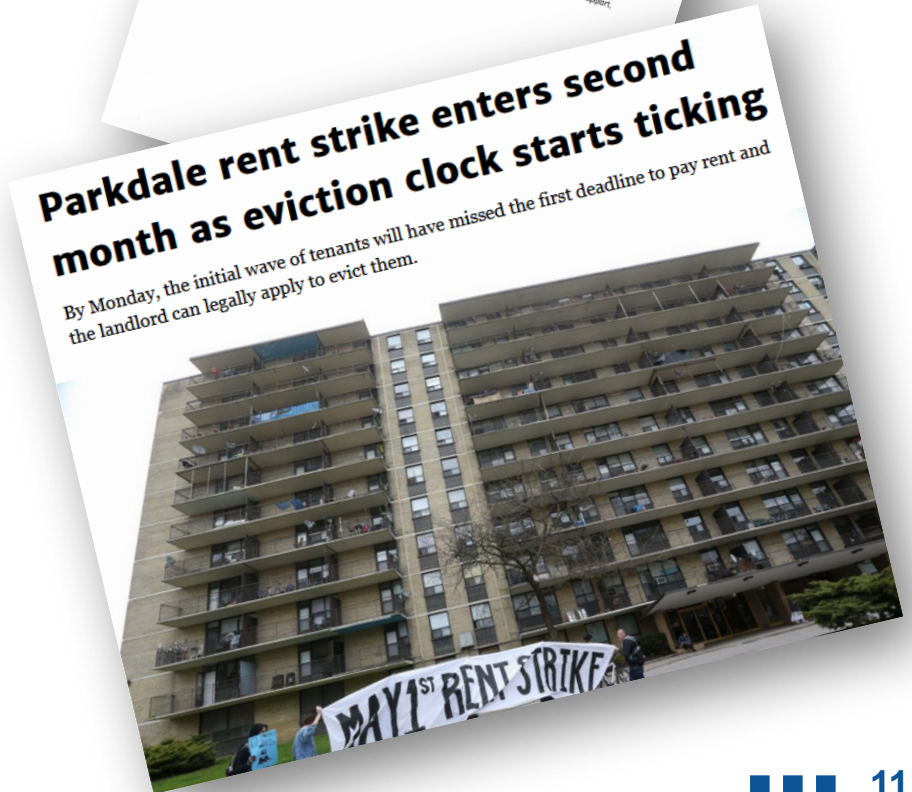
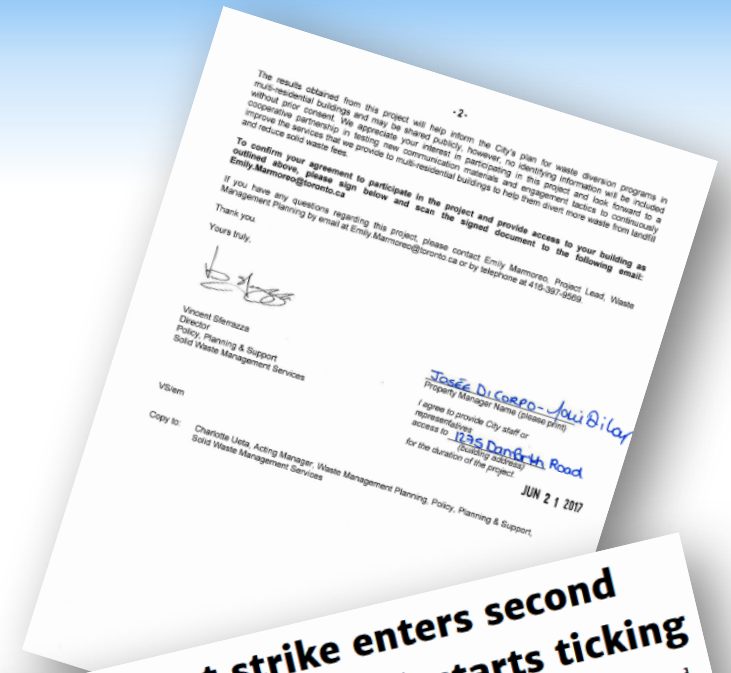
- Control buildings (monitoring only)
- Lobby Displays
- Enhanced P&E
- Community Group/Tenant Engagement Guide





# Challenges

- Delays due to personality conflicts (condo board vs. community group volunteers)
- PMs question giving authority to Ipsos for entering buildings
- Challenging buildings
- Getting timely information from community group project



# Enhanced P&E Results

- Enhanced P&E Results
  - 463 poster responses
  - 26 direct mail piece responses
- Audit Data Results
- Ipsos Survey Results



**Recycle. Give Items a new life.**

Plastic containers, Glass, Aluminum & tin cans, Newspaper & cardboard, Clothing, carpet, reusable shopping bags, New bottles, jars, fiberglass insulation, Bicycles, car parts, New boxes, paper bags.

**WHY RECYCLE?**

**Check how well you know the ins and outs of recycling**

Visit the Recycle Coach Academy for a fun and interactive way to learn about what goes where.

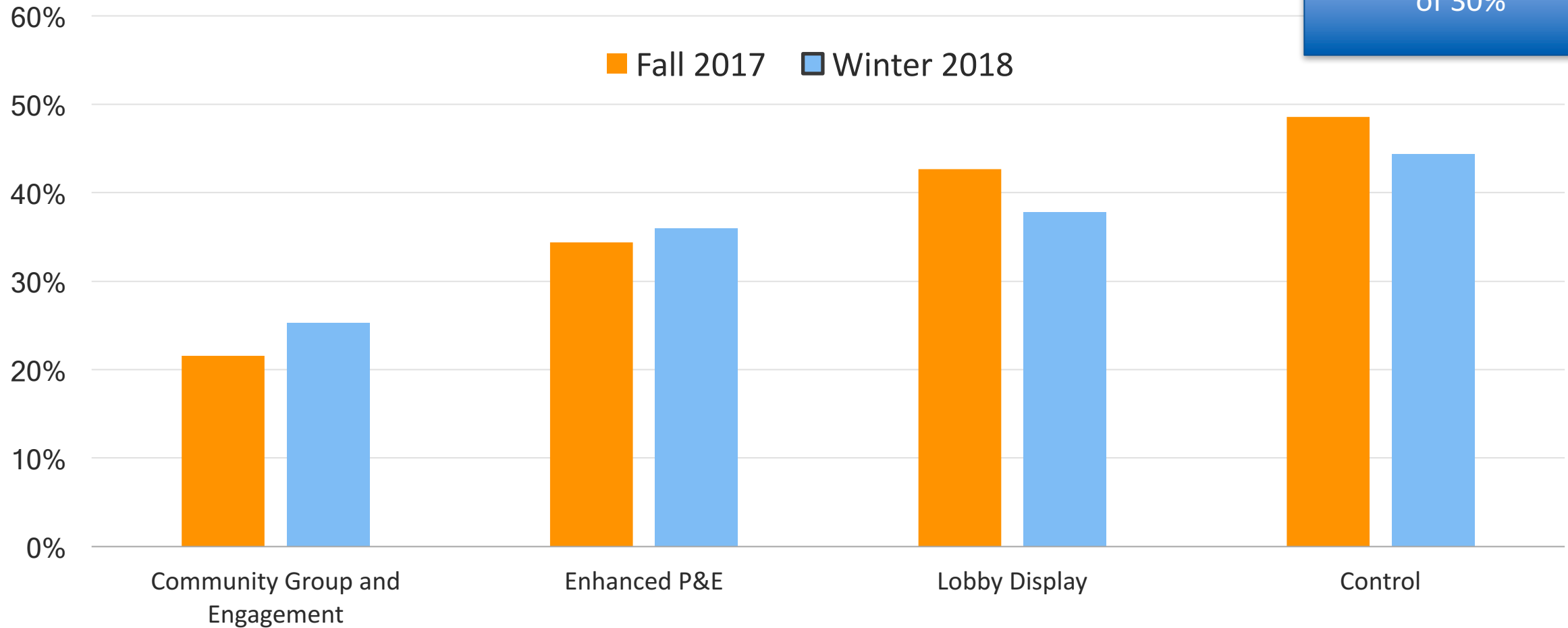
**recycleTO.ca**

Your efforts make a difference.

# Waste Audit Data Results (1)

## Diversion Rate - Engagement Tactics

Contamination levels  
of 30%

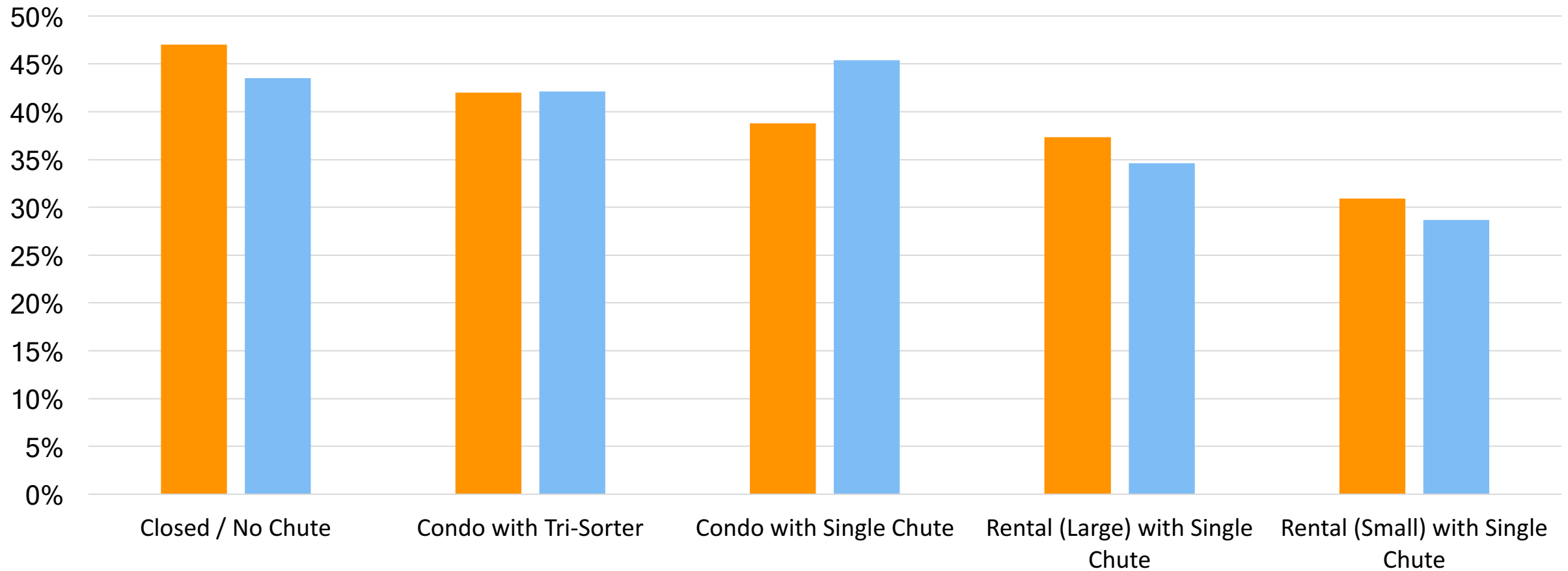


## Waste Audit Data Results (2)

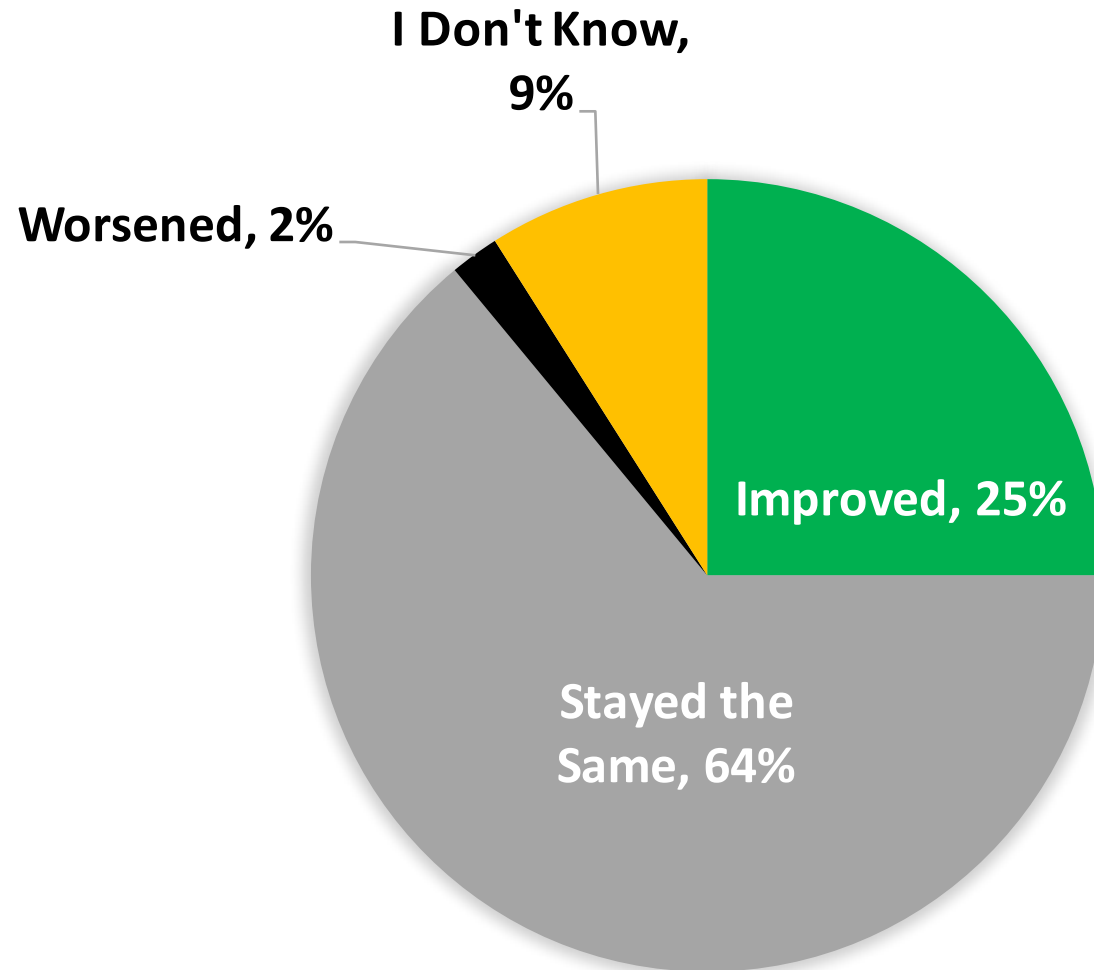
### Diversion Rate by Building Type

■ Fall 2017

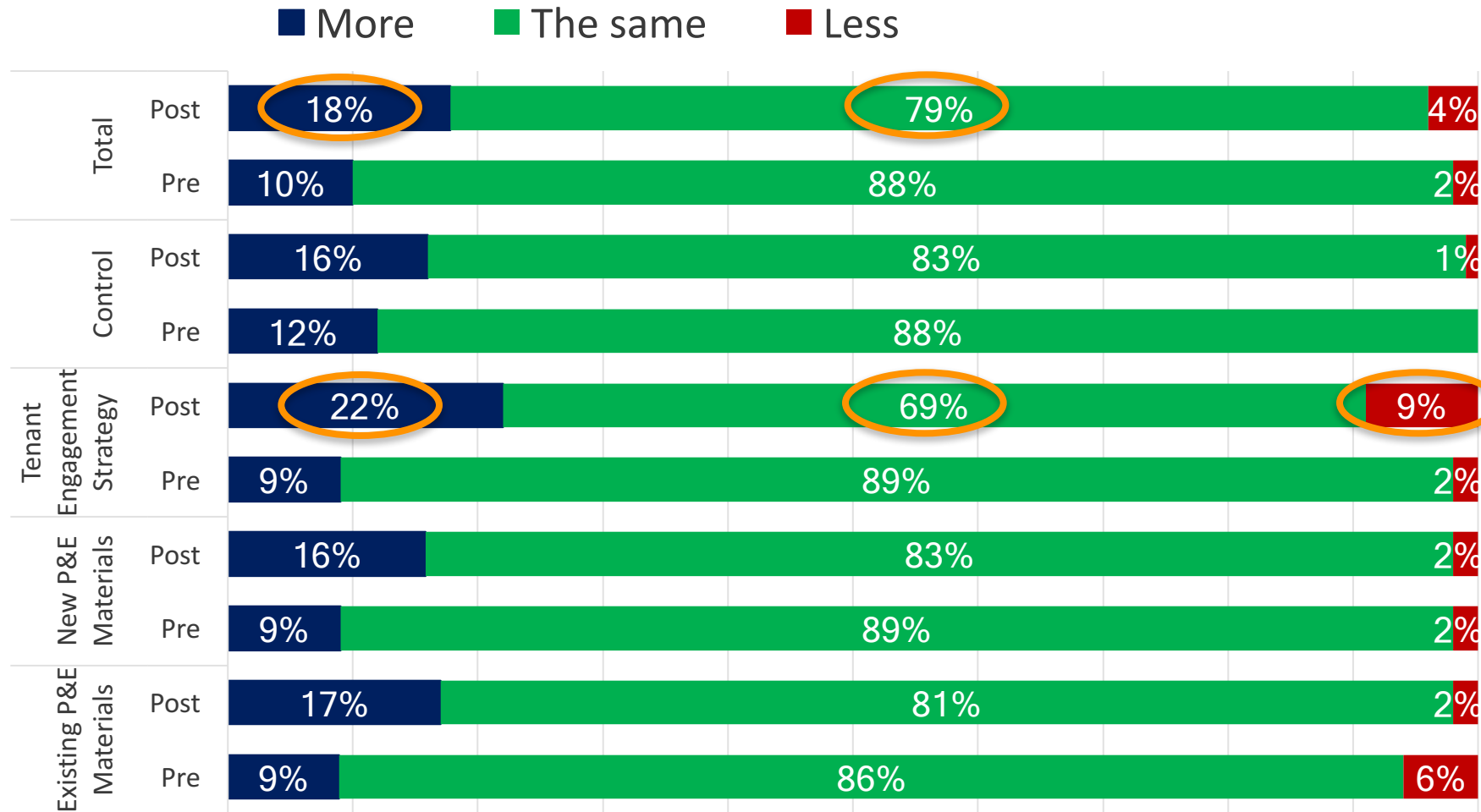
■ Winter 2018



## Ipsos Survey (1) - Recycling Information in the Building



# Ipsos Survey (2) - Residents Say Recycling More

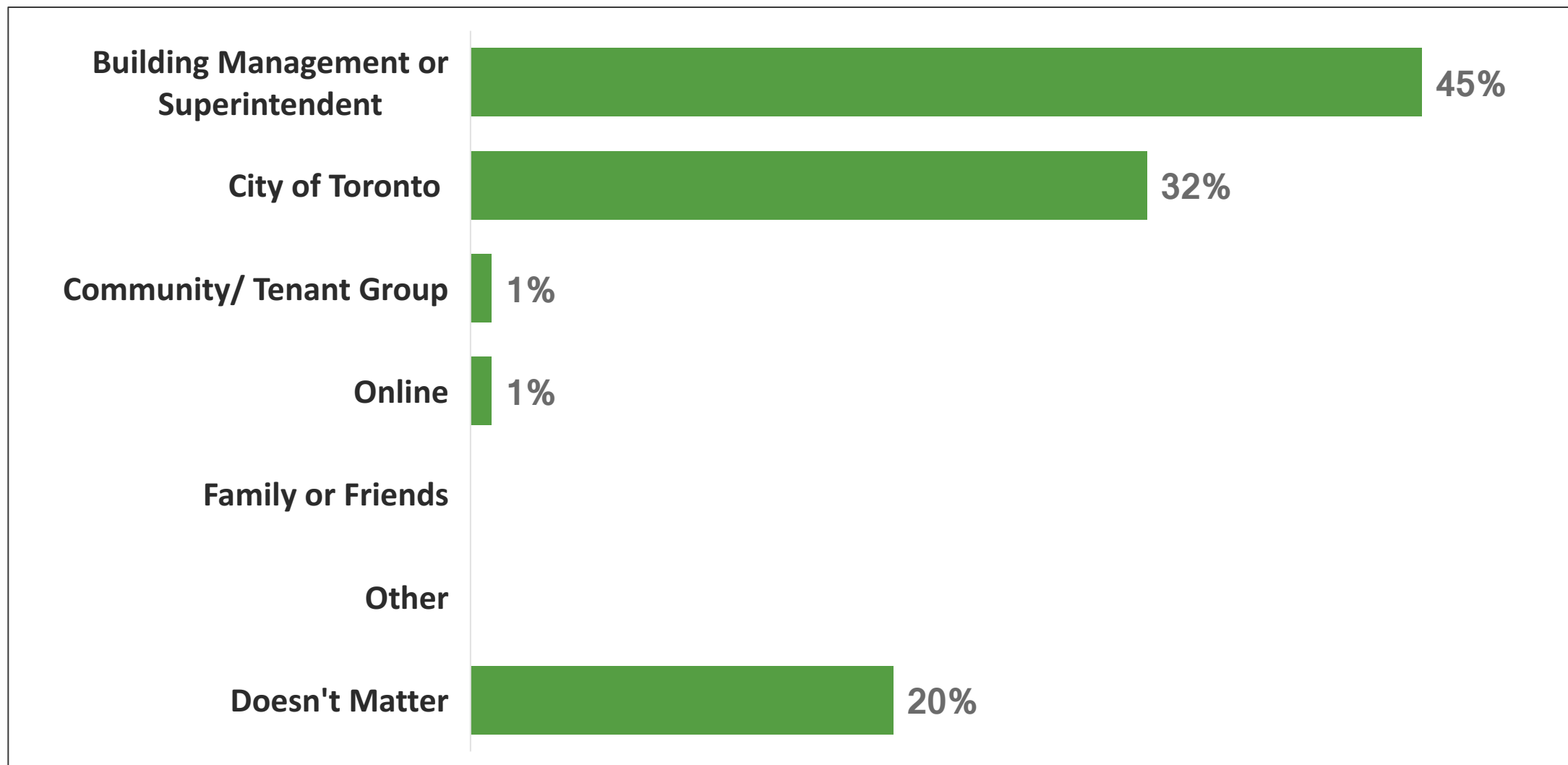


Data <2% not labelled

- **Residents indicate:** recycling more (18% post vs. 10% pre)
- **Residents in Tenant Engagement Strategy likely to mention:** recycling more (22% post vs. 9% pre)
- **Residents in other groups:** mention recycling more in post-wave, however these differences not statistically significant.



## Ipsos Survey (3) - Preferred Source of Information



# Key Messages & Take Away

- Project Cost
  - \$300,000
- Project achievement
  - Preliminary audit data indicates small improvements in some buildings
  - Useful insights
- Is this approach a better or best practice
  - Based on effort to implement & monitor, minimal impact observed; recall of education tactics disappointingly poor
  - Education efforts definitely key component to improved diversion and addressing contamination
  - Addressing contamination issues in “tag & leave behind” project; will consolidate insights
- Advice
  - Ongoing P&E that incorporates insights from this project to achieve behaviour change
  - Low diversion rates at rental buildings & persistent contamination issues at other properties may provide business case for mixed waste processing at some sites

## Next Steps

- More updates in CIF Connections Blog
- Final Report: December 2018



**CIF Connections Blog**





London

# **Cleaning up the Curb... ... One Household at a Time**

Anne Boyd  
City of London

# Project Highlights

- Project goals:
  1. Reduce curbside contamination to <3%
  2. Raise citizen awareness of financial impact of poor recycling habits to bring about lasting behaviour change
- Impacts:
  1. Behaviour changed achieved
  2. Contamination goal reached
- More information:
  - [aboyd@london.ca](mailto:aboyd@london.ca)
  - [london.ca](http://london.ca)

# Why This Project? What Problem Does it Tackle?

## ■ Background:

- 2-stream program; contamination rate of 5%-6%
- New regional MRF 2011
- New processing contract \$ factors = quantity & QUALITY of incoming tonnes
- **Reduce contamination** to <3%; \$250K annual contract savings
- Project implemented 2012 to save \$





# Project Steps

- Pre-project implementation - baseline data
  - Determine number of households impacted:
    - 15% - not sorted & contaminated
    - 6% - not sorted (correct items in wrong boxes)
- 3 phase project approved by Council:
  1. General Awareness & Reminders – 8 months
  2. Focused Awareness & Soft Compliance – 8 months
  3. Compliance & Program Maintenance – 6 months & on-going

## Phase 1 - General Awareness & Reminders

- Key messages:
  - Sort it right!
  - Costs taxpayers when you don't; can save when you do
  - Most people doing it right (don't be in the minority)
- Method:
  - City wide advertising – media events, contest, radio, in-kind ads
  - Curbside reminder stickers



# Phase 1 – Campaign Launch & Contest – London's Report Card

Most people  
are doing it  
right!



## Win an ipad!

During Waste Reduction Week, Oct. 15-22, crews selected one household each day that correctly sorted recyclables at the curb to win an iPad donated by the City's contractor Miller Waste.



## Phase 1 – Media Launch & Contest – Got Mayor Onboard



improperly sorted blue box Monday outside city hall during t  
na is highlighting shows the "lasagna" approach with containe

I've been to our recycling centre, and, to tell you the truth, it's disgusting to see what in fact is going through our recycling," Mayor Joe Fontana said.

"You've got diapers, you've got other things that, believe me, are not part of the 'sorting it right' campaign."

recycling," Mayor Joe Fontana said M  
you've got other things that, believe n

So to encourage more Londoners to e  
will see six households that are recyclo

## Phase 2 - Focused Awareness & Soft Compliance

- FOCUSED awareness
  - Outreach – direct messaging focused in some neighbourhoods
  - Door to door inspections – 35,000 households
  - Labour intensive for 8 months
  - Personalized messages to each household
  - Say ‘thanks’ to those that do it right
- SOFT compliance
  - Introduced compliance - collection crews began to reject boxes
  - City crews returned to collect when (if) calls come in

## Phase 2 Awareness - Error Messages

- Teams inspected setouts
- Left card in mail boxes
- **Handwritten message identified error**



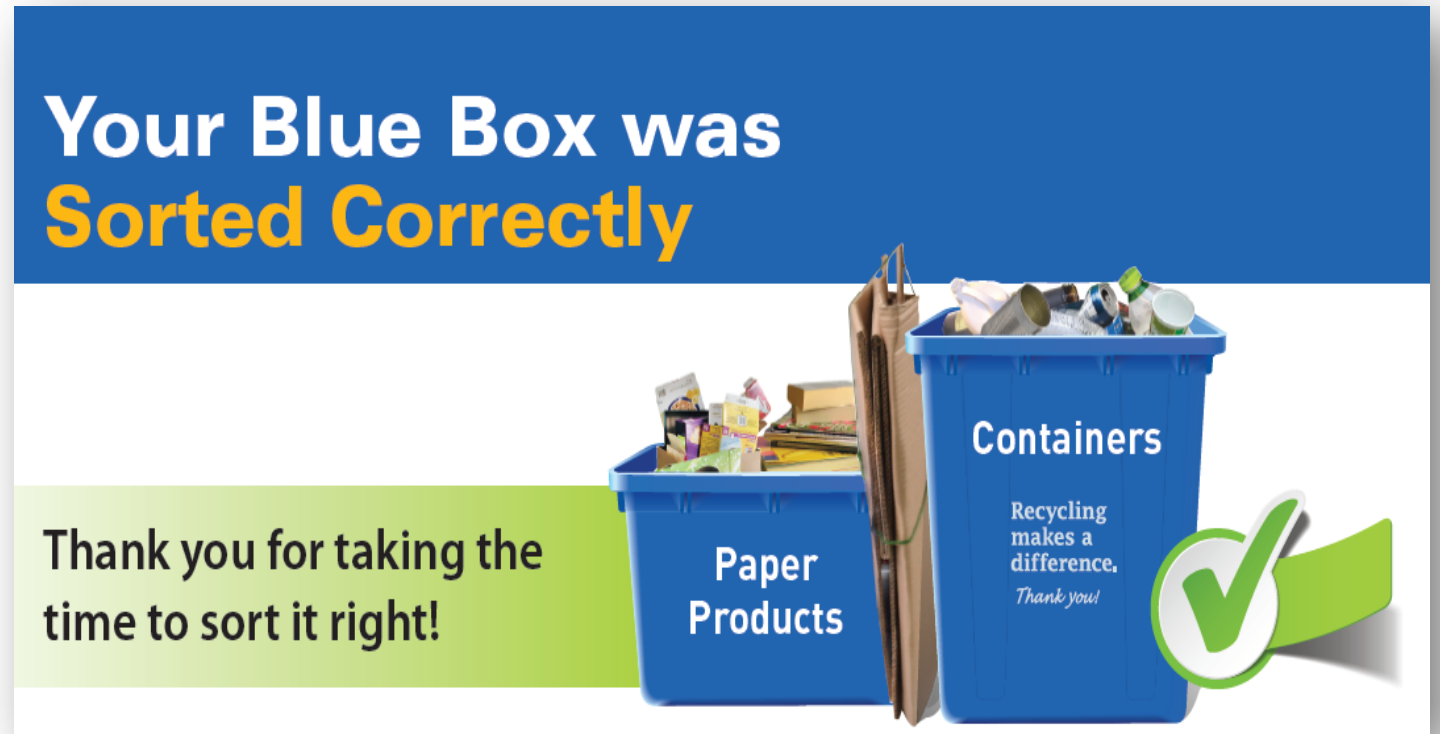
Please put Styrofoam  
in the garbage.  
Otherwise, everything  
was perfect!

Milk cartons go  
in the container  
box, otherwise, it's  
perfect!



## Phase 2 Awareness – Thank You & Reinforcement

- Recognize those doing it right
  - Say ‘thank you’
  - Motivation for change
  - Neighbours chat
  - Establishes norms
  - Raises bar



## Phase 2 SOFT Compliance - 'Sort It Right'

- SOFT Process:
  - Crews sticker & reject boxes
  - Residents complain
  - Resident asked to sort it right
  - City returns to collect

# Sort It Right

**It costs the City \$250,000 a year when Blue Boxes are not sorted properly. Help us cut our costs.**

**Use separate Blue Boxes for Paper and Containers**



**Recycling makes a difference.**  
*Thank you!*

Find out how to sort it right,  
visit [london.ca/recycle](http://london.ca/recycle) or  
call 519 661-5803.



## Phase 3 - Compliance & Program Maintenance (1)

- Compliance:
  - End of amnesty period
- Program Maintenance:
  - Stay on message
  - Letter writing campaign



## Phase 3 - Compliance & Program Maintenance (2)

- Program Maintenance
- Refocus on cross-contamination



‘if you can drink out of it, it’s a container!’

# Project Numbers

- 35K hh – door-to-door outreach
- Rejected boxes:
  - Baseline – 2% of setouts
  - Phase 3 – maintenance – 0.3% (85% reduced)
  - 80% of hh contacted changed behaviour (20% did not!)
- Contamination:
  - Goal achieved & renegotiated contract with 5% cap clause
- P&E spending directed to this project plus
  - \$40K outreach (staffing)
  - \$19K truck decals



## Notables:

- Launch with big media event:
  - Contests! (iPad giveaway)
  - Get a celeb on board (Mayor Joe Fontana)
- Outreach time-consuming, but effective
- Use students, not temps
- Meet regularly with collection crews & support them
- Acknowledge good recyclers



## Contamination Abatement

George South, H.B.Sc., M.A.  
General Manager – Northern Ontario  
Waste Connections of Canada

[george.south@wasteconnections.com](mailto:george.south@wasteconnections.com) | (416) 576-9209



# Title is Contamination, But What Are We Really Going to Talk About Today?

- Today's presentation may look to be on contamination, but in my view it is really about behaviors
- How do we get to have both curbside service providers & residents who care?
- For persons who are a little more reluctant to care how do we help them to “see the light”?
- How do we manage behaviors long term so that once performance is where we want it, that it does not slide backwards?
- Challenges of “life on the curb”?

## With This in Mind...Today's Presentation Focal Points

- Safety Performance – Head to Heart – a direct measure of how much a driver cares
- Behavioral management tools for both drivers & public
- Reporting & through reporting a focus of efforts
- Life on the curb – photos tell the story
- Where does the contamination go?

## A Safe Workforce – One That Cares About the Overall Job!

- 23 months ago I was purchased again & became a member of Waste Connections of Canada
- I-Rate (incident occurrence rate per 200,000 operating hours) for the waste management industry as a whole in Canada is  $\pm 35.0$
- I-Rate industry wide declined for two years & then spiked up again in 2017
- Pre-merger our I-Rate was 113.0 – this is really crazy bad....
- Today our I-Rate is 16.5 – this is really crazy good!

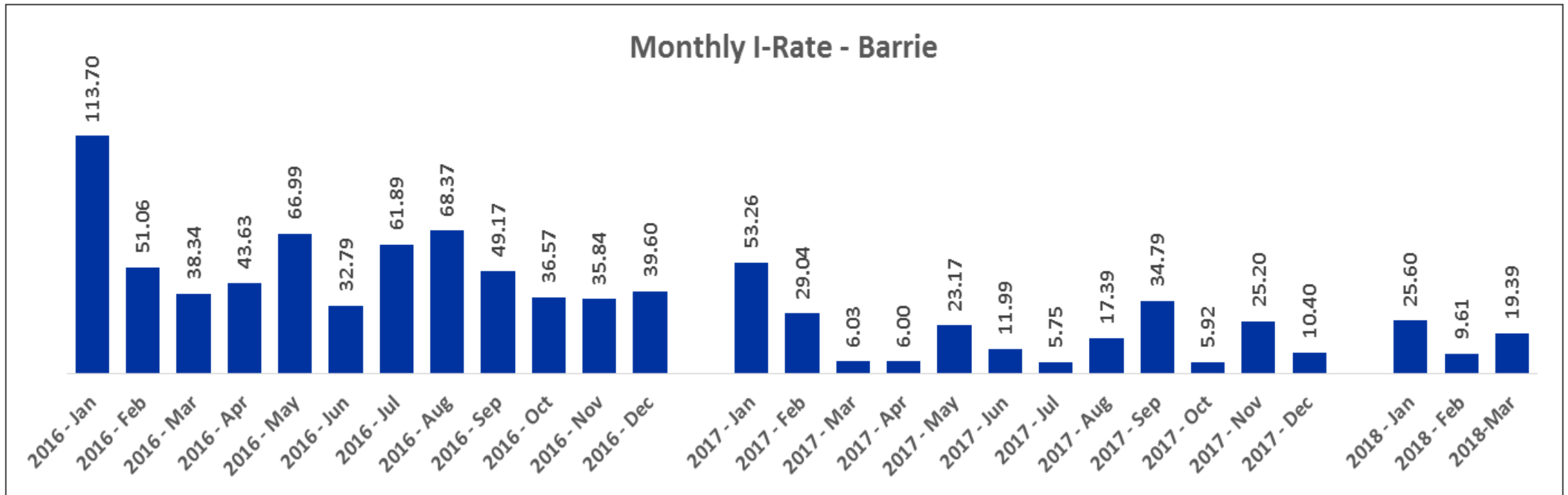
# How Do You Become SAFE & Why Do You Care?

- Target District – 3 day boot camp
- Head to Heart
- Here to There
- S.A.F.E. (**s**ay what you saw, **a**sk for an answer, **f**ind a fix, **e**mpower)
- S.A.F.E.R. (**SAFE** + **r**epercussions)
- Get what you accept
- ZERO is the only option



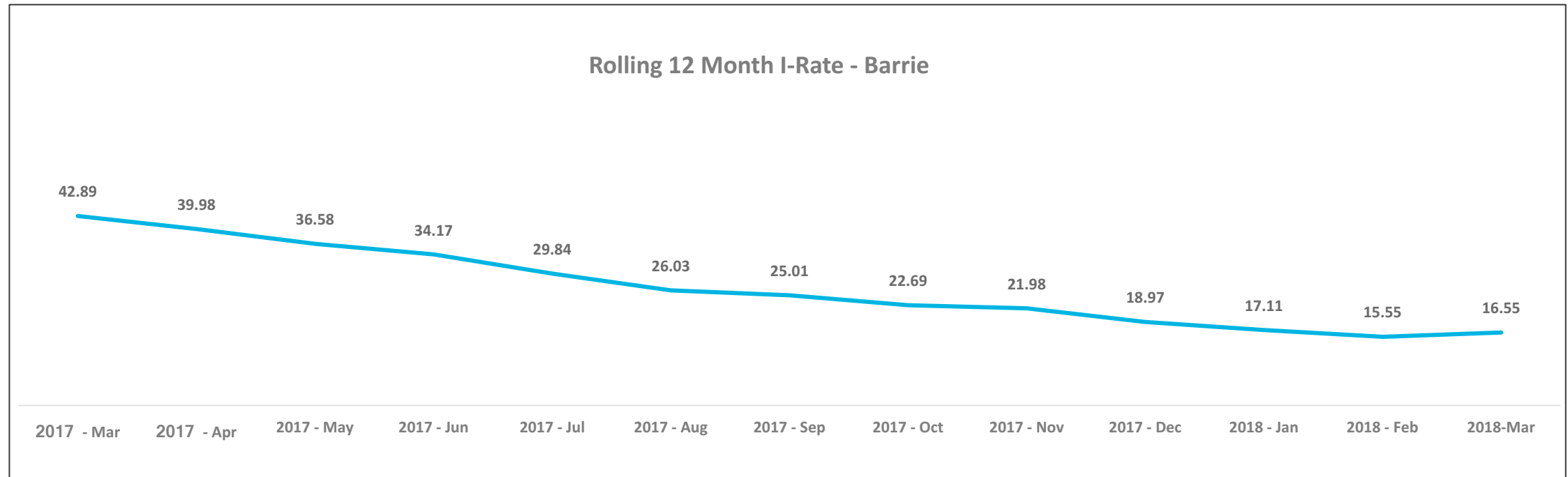
# Why Do You Care If We Are SAFE? (1)

- I start with Safety because a relationship based workforce, focused on safety is one that performs together. Work quality goes up, pride of ownership goes up, job satisfaction goes up, everything gets better



## Why Do You Care If We Are Safe? (2)

- If you need a problem solved an empowered and self motivated workforce who demonstrates that through a safety first culture will be the one that executes



## Behavioral Management – Internal & External

- Part of being safety conscious is reducing risk & risky behaviors
- DRIVECAM & GEOTAB



# DriveCam Behavioral Reinforcement (1)

The screenshot shows the DriveCam web application interface. The left sidebar contains a 'Reports/Subscriptions' menu with options like 'Program Performance Tools', 'Group', 'Monthly Report', 'Weekly Report', 'Weekly Report Executive Version', 'Group Report Card', 'Collision Trends', 'Top Performers', 'Event', 'Event Data Extract', 'Event Totals by Driver', 'Event Totals by Group', 'Event Totals by Vehicle', 'Top 20 Drivers by Coachable Events', 'Top 20 Drivers by Scored Events', 'Top 20 Drivers by Total Score', 'Speed', 'Speed Data Extract', 'Speed Summary Extract', 'Speed Summary', 'Coaches Tools', 'Group', 'Behavior Analysis', 'Behavior Analysis by Group (Top 6)', 'Coaches Event History', 'Coaches Event History with Event Number', 'Driver', 'Driver Event History', and 'Driver Event History by Group'. The main content area displays a report titled 'Top 20 Drivers by Coachable Events' for 'Waste Connections, Inc.' covering the period 'July 01, 2017 - March 31, 2018'. The report includes a table with the following data:

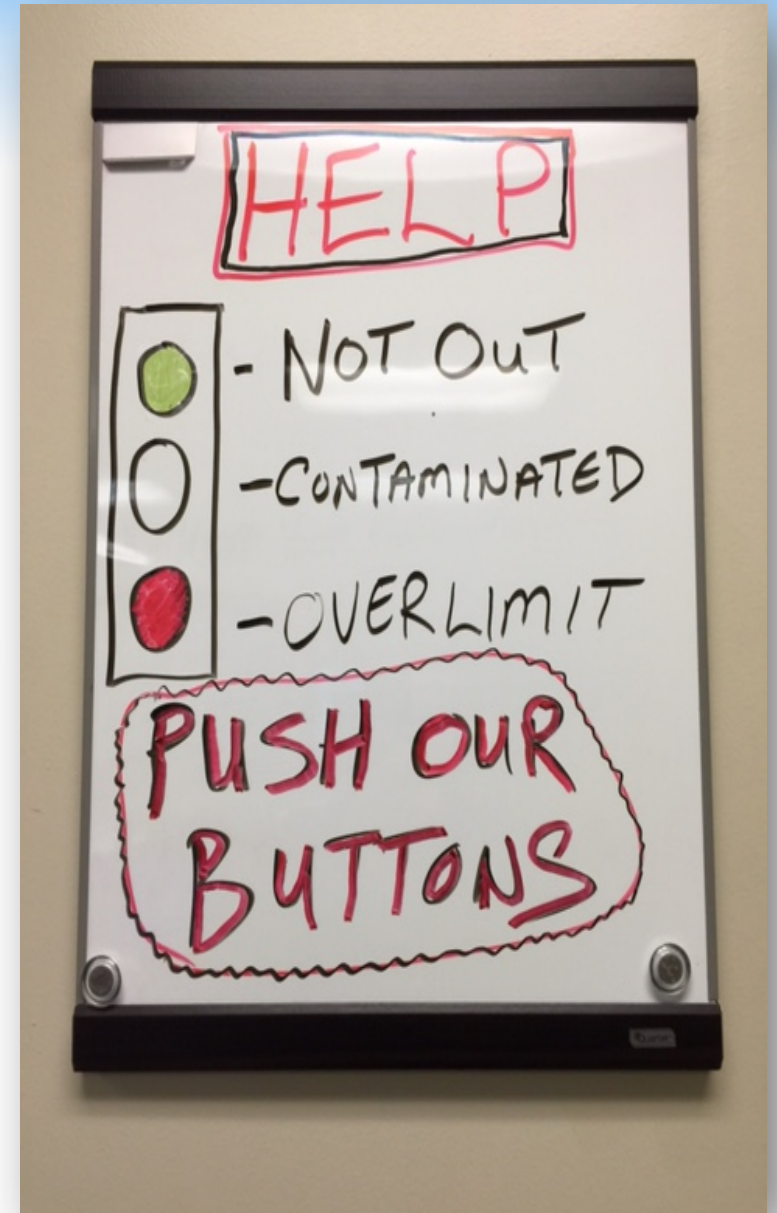
Coachable Events Ranking						Total Number of Events with Behavior Exhibited						
Driver	Group	Last Event Date	Jul - Sep	Oct - Dec	Jan - Mar	Cell HF - Distraction	Cell HH - Distraction	Cell HH - Observed	FD < 1	IA	LR	NSR
Fox, Chris	Barrie (7112)	03/16/18	-	1	7 **	0	0	0	0	0	0	0
Emms, Dallas	Barrie (7112)	03/30/18	-	1	4 **	1	0	0	0	0	1	0
Galley, Shannon	Barrie (7112)	02/28/18	-	-	4 *	0	0	0	0	0	1	0
Williams, Blake	Barrie (7112)	03/22/18	-	-	4 *	0	0	0	0	0	0	0
Anthony, Glen	Barrie (7112)	03/30/18	3	2	3 ***	0	1	0	0	0	0	0
Shipman, Chris	Barrie (7112)	03/31/18	1	2	3 ***	0	0	0	0	0	0	0
Cormier, Matt	Barrie (7112)	03/31/18	-	3	2 **	0	0	0	0	0	0	0
Emms, Howard	Barrie (7112)	03/30/18	-	3	2 **	0	0	0	0	0	0	0
Lucas, John	Barrie (7112)	03/28/18	1	2	2 ***	0	0	0	0	0	0	0
Griffin, Dylan	Barrie (7112)	03/29/18	1	1	2 ***	0	0	0	0	0	1	0

## DriveCam Behavioral Reinforcement (2)



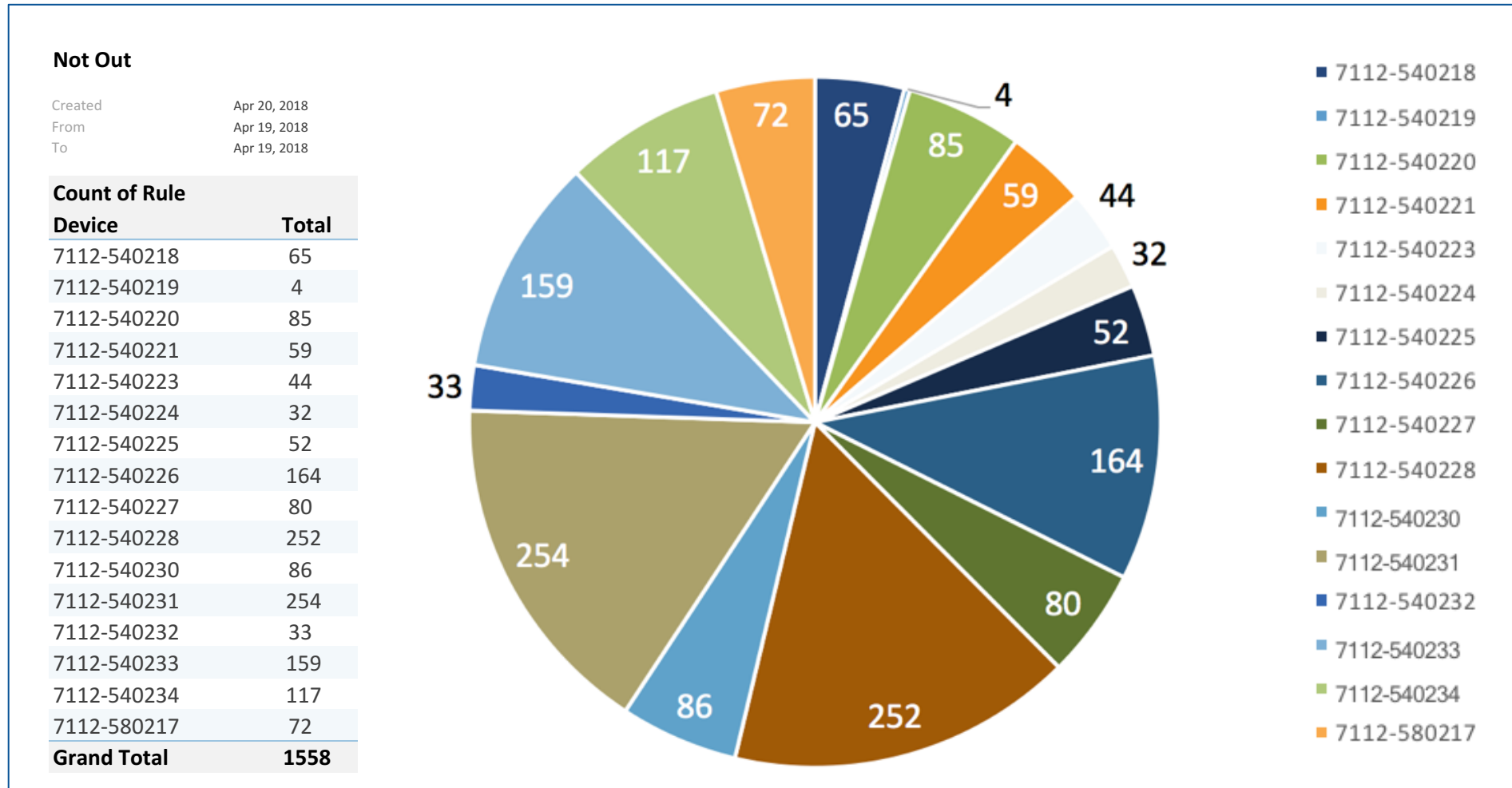
## Behavioral Management – External (1)

- Sonrai/GeoTab linked to GPS
- Feedback of public behaviors
- Contamination – especially repeat is documented



## Behavioral Management – External (2)

- Sonrai/GeoTab linked to GPS





# Two Grades of Contamination

- Big Stuff we can get at the curb





# So Much Big Stuff!





## Smaller Stuff Typically Handled at the MRF (1)





## Smaller Stuff Typically Handled at the MRF (2)



## So This Is Where We Are Today at the Curb

- Good levels of tracking
- Good records
- Trying to do the “right thing”
- Good levels of feedback
- Big stuff that can be identified is left & tagged
- **STILL NOWHERE NEAR GOOD ENOUGH FOR THE CHANGE IN MARKETS!!**

## Impacts of 3%

- Dramatic increase in curb time
- Resultant decrease in productivity & route size that can be accomplished
- When drop from “the big stuff” to “all stuff” time essentially doubles

# What Does Double Mean?

- Where there was “one” now there are “two”
- Two trucks
- Two operators
- Twice as much fuel
- Two insurance policies
- Double benefits
- Double carbon footprint
- Not the same competitive environment we have been living in for the past 20 years





# How Do We Handle the Future?

- ?
- MRF investments? Hard to do in advance – stranded capital
- Curbside impacts of increased collection time...
- Who pays?
- Evolution to get “here”
- How fast do we need to get “there”

# Gravity Locks: Another Tool for Contamination Abatement CIF Project 1021



Robert Demik  
Regional Municipality of Peel

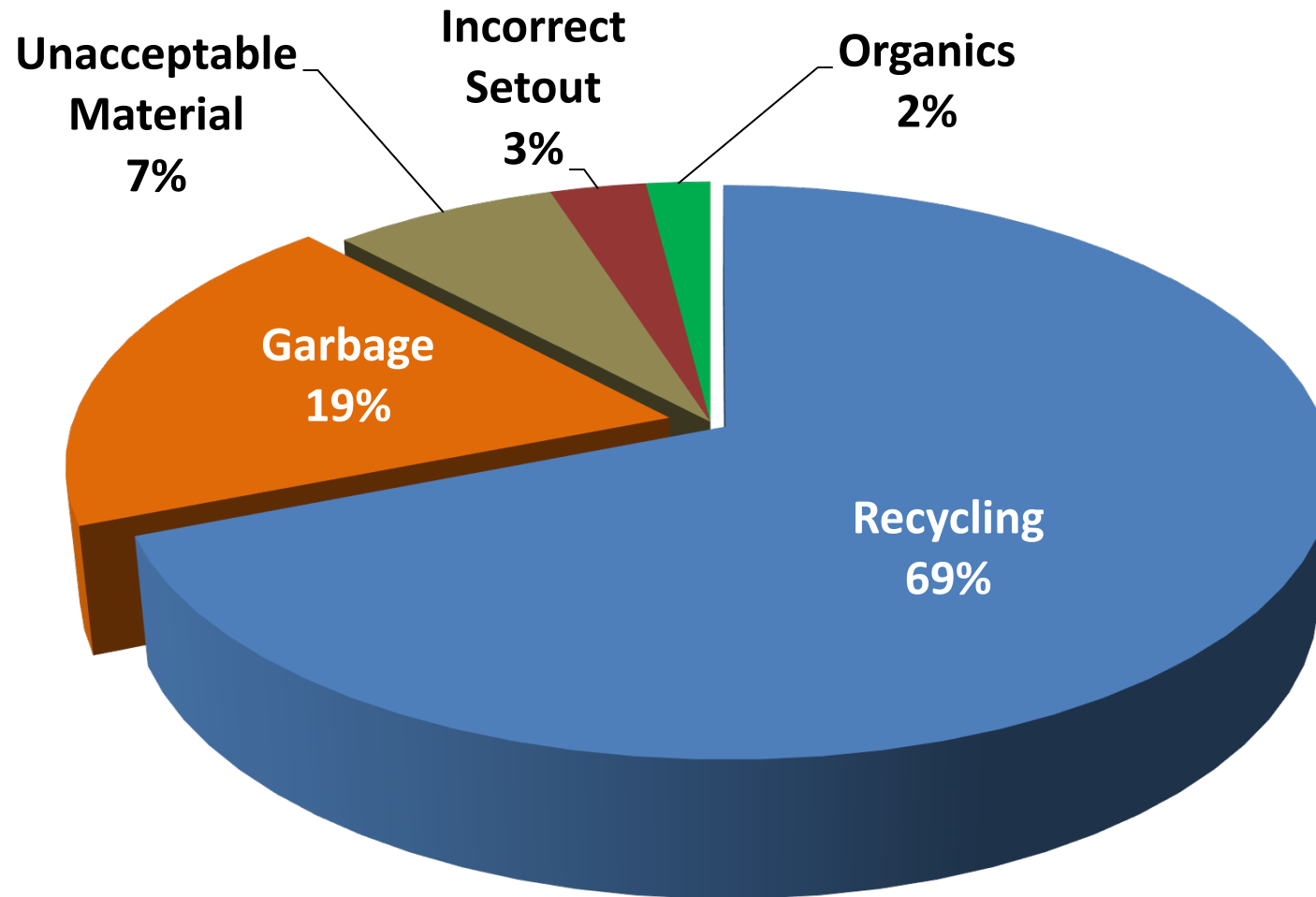
# Project Highlights

- Project goal:
  - Reduce contamination, particularly tied off grocery bags, through a change in resident behavior (set out practices) in Multi-Residential (MR) buildings
- Impacts:
  - Reduce collection costs by \$45,000 per year
  - Improve resident knowledge on the recycling program
- More information:
  - [robert.demik@peelregion.ca](mailto:robert.demik@peelregion.ca)
  - [www.peelregion.ca/waste](http://www.peelregion.ca/waste)



MR sector contamination  
costs the Region of Peel  
\$130,000 in collection costs annually

## MR Recycling Material Composition



31% of material collected is **NOT RECYCLING**

# MR Recycling Contamination

- Oversized Contaminates:
  - Garbage bags & tied grocery bag
  - Textiles
  - Construction & renovation material
  - Large plastics



# Are Gravity Locks the Solution?



- Key Features:
  - Restricts access to the built in slot
  - Does not need to be unlocked for collection
  - Prevents large items from entering the container



# Pilot: Learnings & Challenges

Items left on the ground



Locks not re-engaging after collection



# Pilot: Audit Results

GRAVITY LOCK AUDIT RESULTS		
Average Material Composition	BASE LINE	GRAVITY LOCK
Fibre	37.99%	45.27%
Containers	20.39%	18.52%
Non-Recyclable	41.62%	36.21%
<b>Total</b>	<b>100%</b>	<b>100%</b>
	AVG	AVG
Non-Rec Material Composition Breakdown		
Blue Box Material in Incorrect Bags	4.69%	2.83%
Blue Box Material with Contents	1.07%	1.30%
Fibre with Plastic Overwrap	0.68%	0.67%
Fused Blue Box Material	0.34%	0.06%
Green Bin Material	2.26%	2.95%
Hard Plastics	1.23%	0.84%
Scrap Metal	0.75%	0.77%
Textiles	1.37%	2.72%
Motor Oil Containers	0.00%	0.02%
Construction Material	5.68%	2.14%
Electronic Material	0.75%	0.90%
HHW	0.16%	0.05%
HOT TAKE OUT CUPS	0.23%	0.25%
OTHER POLYCOATS	0.07%	0.16%
COMPOSITE PACKAGING	0.25%	0.65%
WRAPPERS	0.30%	0.42%
DEBRIS and GLASS FINES	13.24%	15.48%
BAGGED GARBAGE	8.53%	4.00%

Total non-recycling aterial reduced by an average of 6%

Tied Plastic Grocery Bags

Construction Material

Black Garbage Bags



## Phase 2: A Revised Approach



1. Educational Material



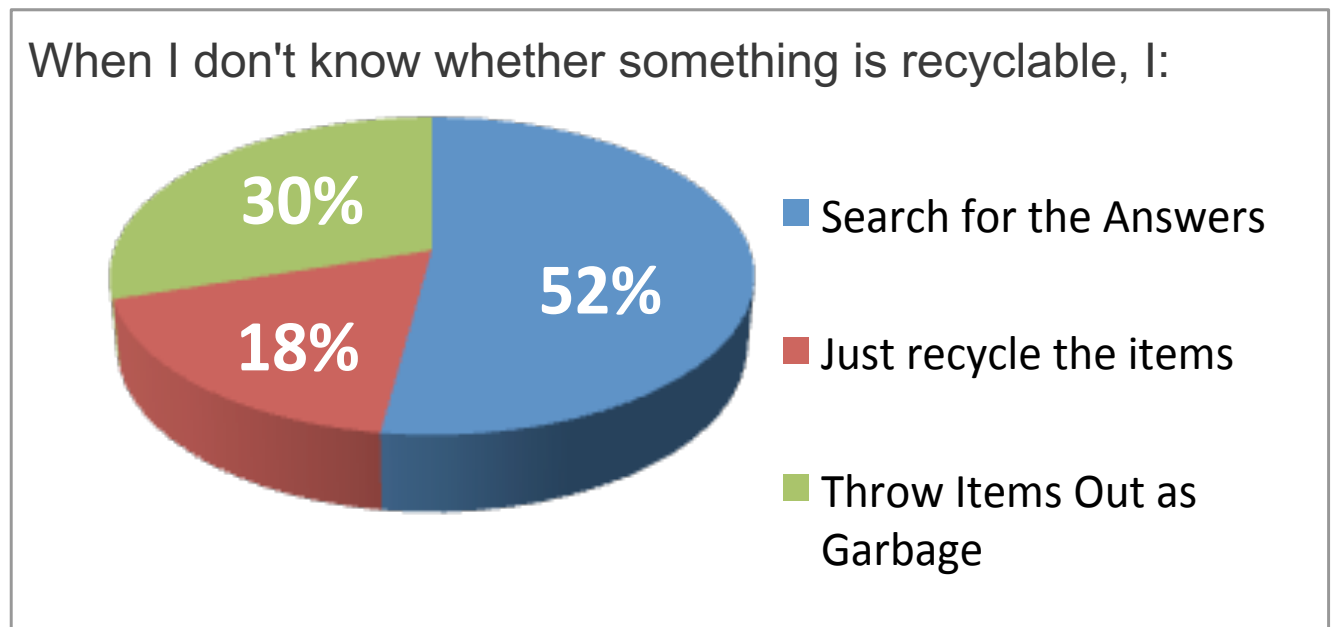
2. Resident Engagement



3. Building a Relationship with Building Staff

## Phase 2: Resident Survey Outcomes

- 77% use reusable recycling bag to transport recyclable materials
- 31% disagreed or strongly disagreed slot open provided adequate fit
- 38% not aware improper recycling impacts taxes
- 80% indicated posters & flyers best way to communicate





## Phase 2: Pre-Installation

- Visible contamination high
- Only 29% of containers locked





## Phase 2: Post Installation

- Visible contamination reduced!
- 87% of containers now locked



## Phase 2: Key Learnings & Take-aways

- Increased superintendent engagement
- Increased resident education
- Training collection contractor for collection of new containers





# Full Scale Implementation: Financial Impact

Gravity Lock Full Scale Installation Cost	Cost	Units	Total
Locking Kit System + Installation	\$ 150.00	1,006	\$ 150,900.00
Pad Lock (Optional)	\$ 4.15	1,006	\$ 4,174.90
<b>Total Parts &amp; Labour</b>	<b>\$ 154.15</b>		<b>\$ 155,074.90</b>
Door Hangers	\$ 0.32	59,000	\$ 18,880.00
Survey's	\$ 0.42	59,000	\$ 24,780.00
Posters	\$ 0.50	3,800	\$ 1,900.00
Staff Time (Hours)	\$ 27.00	910	\$ 24,570.00
<b>Total Education and Outreach</b>			<b>\$ 70,130.00</b>
<b>Grand Total</b>			<b>\$ 225,204.90</b>

Estimated Payback Period	Collections Cost Savings	Potential Processing Costs Avoided
Payback over 5 years @ 10% contamination reduction	\$ 57,388.91	\$ -
Payback over 5 years @ 15% contamination reduction	\$ 86,083.36	-
Payback over 5 years @ 25% contamination reduction	\$ 143,472.27	-
<b>Payback over 5 years @ 35% contamination reduction</b>	<b>\$ 200,861.18</b>	
Payback over 5 years @ 40% contamination reduction	\$ 229,555.64	

# Stay Tuned

- More information:
  - Watch for CIF Blog for updates & a link to the final report
  - [robert.demik@peelregion.ca](mailto:robert.demik@peelregion.ca)
  - [www.peelregion.ca/waste](http://www.peelregion.ca/waste)





CONTINUOUS  
IMPROVEMENT FUND

# Morning Wrap-Up



# Enjoy Your Lunch

