



SOLID WASTE MANAGEMENT & RESOURCE RECOVERY PLAN
REVIEW ADVISORY COMMITTEE

March 14, 2017
Meeting #2



Welcome back!

- Roundtable of Introductions
 - Name, Organization
 - Agenda
 - Minutes of previous meetings
 - Planning process recap
 - Targets, Goals and Vision
 - Community Survey Results
 - Waste Reduction & Diversion Options
 - Wrap Up
- } 9:30 – 10:30
- } 10:30 – 12:30



Minutes of Previous meetings

- Public Advisory Committee
- Technical Advisory Committee



Planning Process Recap

Phase 1

Establish SWMP
Review Advisory
Committee

Assess existing
system

Phase 2

Consider options
for the future
Select preferred
options

Establish tools for
community input

Phase 3

Obtain community
feedback on
preferred options

Finalize plan
update



GOALS, TARGETS AND LONG RANGE VISION



Goals and Targets

- **Goals** are the long-term aims to be achieved as an outcome of the plan
 - “Minimize environmental impacts of solid waste management to air, water and land”
 - “Responsibly manage residuals”
 - “Increase awareness of waste prevention”
- **Targets** are a way of measuring progress
 - “Reduce the annual per person disposal rate to 350 kg by 2025”
 - “Reduce recycling contamination rates from 10% to 3% or less by 2020”
 - “Eliminate disposal of organics to landfills by 2022”



Proposed Goals

Based on “key considerations” in Stage 1 report:

1. Improve level of ICI Recycling
2. Divert organic waste from disposal (where it is reasonable to do so)
3. Divert wood waste from disposal (where it is reasonable to do so)
4. Develop a Kamloops Regional Landfill Strategy
5. Ensure financial sustainability



Targets



- **Provincial targets:**
 - Lower the municipal solid waste disposal rate to 350 kg per person per year by 2020
 - Have 75% of B.C.'s population covered by organic waste disposal restrictions by 2020
- **Possible TNRD targets:**
 - Reduced the annual disposal rate from 596 kg per person :
 - to xx kg by 2023 (5 yrs into plan)
 - to xx kg by 2028 (10 yrs into plan)
 - Have xx% of TNRD's population covered by organic waste disposal restrictions
- *Targets to be established later in the planning process*

Visioning the Future

- Visioning assists us in the process of determining what we want (i.e. what we should aim for) and how we can to get there



A warm up to our discussions on options for the future:

- **Create a story that describes how you would like to see solid waste managed in the TNRD 10-30 years in the future (a.k.a. the vision)**
 - Break into groups of 4-5
 - Discuss your ideas
 - Using flipcharts, write down your group's story(ies)
 - Draw/write/both
 - Share
- **Food for thought**
 - What does a landfill look like in the future?
 - Do we still have "garbage"?
 - What kind of waste management services exist?
 - Have products and packaging changed?



COMMUNITY SURVEY

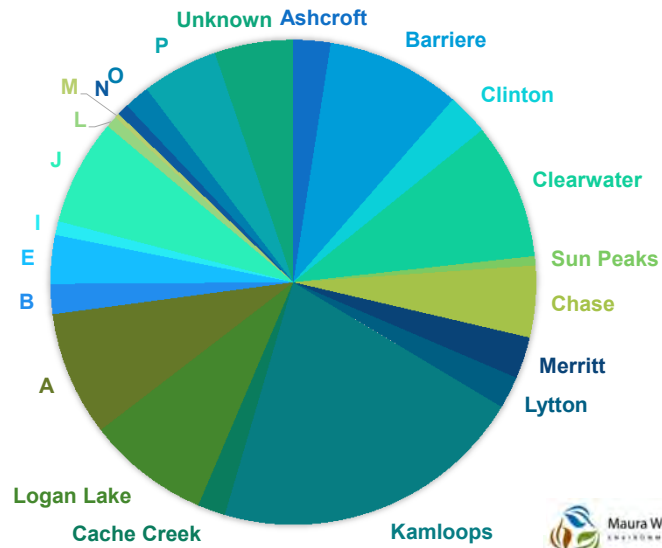


Community Survey

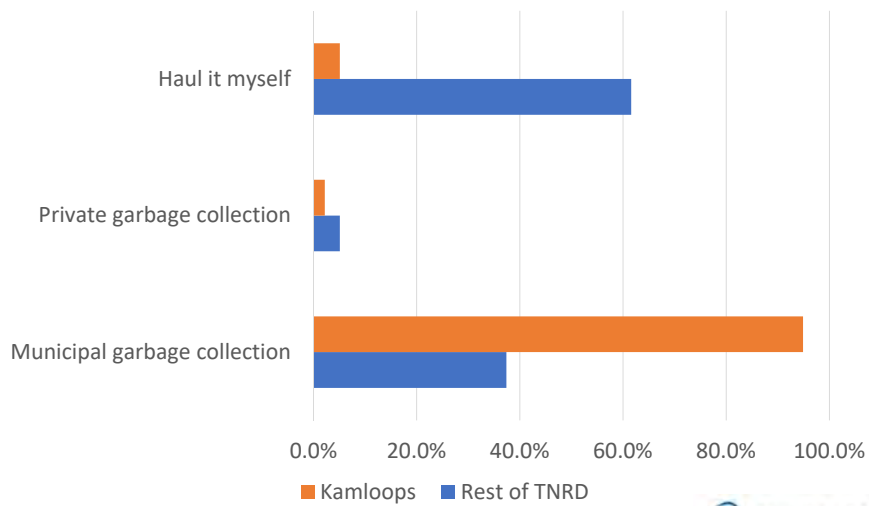
- Objectives
 - Early public engagement
 - Snapshot of opinions and ideas
 - Marketing of planning process
- Promotion
 - Social media (one Facebook post was seen more than 3,000 times)
 - Press releases
 - Posters at municipality offices, waste sites and TNRD libraries
 - Radio ads
 - Print advertising
- 650 responses

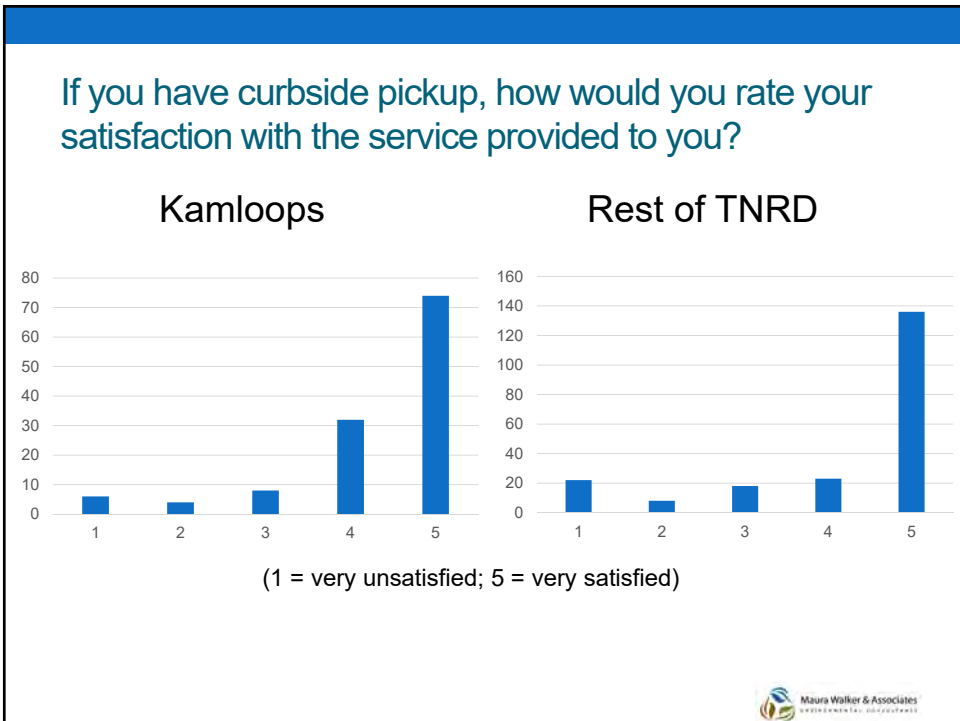
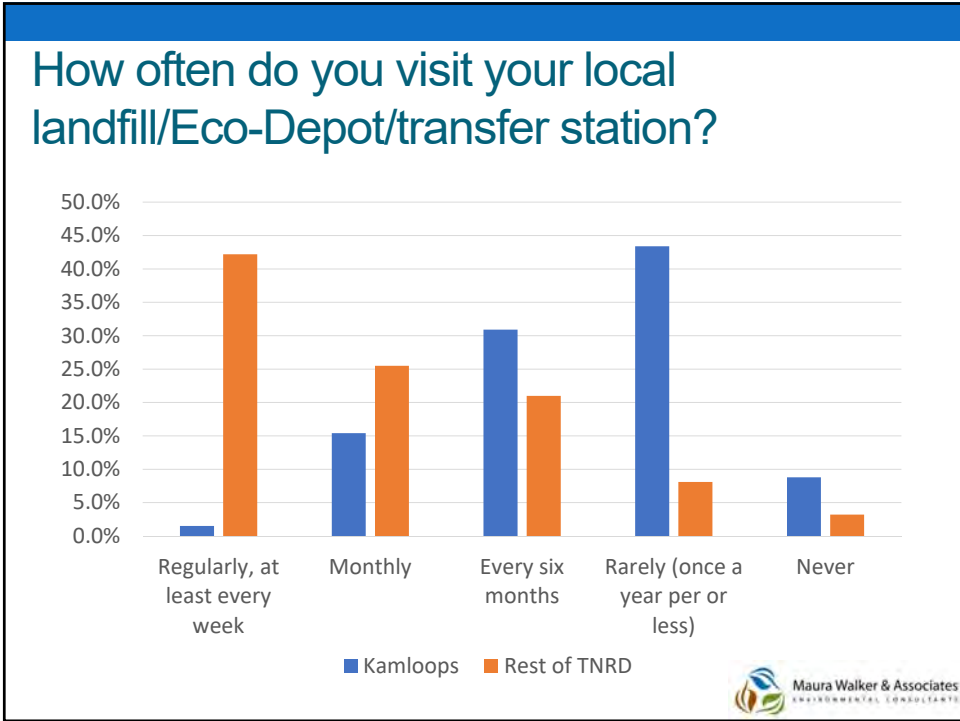


Where do you live?



How do you dispose of your garbage?





Are there changes/improvements to the service that would you like to see?

Kamloops

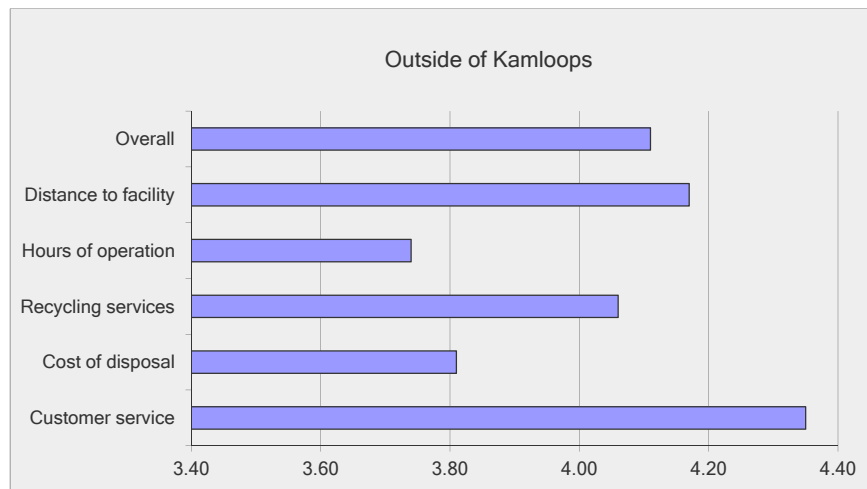
- 60 comments
- Compost collection (22)
- Glass/plastic (10)
- More recycling (5)
- Cost/fairness (3)
- Less frequent collection (3)

Rest of TNRD

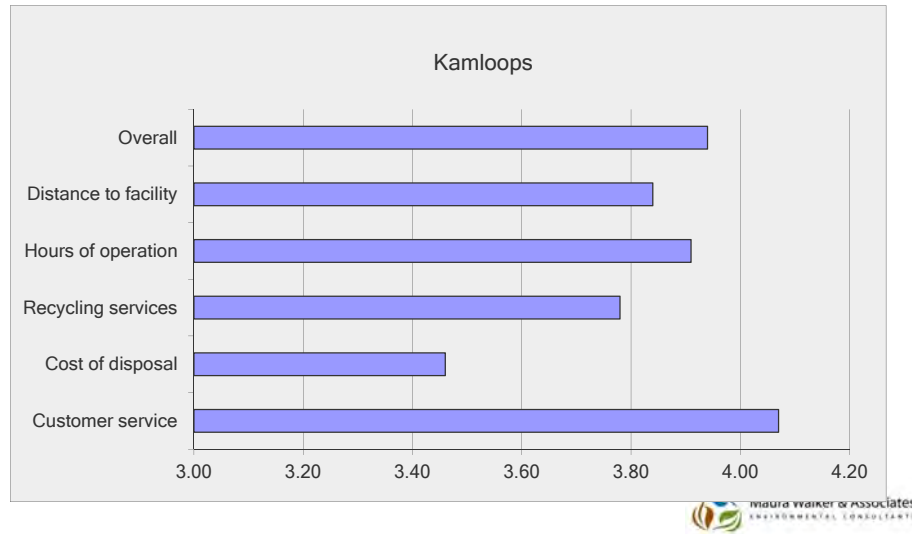
- 121 comments
- Compost collection (10)
- Glass/plastic (10)
- More recycling (7)
- Would like curbside (6)
- Increase allowed # of cans (3)



How would you rank your satisfaction with your local landfill/Eco-Depot/transfer station? (1=very unsatisfied, 5=very satisfied)



How would you rank your satisfaction with your local landfill/Eco-Depot/transfer station?
(1=very unsatisfied, 5=very satisfied)



Are there changes/improvements to the service that would you like to see?

Kamloops

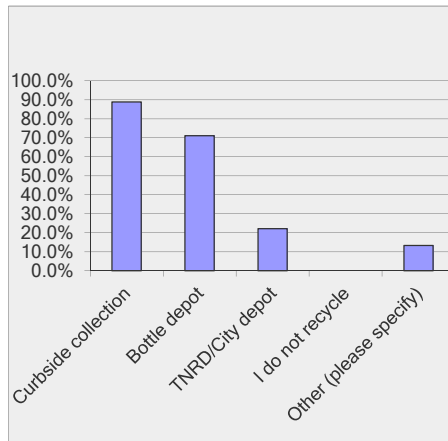
- 51 comments
- Lower fees/free days (11)
- More recycling (4)
- More reuse (4)

Rest of TNRD

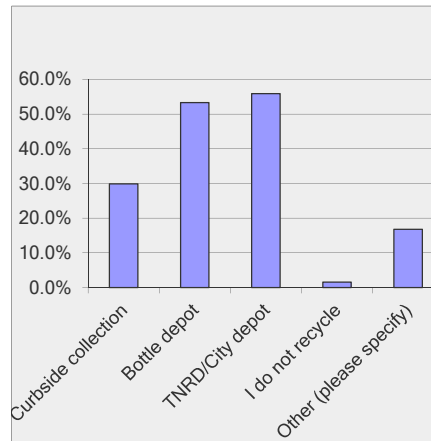
- 261 comments
- Increase hours/days (54)
- Scrap metal bin (31)
- More recycling (31)
 - Electronics
 - Glass
 - Styrofoam
 - Lightbulbs
- Reuse/Share Shed (30)
- Organics/Yard waste (12)
- Road/Yard conditions (11)
- Fees (11)

How do you dispose of your recyclables?

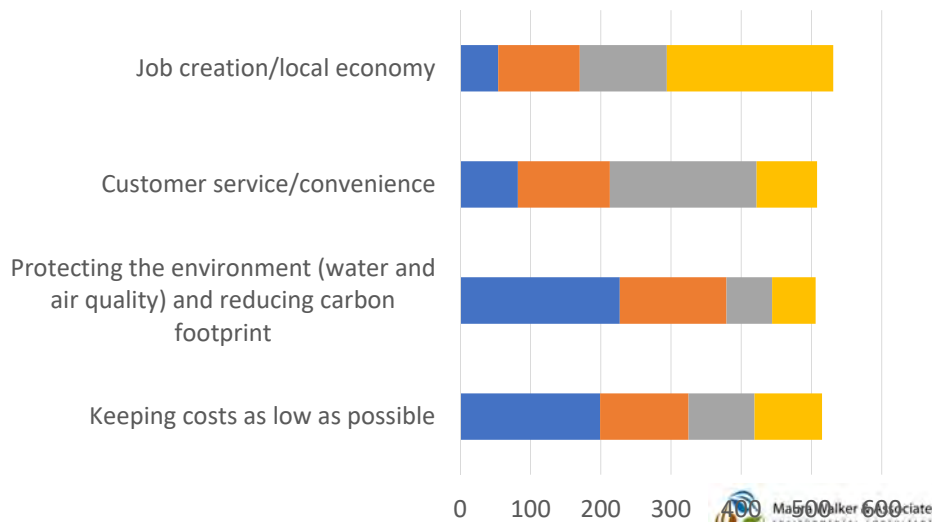
Kamloops



Rest of TNRD



What is most important to you when considering future waste management programs and services?

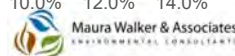
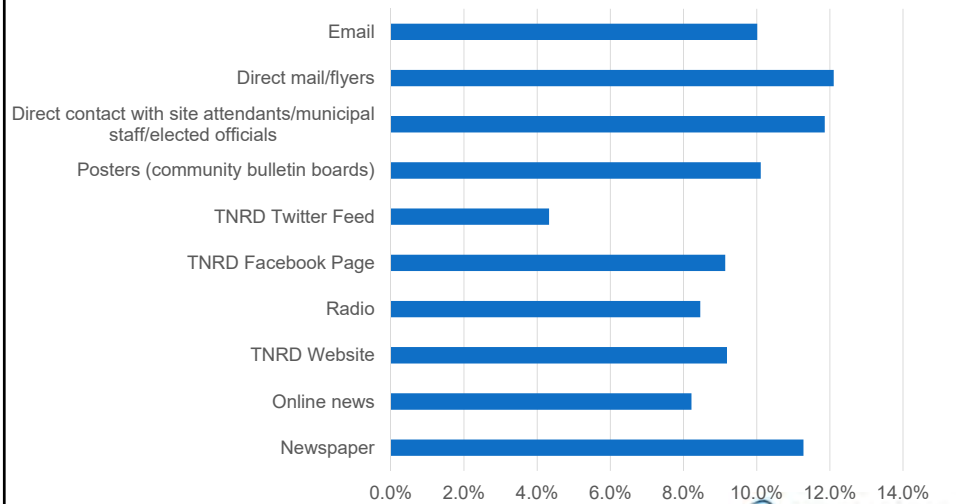


What new solid waste services would you like to see in the future?

1. Yard waste / food waste collection (90)
2. Scrap metal collection bins (37)
3. Share shed / salvaging (39)
4. Glass collection at curbside (29)
5. More recycling at curbside and depot (21)
6. Styrofoam at curbside and depot (18)
7. Lower cost /Free Days (13)
8. Soft plastics at curbside (12)
9. Light bulbs (8)
10. Electronics at curbside and depot (6)
11. Ag waste recycling (wrap, baling twine) (5)



What are the best ways for you to receive information about solid waste services?



OPPORTUNITIES FOR WASTE REDUCTION AND DIVERSION

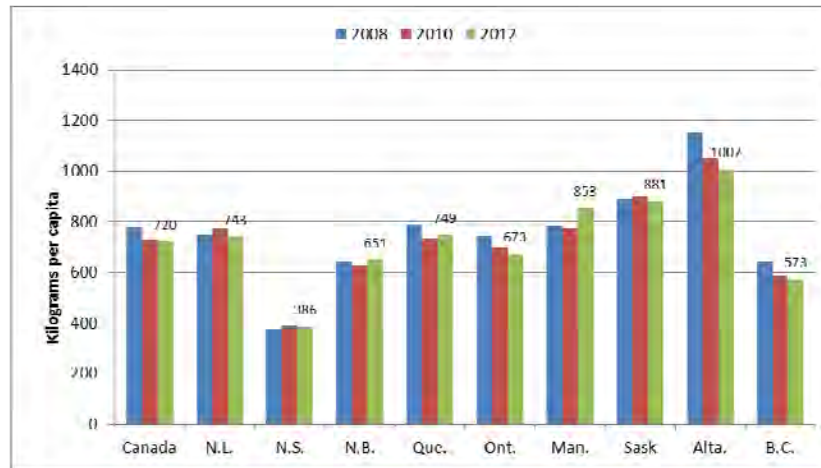
Draft Report



CURRENT SYSTEM PERFORMANCE



Provincial Per Capita Disposal Rates

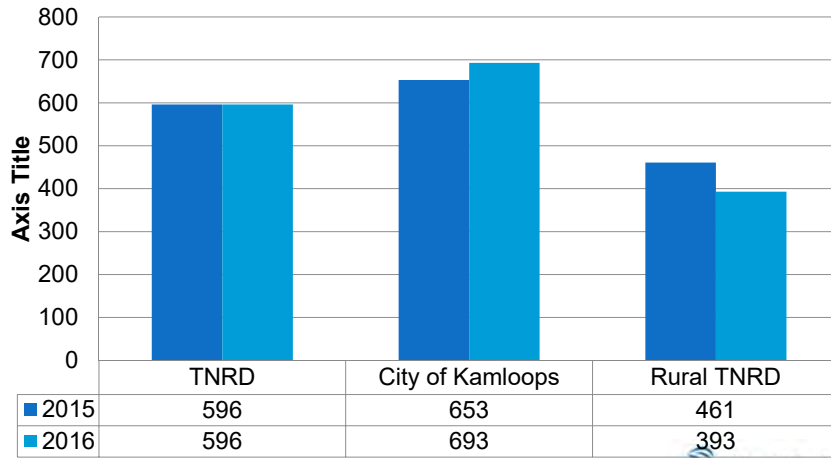


BC & California Disposal Rates 2014



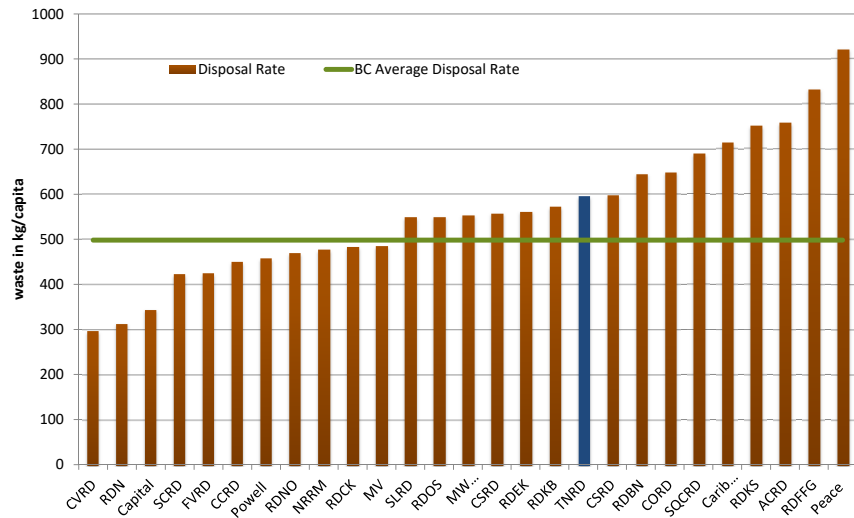
TNRD Disposal Rate 2016

Kilograms per Capita

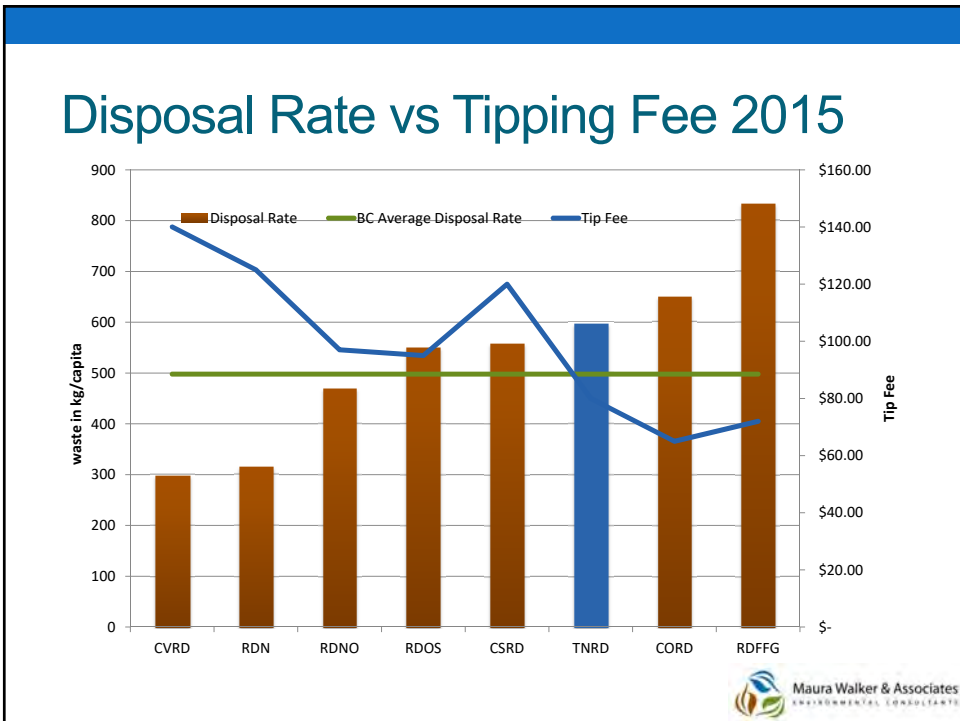
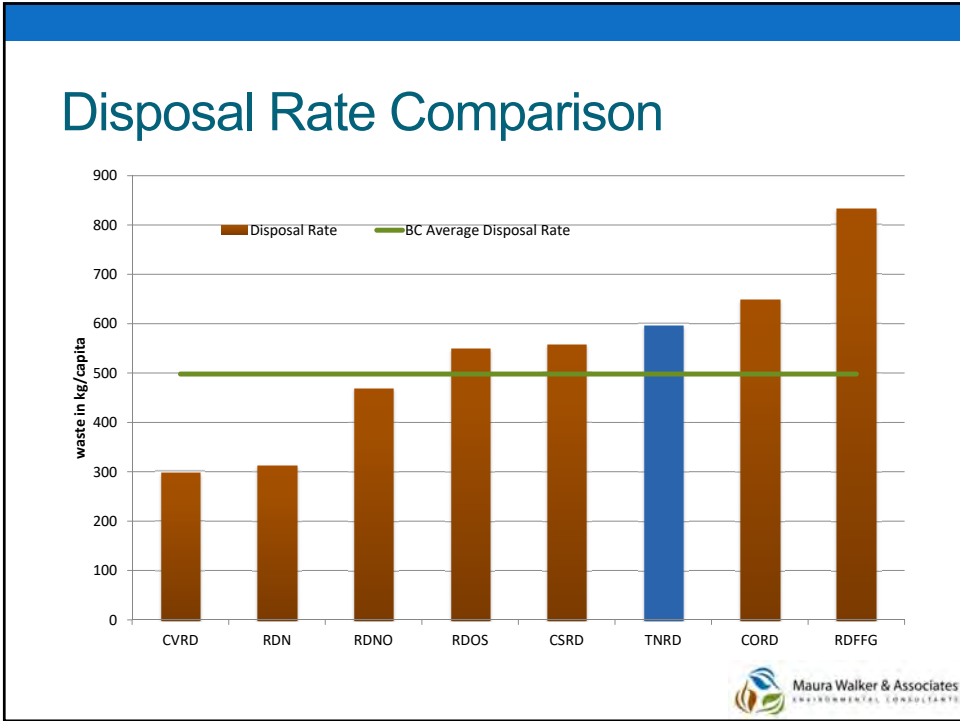


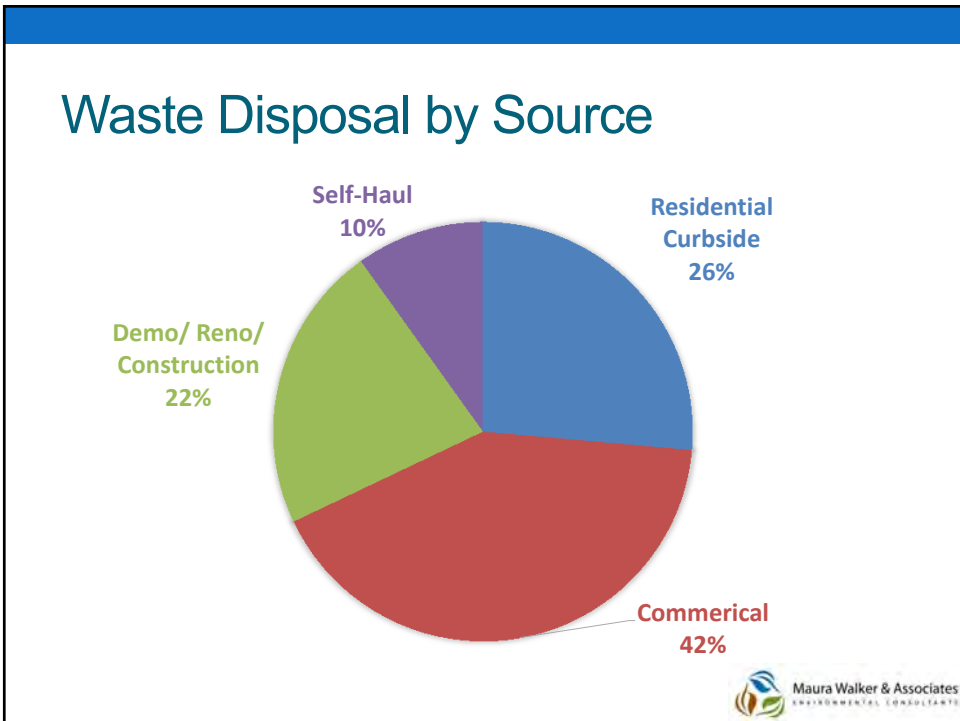
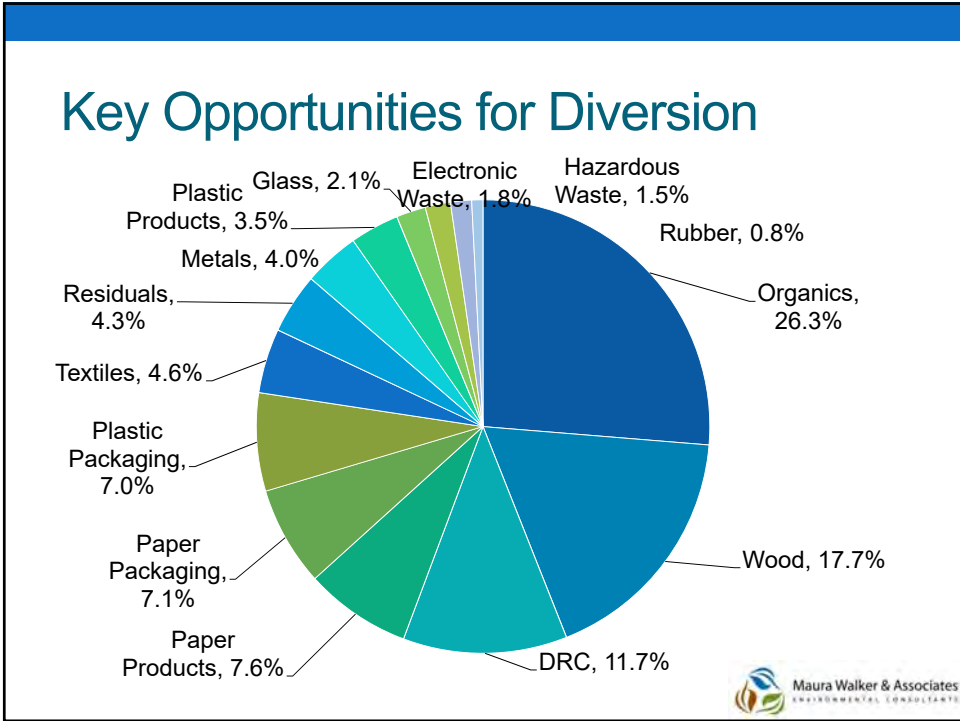
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Regional District Disposal Rates 2015



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Most significant waste diversion opportunities:

- Industrial, Commercial and Institutional (ICI) recycling
- Organic waste
- Demolition, renovation and construction (DRC) waste
- Promotion, education and consultation



INDUSTRIAL/COMMERCIAL/ INSTITUTIONAL (ICI) RECYCLING



ICI Recycling

- An estimated 42% of landfilled waste from the ICI sector
- Recyclable components:
 - Paper
 - Cardboard
 - Metal
 - Plastic packaging
- Low hanging fruit because there already are local recycling collection services



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Approaches to ICI Diversion

- **Apply differential tipping fees**
 - To encourage source-separation and waste diversion objectives
 - This approach is used currently
- **Implement disposal restrictions on recyclable paper, cardboard and metal**
 - Applied at point of disposal (landfill, transfer station)
 - Low-cost approach to driving diversion
 - Recyclable materials
 - Compostable materials
 - E.g. CRD, RDN, CVRD, Metro, FVRD, RDOS...
 - RDN approach to bans:
 - Regulate, Collaborate, Educate, Enforce



ICI Diversion Opportunities

- **Assist haulers to encourage more/better recycling by their customers**
 - Develop consistent signage and messaging for use on collection containers and within the workplace



ICI Diversion Opportunities

- **Require recycling collection services at all ICI locations**
 - E.g. Resort Municipality of Whistler
 - E.g. City of Kamloops multi-family requirement



- **Increase awareness**
 - Information on local recycling services and advantages of recycling
 - Recognition programs:
 - Window sticker for full service participants
 - Award programs



ICI Diversion Opportunities

- **Mandatory space allocation for recycling**
 - Lack of space for containers is a common barrier to recycling
 - In new buildings and significant renovations
 - Part of building bylaws
 - Standardized bylaw language / space standards



Questions / Discussion

1. Apply differential tipping fees
2. Implement disposal restrictions on recyclable paper, cardboard and metal
3. Assist haulers to encourage more/better recycling by their customers
4. Require recycling collection services at all ICI locations
5. Increase awareness
6. Mandatory space allocation for recycling

ORGANIC WASTE REDUCTION & DIVERSION



Organic Waste

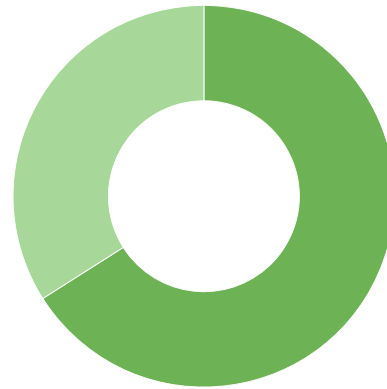
- Organic waste: food waste, soiled paper, waxed cardboard, yard waste
- 26% of waste landfilled is organic waste
- Sources:
 - Homes (kitchens, gardens, yards)
 - Kitchens in restaurants, cafeterias, etc.
 - Grocers
 - Food and beverage manufacturers
 - Food wholesalers
 - Public and employee washrooms (paper hand towels)
 - Landscaping / yard maintenance companies



Why divert organics – It's happening!

➤ 66% of BC population lived in regional districts with organics disposal ban in 2015

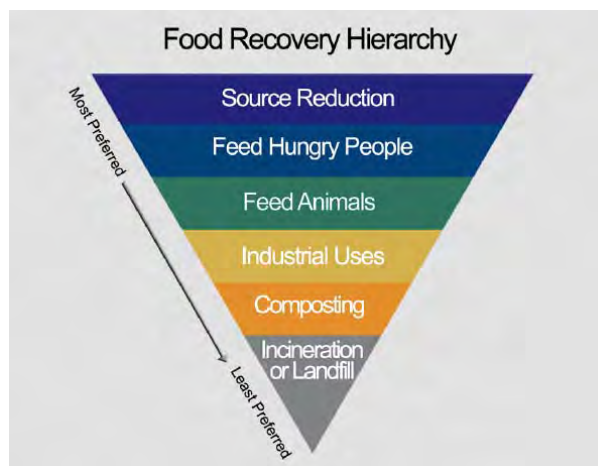
- Regional District of Nanaimo
- Cowichan Valley RD
- Capital Regional District
- Metro Vancouver



■ Disposal Bans 66% ■ No Bans 34%



Food Recovery Hierarchy



Food Waste Reduction

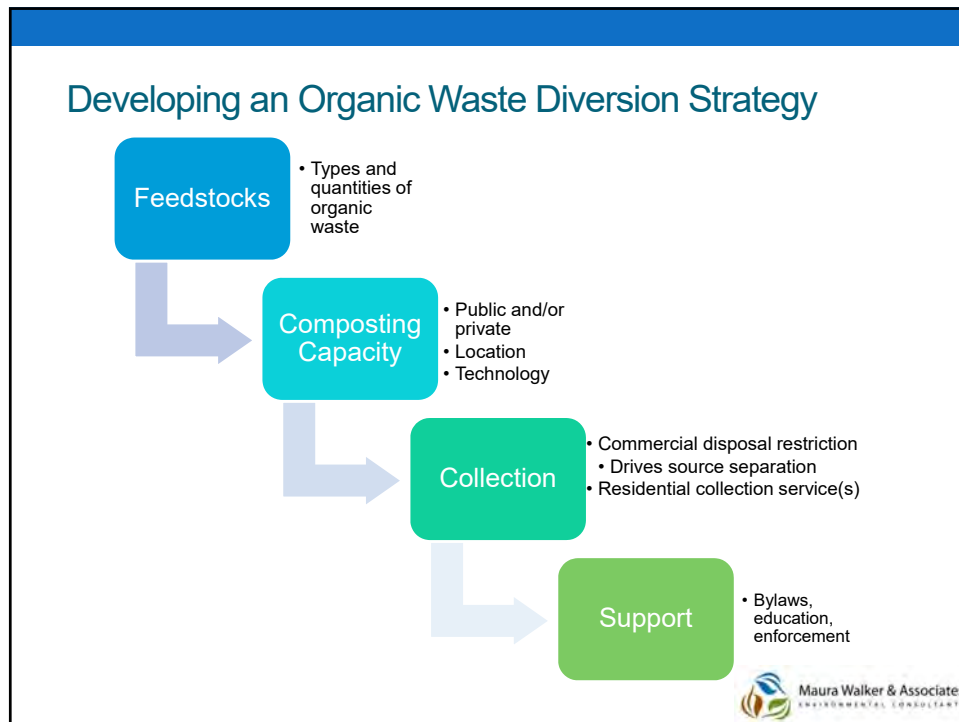
- Conduct a “Love Food, Hate Waste” style campaign
 - Designed to reduce food waste (UK data: 60% which could have been eaten)
 - Includes tips, recipes, messages, graphics and consumer insights:
 - Understand best before date
 - Better planning and storage
 - BC MOE has licensed EPA food waste reduction campaign materials
 - Metro Van has developed campaign materials



Backyard Composting


- Promote greater use of backyard composting
 - Workshops and on line info already available
 - Consider Compost Coaching:
 - E.g. North Shore Recycling Program
 - An additional 19 kg/capita/year of organic material composted on site for households that were already composting
 - 36 kg/capita/year for households that had not composted before
 - Improved their composting skills, produced higher quality compost in a shorter time and reduced hazard from bears and pests
 - Needs to be aligned with Bear Smart





Processing Technologies

- Low, mid and high tech
 - The higher the level of technology, the greater the process control
 - The higher the level of technology, the greater the cost
- Considerations:
 - Feedstock (what do you want to compost)
 - How much volume
 - Space available
 - Where: are there “receptors” nearby?
 - How much money you have?

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Low-Tech

- Static pile
- Windrows
- Examples:
 - Cinnamon Ridge Yard Waste Composting Facility
 - Salmon Arm Landfill Yard Waste Composting Facility
 - Grand Forks Yard Waste & Food Waste Composting Facility



Mid Tech

- Aerated static pile
 - Positive Aeration
 - Negative Aeration
- May be enclosed
- Examples:
 - Spa Hills Compost
 - Comox Valley Yard Waste and Food Waste Composting Facility (Gore Technology)
 - Salish Soils
 - Chemainus Composting



High Tech

- Enclosed
- Often has moving parts
- Lots of process control
 - Air and moisture
- Examples:
 - UBC
 - Nanaimo Organic Waste
 - Fisher Road
 - Harvest Power



Residential Food Waste Collection

- Food Waste Only
 - Full scale curbside collection service of source-separated organics (food waste + soiled paper products)
 - E.g. RDN, CVRD, Victoria, Grand Forks
- Food & Yard Waste
 - Metro Vancouver municipalities
- Associated promotion and education



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ICI Organics Diversion

- **Same tools as for ICI paper diversion:**
 - Apply differential tipping fees
 - Implement disposal restrictions on ICI food waste
E.g. Cowichan Valley RD, RD of Nanaimo, Capital Regional District and Metro Vancouver
 - Consider requiring source separation at all ICI locations, e.g. Whistler
 - Assist haulers with engaging their customers
 - Promote awareness



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RDN Process to Establish ICI Disposal Restrictions

- Establish policy and bylaw
- Collaborate with haulers
 - Regular meetings
 - Build trust
- Collaborate with generators
 - Create database
 - Workshops
 - Mail-Outs
 - Promotion/education materials
 - On-going engagement
- Enforce the restrictions



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CRD Kitchen Scraps Diversion Strategy

- Approved April 2012
- Applies to both residential and commercial sectors
- Phased-in over 2 years
- 2013-14 incentive for haulers to deliver kitchen scraps to approved facilities
- 2015 disposal restriction



Metro Vancouver Organics Disposal Ban

- 2008-2010 Solid Waste Plan and Consultation
- 2012-2013 Organics Ban Planning, Engagement and Readiness Surveys
- 2014 Organics Ban Implementation Strategy and Consultation
- Applies to residential and commercial sectors
- Phased implementation

THE WAY WE MANAGE OUR WASTE IS CHANGING

Together we are keeping food out of our garbage

New rules are in place to encourage residents and businesses in Metro Vancouver to separate food scraps from regular garbage. Instead of being thrown away, food scraps will be recycled into compost or biofuel. Healthy, edible food can be considered for donation.

As of July 1, 2015, penalties will be applied to loads of garbage containing over 25% food. Over time, the amount of allowable food will decrease.

Typical Green Bin materials include:

- All food, including plate scrapings, meat, fish, bones, produce, pasta, bread, rice, dairy, eggshells, sauces, dressings
- Coffee grounds/filters and tea bags
- Wooden utensils, chopsticks, and toothpicks
- Napkins, pizza boxes, unlined paper plates
- Paper bags or newspapers used to collect food scraps

metrovancover
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

Need help?

Talk to your service provider.

Call the Recycling Hotline at 604-REC-YCLE (604-732-9253)

For more information and resources for food businesses, apartments and condos, and residents, please visit metrovancover.org/foodscraps

Why recycle food scraps?

- About 40% of all garbage sent to landfills is compostable
- Once food is buried in a landfill it releases methane, a powerful greenhouse gas that contributes to global warming
- When food is thrown away, we lose all the work, time, water and nutrients that went into growing or preparing it
- Throwing away food is expensive. Many businesses save money by reducing their food waste
- By separating food scraps from regular garbage, Metro Vancouver estimates about 250,000 tonnes can be kept out of the landfill each year.

More info at metrovancover.org/foodscraps

Phased Implementation



Questions / Discussion

1. Increase reduction of food waste
2. Implement residential food waste collection
3. Implement ICI disposal restrictions on organic wastes
4. How to provide processing capacity

DEMOLITION, RENOVATION & CONSTRUCTION (DRC) WASTE



DRC Waste is...



- All waste materials generated during construction, renovation or demolition activities
 - Broad range of materials
 - Some are recyclable
 - Some are potentially reusable
 - Some are garbage



DRC Waste

- Quantity generated from year to year affected by:
 - Economy
 - Disasters (e.g. floods, ice storms, fires)



DRC Waste Management



- **Currently in TNRD:**
 - Some salvaging
 - Habitat for Humanity ReStore
 - Mixed loads of DRC waste received at all TNRD and City of Kamloops disposal facilities
 - Variable tipping fees used to encourage source separation of wood waste, asphalt shingles, metal, concrete, asphalt and cardboard
 - Wood waste used for co-gen fuel (TNRD wood waste) and landfill cover (City of Kamloops)
 - City has a dedicated DRC waste landfill

DRC Waste Diversion Opportunities



- Increase diversion of wood waste
 - Wood waste contributes to the generation of landfill gas and consumes valuable landfill space
 - Continue to use variable tipping fees to encourage source separation
 - Establish long-term end uses for recovered wood
 - Food waste and biosolids need chipped wood for composting
- Establish disposal bans on DRC waste materials that have an established end market
 - Asphalt shingles, wood waste
 - Implement enforcement procedures
 - Work with construction industry and haulers to develop implementation timeframe and enforcement procedures



DRC Waste Diversion Opportunities

- Require solid waste management plans for large construction, reno and demo projects
 - E.g. Port Moody, 70% diversion requirement
 - Minimum levels of recycling
 - Refund incentive
 - Municipal and RD building permits
- Restructure permit fees to encourage deconstruction over demolition



DRC Waste Diversion Opportunities

- Establish a DRC recycling facility at the City's DRC waste landfill (Kamloops Resource Recovery Centre)
 - E.g. RDOS's Okanagan Falls Landfill
- Set the tone for private sector DRC waste recycling capacity to be developed
 - Disposal bans, variable tipping fees
 - Mandatory pre-processing (e.g. Halifax)
 - Put or pay contract
 - Facility licensing

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DRC Waste Diversion Opportunities

- Provide DRC waste management information
 - When getting a building permit
 - On TNRD and municipal websites
 - Hard copies at building suppliers

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Questions / Discussion

1. Increase diversion of wood waste
 2. Establish disposal bans on DRC waste materials that have an established end market
 3. Require solid waste management plans for large construction, reno and demo projects
 4. Restructure permit fees to encourage deconstruction over demolition
 5. Establish a DRC recycling facility at the City's CRD waste landfill (Kamloops Resource Recovery Centre)
1. Set the tone for private sector DRC waste recycling capacity to be developed
 2. Provide DRC waste management information



PROMOTION, EDUCATION AND CONSULTATION



Levels of Communication & Engagement

Promotion:
Spread the
word

Education:
Influence
behaviours

Consultation:
Seek
feedback



Increase Promotion & Education

- Residential waste = 26% of waste in landfills
- Increase the promotion and education that targets residential waste to maximize existing services:
 - Curbside recycling
 - Recycling drop offs
 - EPR take back programs
- Encourage reduction and reuse behaviours
- Increase staff resources
 - Currently less than 10% due to operational needs



Member Municipalities & First Nations Coordination & Collaboration

- Consistent, more effective communications
- Better use of budgets through economies of scale
- Greater support for smaller communities and Electoral Areas



Communication Planning

- Use a planning calendar to identify key projects and associated communication needs
 - Develop in collaboration with member municipalities and First Nations so that communications are aligned
- Develop a communication plan for larger initiatives



Social Marketing

- Plan campaigns to influence long-term behaviour change
- Develop programs based on social science research about how people learn and adopt new behaviours
 - Combines marketing techniques with social science research



Increase use of Technology: Apps

- Send push notifications to mobile
- Combine with traditional promotion

Be a **Better Recycler** with the **my-waste® app**

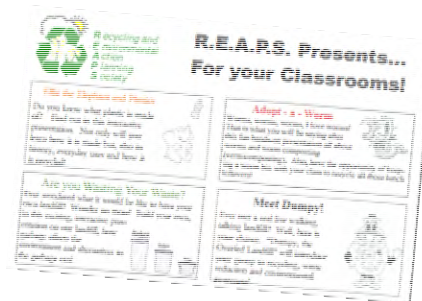
You get:

- A personalized collection schedule
- Custom pick-up reminders
- A 'What Goes Where?' Search tool
- And more!



Back to School

- Increase waste reduction education in the classroom
- Longer-term behaviour change
- 'Zero Waste' program for teachers



Questions / Discussion

1. Increase promotion and education
2. Collaborate
3. Use planning tools to maximize resources
4. Increase use of technology with apps
5. Influence longer-term behaviours
6. Reintroduce schools programs

WASTE REDUCTION AND DIVERSION POTENTIAL



Impact on Disposal

Provincial target is
350 kg/capita

	now	potential
Disposal kg/capita/yr:	596	256 - 450



ANY ADDITIONAL DISCUSSION?

ICI RECYCLING
ORGANIC WASTE
DRC WASTE
PROMOTION, EDUCATION & CONSULTATION



NEXT STEPS/WRAP UP



Next Steps / Wrap Up

- Tour of Local Waste Management Sites?
- Next RAC meeting
 - Tuesday, April 11th (9:30 to 12:30)
 - Next meeting will focus on residual waste management
- Guiding principles



THANK YOU
