

Operations: Factors to Consider When Planning for a Change

Joseph Hall
Redi Recycling

Why is change needed?

- Diversion
- Cost savings
- Legislative compliance
- Service level

Factors to weigh

- Municipal priorities
- Partnership opportunities (economy of scale)
- Logistics & timelines
- Level of investment required
- ROI



Preparing for Change

CIF #843: Regionalization Support

- Working towards harmonized programs
- 6 Municipalities:
 - Renfrew; Bonnechere Valley (BV); Madawaska Valley (MV); Head Clara Maria; Brudenell
Lyndoch Raglan; Horton
- The plan
 - Year 1—goals to harmonize BB materials, P&E, waste management strategies
 - Work to identify & implement operational efficiencies at depots & curbside
- Two networks created
 - FEL bins (CIF# 844)
 - Rear load bins (CIF #858)

Finding Efficiencies: Containers & Collection (1)

CIF #844: Front End Bin Depot Recycling Network

- Old system
 - BV retiring old 40 yd. 2 compartment roll offs (ROs)
 - ROs: cheap capital but high operating costs
- New system
 - 8 yd. ground level front load bins
 - 4 depot locations—each with multiple bins
- Why it works
 - Collection service by contractor (milk-run)
 - Compacted collection vs non compacted
- Expected operational savings >50%



Finding Efficiencies: Containers & Collection (2)

CIF #858: Rear Load Bin Depot Recycling

- Old system
 - retiring old 40 yd. 2-compartment roll offs
- New system
 - Replacing with 8 yd. ground-level rear load bins
 - 3 depot location – multiple bins at each
- Why it works
 - MV Truck: maximizes use now between recycling & waste
- Compaction recycling – reduces operational costs by over 50%



Planning for change – Container Case Studies

- Heather Connell, Guelph

- Automated Cart Collection: Does it cut program costs?
 - Balancing legislative compliance, cost savings & service levels

- Logan Belanger, Temiskaming Shores

- Launching a Cart Program: What's involved?
 - Planning & executing a successful program launch





Automated Cart Collection: Does it Cut Program Costs?

CIF Project #284

Heather Connell
City of Guelph



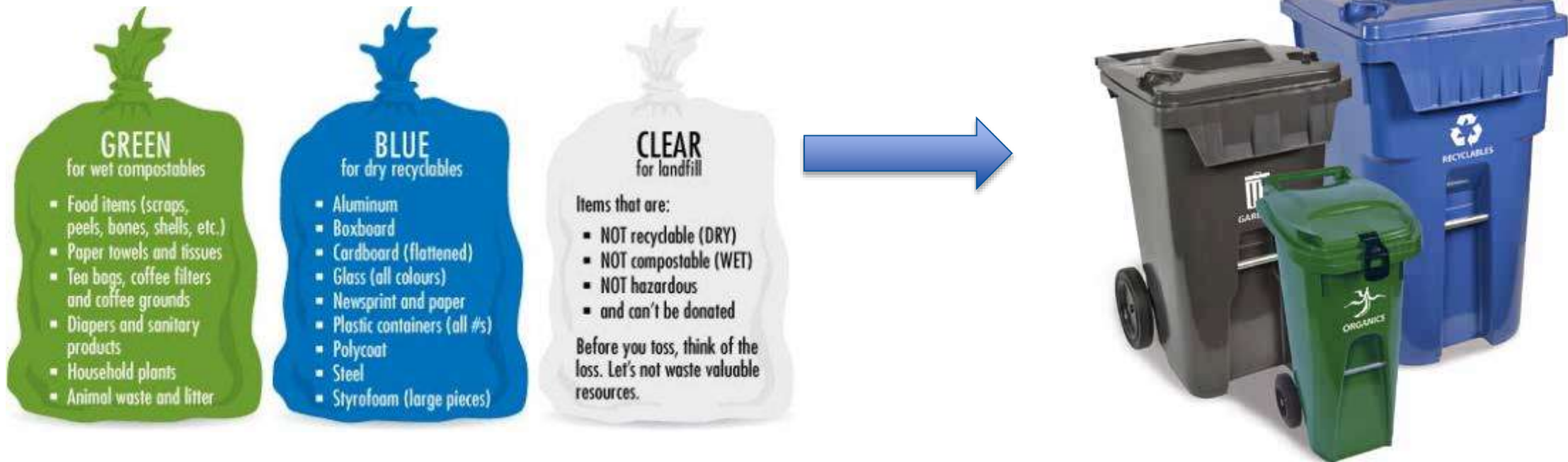
Project Highlights

- Project goal: Cut Blue Box program costs through more efficient collection programming
- Impacts:
 - \$460 K annual savings – reduced collection fleet by 4 trucks & 3 staff
 - 62% reduction in replacement labour costs related to staff injuries & illness rates
 - 80% customer satisfaction
- More information:
 - heather.connell@guelph.ca
 - guelph.ca/waste



The Issue

- Goal to align with MOECC's condition for not accepting organic waste in plastic bags at City's state-of-the-art Organic Waste Processing Facility



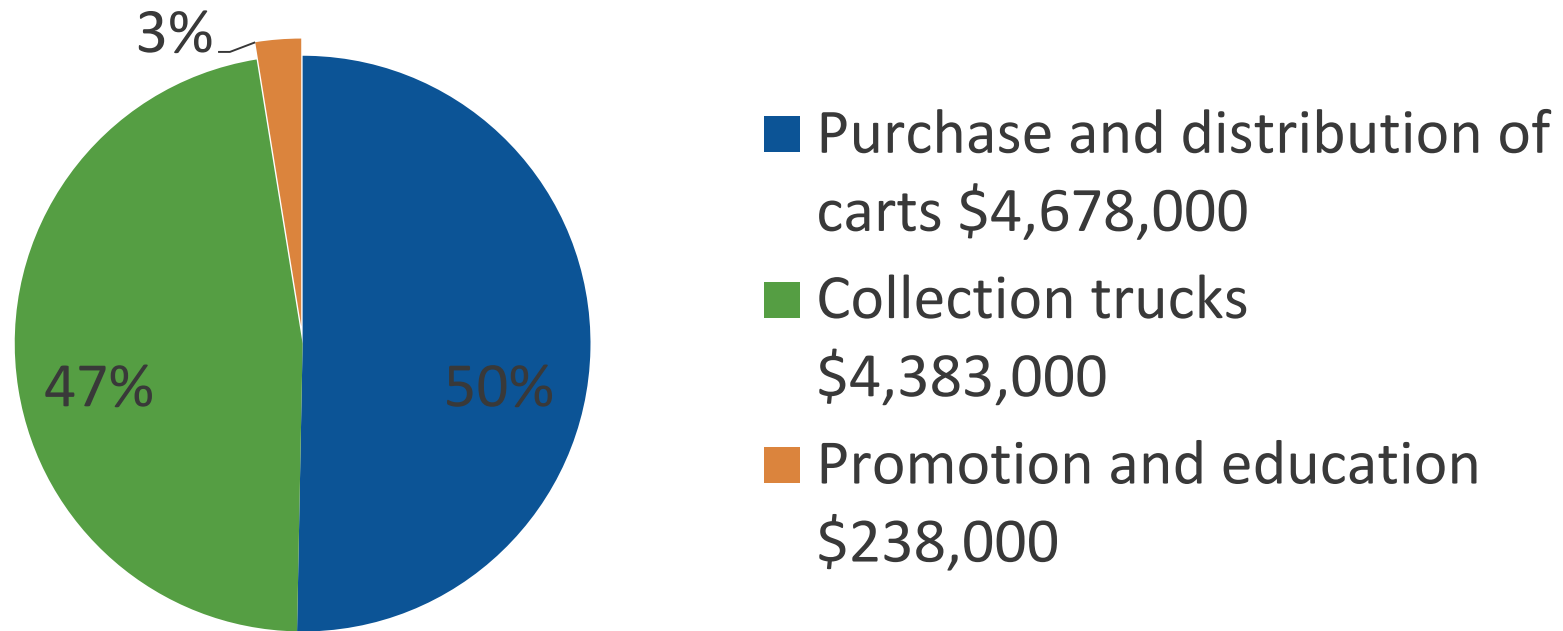
Solution

- More efficient & less expensive to collect all 3 streams using carts
- Cart program - 15 fully automated trucks - 60/40 split
 - Co-collect organics & recyclables one week
 - Recycling now collected biweekly instead of weekly
 - Organics & garbage following week
- Roll-out over 3-year period
 - Closer alignment with life cycle replacement of fleet
 - Keep costs affordable & maintain credit rating



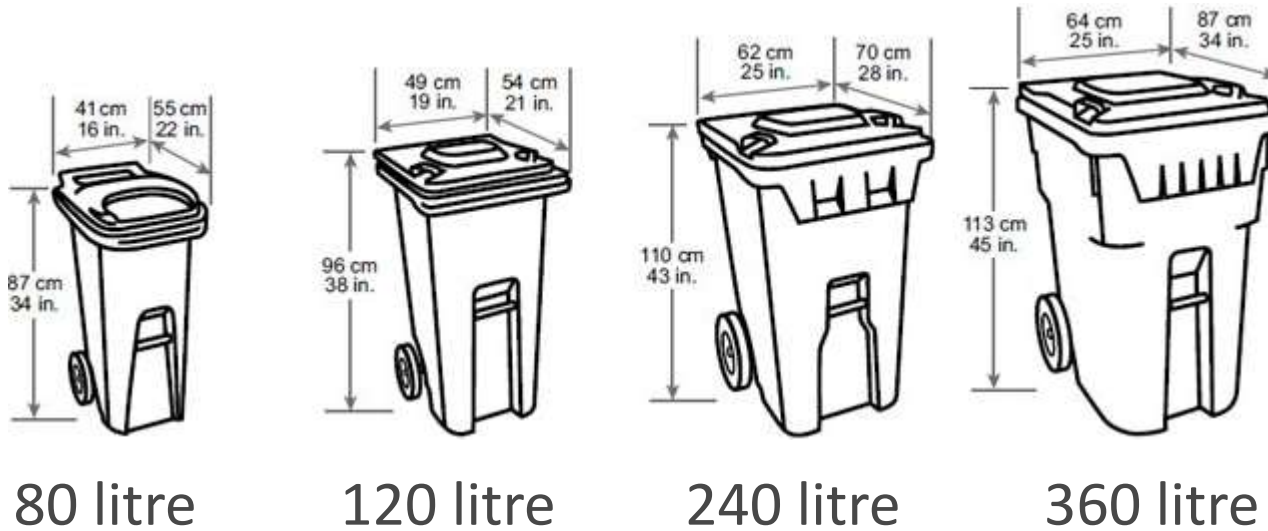
Program Costs

- Completed on time & under budget
- Cost per household \$156



Managing Logistics (1)

- Accessibility: able to choose cart size



- Offered cart assistance program



Managing Logistics (2)

- Winter time; bags no longer buried
- Automated arm can collect from snow banks



Managing Logistics (3)

- Multi residential properties - eliminates large charge piles of bagged waste
- Storage space: offered communal carts, more frequent collection, “dual use” carts



Managing Logistics (4)

- Temp staff staged carts for proper spacing to avoid impeding collection time



Give Waste a New Life

Cart placement at the curb

Ensure your carts are accessible to the waste collection truck and out of the way of vehicle traffic, pedestrians and bicycles. Follow these steps:

- 1. Park**
Place your carts at the curb no later than 6:00 a.m. on your scheduled collection day. If your property is beside a...
 - curbs place carts about 30 cm (1 ft) away from the curb
 - good shoulder place carts along the outside edge of the shoulder
 - public lane place carts as close as possible to the edge of the lane
- 2. Point**
Point the arrow on the lid of each cart to the street.
- 3. Unlatch**
Open the latch on the green cart.
- 4. Space**
Allow one arm's length clearance (one metre) on all sides of each cart. You may also place individual carts on opposite sides of your driveway.
- 5. Store**
Remove your carts from the curb by 7 p.m. on your collection day and return them to your storage area.

Alternate items available upon request.

Guëlph Waste Services
T 519-767-0200
TTY 519-634-9773
E waste@guelph.ca
W guelph.ca/waste

Start using your carts the week of November 10.
See reverse for details.

guelph.ca/waste • 519-767-0598



At the MRF

- Allowed reduction of residue waste disposal & processing efficiencies
 - Elimination of plastic bags
 - Reduced loss of recyclables remaining inside bags
 - Material distributes more evenly on sorting line
- No market penalties or rejected loads as result of converting



Health & Safety

- Reduced staff injuries & illness rates – \$120,000 savings per year

	Initial Projected Reduction	Actual Reduction
WSIB costs	90%	95%
Loss time injuries/modified duties/ short term disability (STD) (hours)	90%	56%*
Sick time (hours)	50%	70%
Total replacement labour costs	72%	62%*

* 23% STD hours were due to medical issues unrelated to work injuries

Does Automated Collection Cut Costs?

- **Yes!**
- Over \$460 K/yr operational savings through reduced capital replacement, maintenance, fuel, labour & injury costs
- Promotes diversion by increasing resident participation & capture rates
- Survey respondents found the new carts:
 - Easier to use/simpler 51%
 - Store more in larger bins 13%
 - Less mess 27%
 - They don't need to go out as often 8%
 - Easier to store 18%

Key Learnings

- Stakeholder support & adoption was essential to success of program
- Allowing residents to select their cart sizes allowed public input & earned community acceptance & support for the program – 80% resident satisfaction
- Guelph achieved highest waste diversion rate in Ontario at 69% in 2013





Launching a Cart Program: What's Involved?

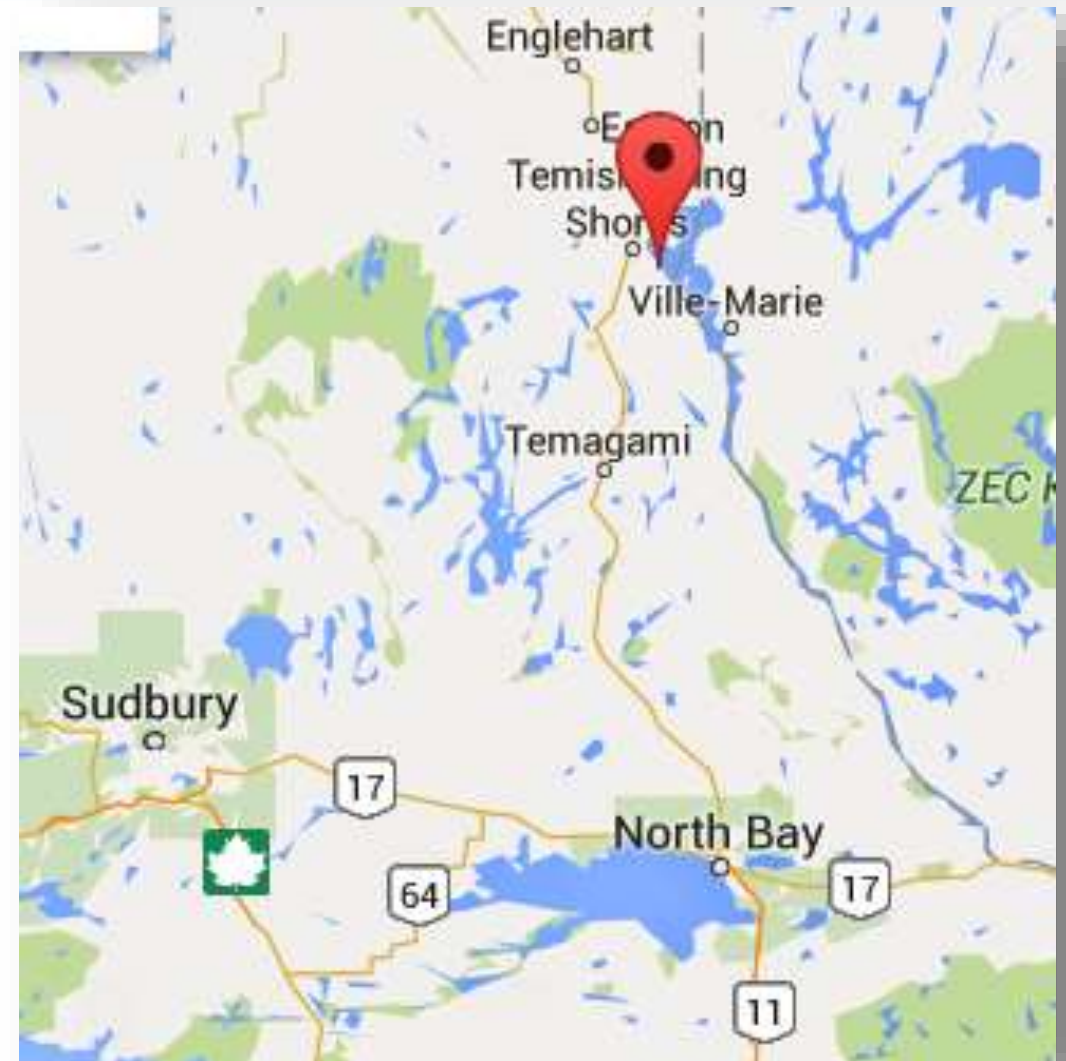
Logan Belanger
City of Temiskaming Shores

Project Highlights

- Project goal
 - Successfully transition from depot to single stream cart recycling program
- Impacts
 - Increased community uptake & sustained participation
 - Increased BB diversion – depot collections: 18.64%
- More information:
 - lbelanger@temiskamingshores.ca | 705-672-3363 ext. 4104
 - www.temiskamingshores.ca

Background: City of Temiskaming Shores

- Located in Northeastern Ontario
 - Amalgamated municipalities of New Liskeard, Haileybury & Dymond
- Population 10,400 – 4500 households
 - 19.3% – Age 65 or older (CAN 14.8%)
 - 66% – English only
 - 30% – French only



Depot System

- 30 depot-style bins
 - Serviced by staff twice weekly
- Limited suite of accepted materials



Program Information

- Why we switched from depot to curbside?
 - Residents expressed desire for more enhanced recycling program
 - Limited landfill capacity – increase diversion
 - 2009 – New Liskeard Landfill Site reached capacity
 - 2016 – Haileybury Site expected to reach same fate
- What are the best practices out there?
 - Consultations with many municipalities throughout development
 - Program evolved through community consultation, as well as throughout implementation phase

How We Switched to Curbside

Established Recycling Committee

Hired full-time-temporary staff for program launch

RFP'd for SWMP program contractor

Purchased “spoke” transfer station (TS)

Determined number of carts to purchase & RFP'd for cart supply, delivery & distribution

Selected MRF

Agreements - Contractor (collection/transport), MRF (process), local municipalities (deposit material at spoke TS)

Initiated City-wide P&E - April 2015 start-up



Public Education & Awareness

Curbside Waste Collection Schedule

2014

September	October	November	December
S M T W T F S 1 2 3 4 5 6 G 7 8 9 10 11 12 13 R 14 15 16 17 18 19 20 G 21 22 23 24 25 26 27 R 28 29 30 G	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



2015

January	February	March	April
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
May	June	July	August
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
September	October	November	December
S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	S M T W T F S 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Collection Information

Recycling and garbage are collected on the same day as your existing pick-up, but on alternating weeks.

Garbage & recyclables placed in non-approved containers will not be collected.

Holiday Collection

No curbside collection will be made on Statutory Holidays. When a normal curbside collection day falls on a holiday, the collection shall be made one (1) day later.

City Hall
325 Farr Drive
Haileybury, ON P0J 1P0
Telephone: (705) 672-3363
Website:
www.temiskamingshores.ca

G

Garbage Collection

R

Recycling Collection



Christmas Tree Collection

H

Holiday (No Collection)

Acceptable Recycling Bin Materials:



Materials Not Accepted:

- Used Paper Plates
- Diapers
- Liquids
- Toys
- Yard Waste
- Wood
- Facial & Toilet Tissue
- Food Scraps
- Tires
- Scrap Metal
- Appliances
- Electronics



Cart Counts & Distribution

1. Developed master list through MPAC & water & sewer records
 - Estimate number of carts to order
2. Information required for delivery of carts:
 - List of addresses to receive bins
 - Number of bins allocated to each property
 - Road maps of City

	B	C	D	E	F	G	H	I
	Garbage	# of Recycle						
1	Bins	Bins	Property Location	Map Referral	Comments		Maps	
2	Residential						Dymond Rural	
3	2	2	704130 ROCKLEY RD	Dymond Rural			Dymond Urban	
4	1	1	884299 HIGHWAY 65 W	Dymond Rural			New Liskeard	
5	1	1	238109 PIPELINE RD	Dymond Rural			Haileybury	
6	1	1	198439 RIVER RD	Dymond Rural			North Cobalt	
7	1	1	178042 MCLEAN RD	Dymond Rural			Bucke Township	
8	1	1	843095 DALES RD	Dymond Rural				

Cart Allocation

- MR meeting requirements supplied
 - 1 - 65 gallon refuse cart, &
 - up to 3- 95 gallon recycling carts

No. of Dwelling Units	Garbage Bins		Recycling Bins	
	No. of 65 Gallon Bins	or No. of 2 Yard Bins	No. of 95 Gallon Recycling Bins	Or No. of 2 Yard Bins
1	Maximum of 1	N/A	Maximum of 1	N/A
2	Maximum of 2	N/A	Maximum of 2	N/A
3	Maximum of 3	N/A	Maximum of 3	N/A
4	Maximum of 4	N/A	Maximum of 4	N/A
5	Maximum of 5	1	Maximum of 5	1
6	Maximum of 6	1	Maximum of 6	1
7	Maximum of 7	1	Maximum of 7	1
8	Maximum of 8	1	Maximum of 8	1

Results

	2012 (MT)	Estimated 12 months (MT)	Change (MT)
Recycling	733 (estimate)	856	123
Garbage	3,856	2,373	(1,483)

Program Developments – Obstacles

1. Missed cart drop-offs (deliveries)
2. What to do with old garbage cans?
3. Incorrect cart placement
4. Homeowners moving with carts
5. Winter collection/cart placement
6. Cart manoeuvrability for people with limited mobility

Cart Placement



Please help us serve you better!

☐ **Advisory Notice:**

Your rollout bin did not meet the City's by-law collection requirements. Further occurrences may lead to penalties, including uncollected waste and fines associated with the Solid Waste Management By-law.

The reason for this notice is outlined on reverse side.

☐ **Uncollected Bin Notice:**

Sorry, we were unable to collect your bin. Your bin was not collected because it did not meet by-law collection requirements. Further occurrences may lead to penalties, including fines associated with the Solid Waste Management By-law.

The reason for the uncollected bin is outlined on reverse side.

Thank you for your cooperation!

For more information, please contact City Hall at 705-672-3363 or visit the City's website at www.temiskamingshores.ca.



Reason for Notice:

- ☐ The bin was placed incorrectly at the collection location:
 - ☐ **Too far from curb or edge of road** (Driver will place cart in correct location)
 - ☐ **Placed too close to another object** (at least 3 feet from any object; i.e. cars, snow banks, telephone/hydro poles, etc.)
 - ☐ **Placed backwards** (arrows on the lid must face the street)
 - ☐ **Placed in an inaccessible or unsafe location** (i.e. on top of snow banks)
- ☐ The incorrect bin was placed out for collection (refer to curbside waste collection schedule)
- ☐ The lid of the bin was not closed due to overfilling
- ☐ Unacceptable materials were found in the bin i.e.:

- Bagged Recyclables	- Electronics / Cords	- Large Plastics i.e.:
- Clothing/ Shoes	- Food Waste	- Shovels, toys, tarps,
- Christmas Lights	- Garbage Bags	- pool covers, etc.
- Diapers	- Garden Hoses	- Yard Waste
- ☐ The lid would not open (keep bins clear of snow & ice)
- ☐ Other: _____
- ☐ Other: _____

Please recycle this tag

Dealing with Contamination

- MRF processor concerns
 - Increased levels of residue – including bagged recycling
- Solution
 - P&E campaign
 - Curbside inspections & notices to residents
 - Contractor monitoring



P&E – Educating Residents on Acceptable Materials

- Front page press release, radio, website & Facebook ads
- Brochures distributed at local tradeshow
- Signage on carts



18%
of non-recyclables were found
in our City's blue bins, and were
sent to landfill.

Help save taxpayer dollars and reduce this rate!

Single Stream Recycling Bin

Yes ✓	No ✗
Aerosol Cans (Empty)	Appliances & Electronics
Aluminum: Cans, Trays, Pie Plates	Clothing & Bedding
Beverage Cups & Lids (Hot & Cold)	Food Contaminated Disposable Plates & Napkins
Cardboard, Paper & Books	Glass: Windows, Light bulbs, Glassware, etc.
Glass Bottles & Jars	Household Hazardous Waste
Juice Boxes & Milk Cartons	Metal: Pots & Pans, Coat Hangers, etc.
Plastic Bags & Outer Wrap	Organic Material (Food, Diapers, Animal Waste)
Plastic Containers & Jugs (No. 1-7)	Toys
Steel & Metal Cans	Yard Waste: Leaves, Grass, etc.
Styrofoam Packaging	Wood: Pieces, Crates for Fruit, etc.

Place all material loosely in the recycling bin, except for shredded paper



Monitoring Curbside

- Staff inspections & 'notices' for residents
 - Indicating residue/issue
 - Record cart serial number for tracking
- Contractor monitors set-out
 - Leaves behind contaminated carts
 - Provides tracking to staff
- Next steps
 - Revise solid waste management by-law
 - Create residue reduction toolkit with CIF

Recycling Bin Inspection Notice

Your recycling bin was inspected today, and found to contain items that should not be recycled.

One or more of the following non-recyclable items were found in your bin:

- | | |
|---|--|
| <input type="checkbox"/> Batteries | <input type="checkbox"/> Food Waste |
| <input type="checkbox"/> Black garbage bags | <input type="checkbox"/> Garden Hoses |
| <input type="checkbox"/> Clothing or Shoes | <input type="checkbox"/> Plastic Shovels, Toys |
| <input type="checkbox"/> Christmas Lights | <input type="checkbox"/> Large Plastics: Tarps, Pool Covers/Liners |
| <input type="checkbox"/> Diapers | <input type="checkbox"/> Yard Waste |
| <input type="checkbox"/> Electronics | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Extension Cords | <input type="checkbox"/> Other: _____ |

Please remove these items before your next collection period.

The bin serial number has been recorded and future occurrences may lead to fines associated with the Solid Waste Management By-law No. 2015-021.

For more information or assistance with recycling, please contact City Hall at (705) 672-3363 or visit our website: www.temiskamingshores.ca

Thank you for your cooperation!



Key Learnings – Planning Cart Program Rollout Logistics

- Council support & approval
- Research BPs & learn from similar municipal programs
 - Beg, borrow & steal everything you can
- Comprehensive P&E is a must!
 - before, during & after roll-out
- Develop accurate distribution list
 - Helps in addressing errors/omissions in distribution
- Staff time
 - Allocate resources to manage increased demands (i.e. call volume, public education, etc.)



CIF

CONTINUOUS
IMPROVEMENT FUND

Enjoy Your Break

