



Urban and Rural Community Organics Collection Success: Lessons Learned

May 12, 2016



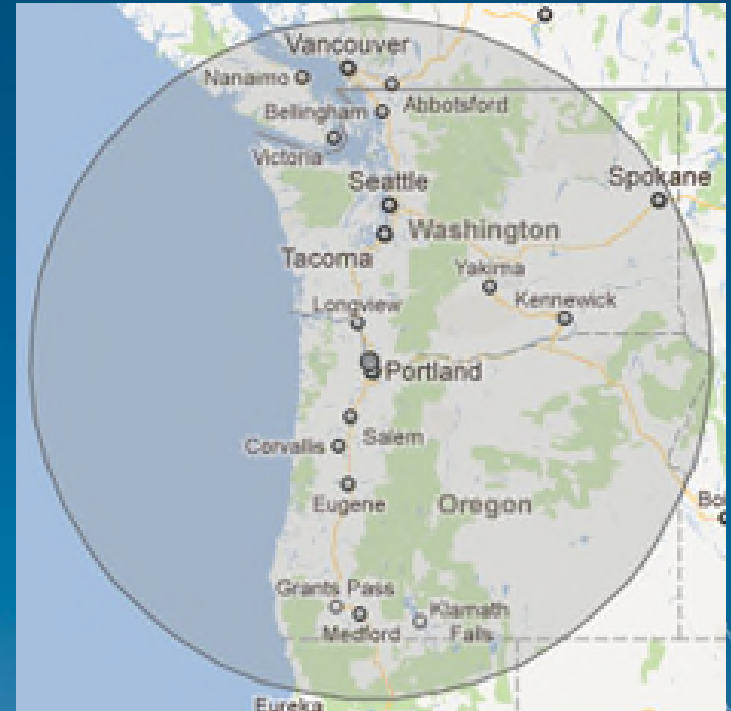
Agenda

- **Metro Vancouver**
 - Overview
 - History of Organics
- **Township of Langley Case Study**
 - Purpose of Assessment
 - Collection System Pilot Implementation and Results
 - Recommendations



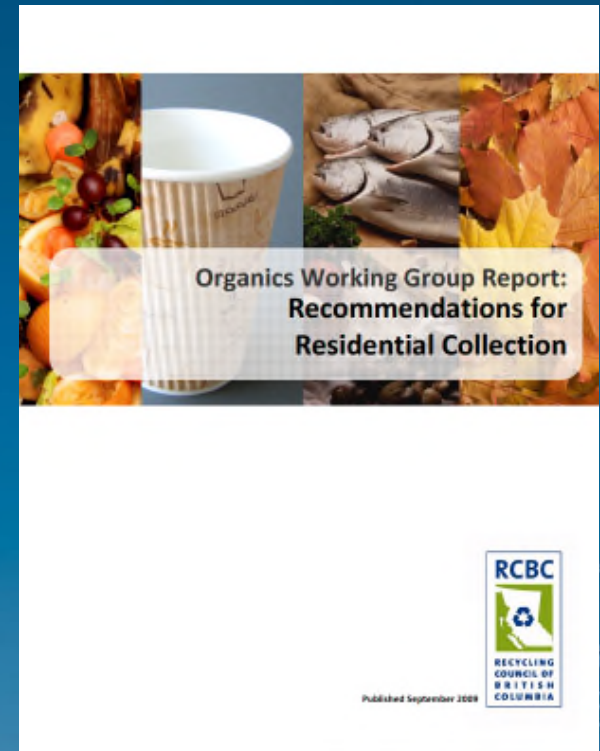
Metro Vancouver - Overview

- 2.4 million population
- 22 municipalities
- Diversion goals
 - 70% by 2015
 - 80% by 2020
 - 10% reduction in per capita waste generation by 2020
- 2015 Organics Disposal Ban

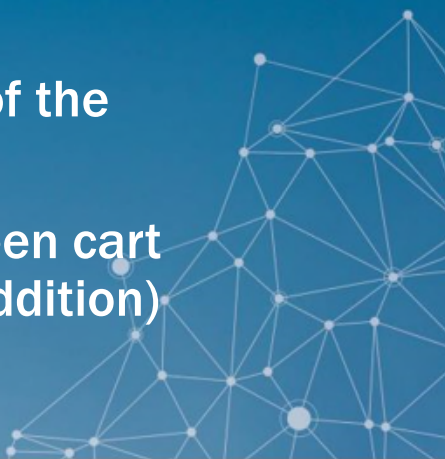


Metro Vancouver – Evolution of Organics

- **2002 – Organics management planning**
 - Technologies, collection methods, end markets, public considerations (Yuck factor), life cycle analysis, strategy, etc.
- **2007 – Decision to update Regional Solid Waste Management Plan**
- **2009 – Established first licensed food scraps composting facility**
- **2009 - Recycling Council of BC Policy Paper on Residential Collection**
 - *Recommended a switch to EOW garbage*
- **2009 – Pilots projects with municipalities**
- **2010 – Nearly half of the municipalities launched food scraps collection**



Impact of EOW Garbage + Weekly Food Scraps

- Port Coquitlam - garbage down 35% from 2009 to 2010 with onsite of every other week garbage, as reflected by tonnage tracking docs. [website speaks to success in terms of diversion](#)
 - Surrey - [garbage down by 35%](#)
 - Vancouver [garbage reduced by 40%](#) during pilot and the roll out had a [40% garbage reduction](#) across the City with a 10% increase in recycling.
 - Nanaimo - [garbage down by half](#) (food only, backyard composting and depots emphasized for yard and garden debris)
 - Victoria [garbage down 37%](#) after the first three months of the kitchen scraps collection program.
 - Calgary - [garbage down by 42%](#) in 7500 pilot homes (green cart program started for all organics, not just a food scraps addition)
 - Portland - [garbage down 38%](#)
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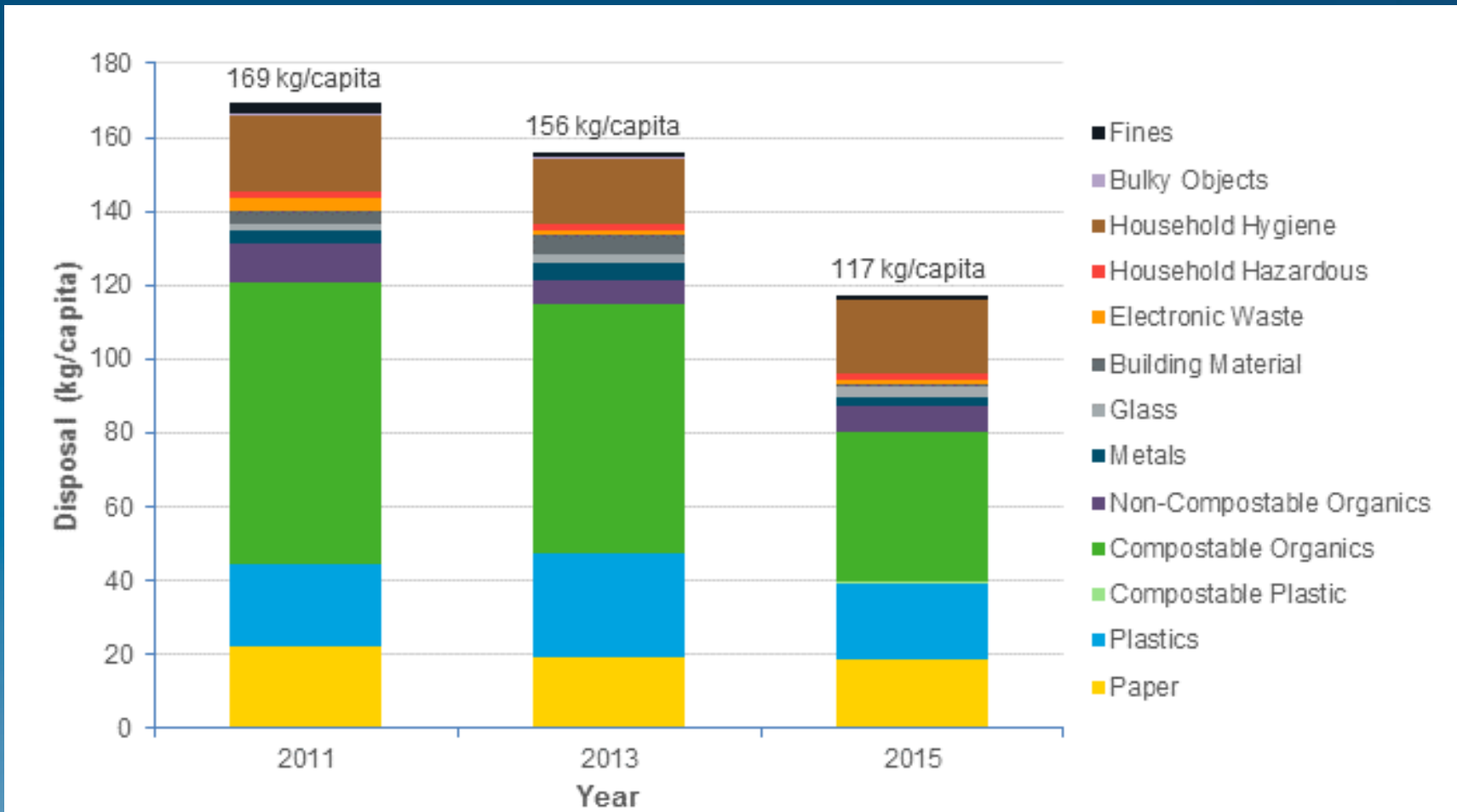
Metro Vancouver – Current Collection

- **70% of Single Family Homes Now have EOW garbage collection**
 - Average 33% drop in garbage tonnage (26-43% range)
 - Equates to 58,000 tonnes
 - Diversion rates of 60 to 75%
 - Reduction in collection costs
 - Reduction in GHG emissions
 - EOW is the “new norm”



Metro Vancouver – Measurable Change

Tetra Tech (2015). Waste Composition Monitoring Program



**Waste Disposal per Capita by Primary Category Composition (2011 to 2015)
Single Family Residential**

What helped with the garbage drop?

1. Promotion tools – precedent from eastern Canada and US to overcome perceived challenges
2. Schedule change – precedent from Ontario and Nova Scotia
3. Measuring and monitoring



Township of Langley Case Study

- Overview
- Purpose of Assessment
- Collection System Pilot
- Recommendations



Township Overview

- **100,000 population; 35% growth expected in next decade**
- **26,000 single family units, 11,690 multi-family units, 8,400 rural units**
- **Current Collection System**
 - Weekly organics, garbage and recycling
 - Manual collection
 - 2-80 L can limit for garbage
 - Large item pickup (on call, 4x per year)
 - 2010 added food scraps added to yard trimmings collection
 - Long standing backyard composting program



Purpose of Assessment

- Review existing collection system
- Outline alternative collection options for efficiency and effectiveness
- Analyze the impacts of future developments and trends
- Develop recommendations



Project Drivers

- **Regional Diversion and Waste Reduction**
- **Optimize services and program efficiency; manage costs**
- **Meet service level expectations for all residents**
 - Urban
 - Rural
 - Multi-Unit Residential Dwellings and Buildings

How the disposal ban works

Starting July 1, 2015, fines may be charged to those who dump garbage containing food waste at the transfer station.

The amount of visible food waste allowed will decrease over time:

2015: **25%** 2016: **10%** 2017: **5%**

Did you Know?

Residential garbage is approximately **40%** organic material

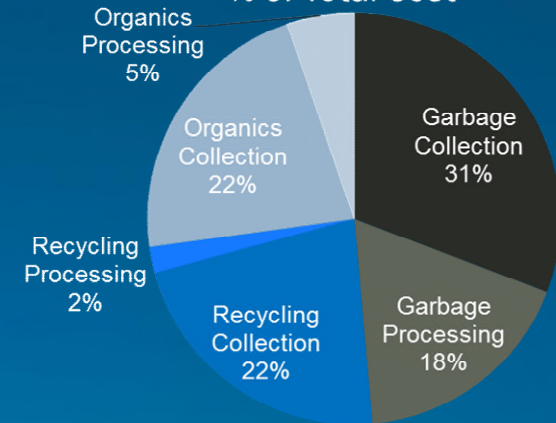
How are we doing?



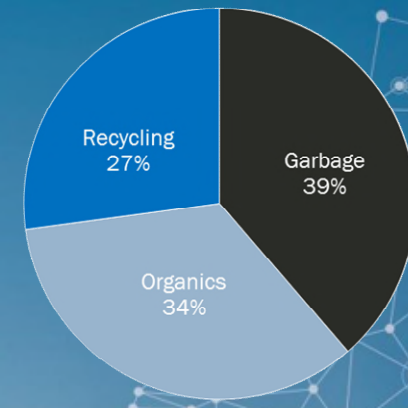
Current Waste Collection System

- **Garbage tonnage decreasing**
 - Approximately 3-5% per year since 2010
- **Current diversion rate of 62%**
- **Common issues including:**
 - Container type requests
 - Minor contamination issues (plastic bags)

Curbside Collection System
% of Total Cost



Curbside Collected Material %
of Total Weight



Primary Program Options

Collection Program Change	Benefits and Best Practices
<p>Changing collection frequency of garbage</p>	<ul style="list-style-type: none"> ▪ Prioritizes green can and recycling participation ▪ Reduces garbage tonnage and maximizes organics diversion ▪ Decreases total amount of trucking leading to improved GHG reductions and cost savings ▪ New norm in Metro Vancouver
<p>Changing container type to allow for automated collection</p>	<ul style="list-style-type: none"> ▪ Decreases labour requirements to collect waste ▪ Cart based collection allows for container size options ▪ Supports implementation of Variable Rate fee structure
<p>Expand services to rural and multi-units</p>	<ul style="list-style-type: none"> ▪ Enables more residents access to consistent programs, making it easier for the public to participate in the organics program and reach a higher diversion rate

Pilot Implementation

- **270 across 2 neighbourhoods**
 - Mix of Homes/Townhomes, Urban/Rural
- **Four month duration – Feb-April 2015**
- **Semi-automated collection (automated setout requested)**
- **All received:**
 - 240 L grey cart (Garbage)
 - 240 L green cart (Organics)
 - 120 L garbage, 80 L organics for townhomes
 - Kitchen containers (delivered)
- **Outreach**
 - Letter, brochure with bins, door-to-door pre-survey, post-survey, rural information sessions



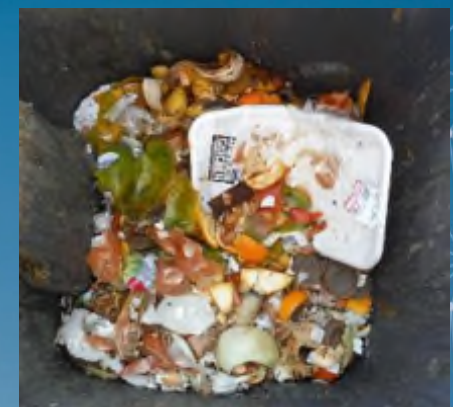
Pilot Implementation

- **Data Collection**

- Pre- and post-survey, door-to-door and online
- Curbside weights – weekly
- Route checks for percent full, contamination, set out challenges – monthly

- **Challenges**

- Carts set out too close together, backwards or sideways (less than 10%)
- Overflow
(less than 10% of garbage carts were >100% full)
- Minimal contamination
(2-10% of set outs had 1-2 items – e.g., candy wrapper)



Pilot Results

- 36% reduction in garbage (by weight) after ~4 weeks
- 47% increase in Green Bin participation
- Extrapolated to Township:
 - 68% diversion rate
 - 2600 tonnes GHG reduction from food scraps being composted instead of landfilled
 - Tipping fee reduction



Pilot Survey Results

- **82% survey response**
 - 90% from door-to-door
 - 10% online
- **Positive feedback**
 - 75% of respondents said it was very easy/easy to adjust to EOW garbage

What are participating residents saying?

88%



want to see this collection program implemented on a permanent basis

89%



prefer to have bins provided by the Township than buy their own cans

92%



found the bins easy to bring to the curb

"The uniform bins make the street look better and cleaner"

"These bins are fantastic, the wheels make it so much easier to pull down the long driveway."

"This program is a wonderful idea; it would be nice to see the Township expand it permanently"

Setting Up for Success

- **Understand your system & residents**
- **Employ a team effort**
- **Engage the community**
 - Behavior change tactics/direct interaction
 - Design surveys with user experience in mind
- **Consider what you want from your pilot**
 - Well designed methodology and data collection approaches
- **Collect solid data for quantifiable results**
- **Seek integrated solutions backed with bylaw changes and strong hauler engagement**
- **Leverage government drivers and regulatory tools**



Single Family Organics and Garbage Collection Recommendations

Recommendation	Key Driver
Implement Every Other Week (EOW) garbage collection in 2016.	<ul style="list-style-type: none"> ▪ Increase diversion rate over 70% ▪ Minimize greenhouse gas (GHG) emissions
Implement automated collection with carts for organics and garbage.	<ul style="list-style-type: none"> ▪ Optimize service efficiency ▪ Meet service level expectations of the residents
Implement Variable Service Rates to offer different sizes of garbage and organics carts.	<ul style="list-style-type: none"> ▪ Reduce per capita garbage generation ▪ Optimize services and program efficiency
Pursue an extension of the existing contract for garbage and organics collection; commence with semi-automated collection.	<ul style="list-style-type: none"> ▪ Ensure programs are effective and cost-efficient

Single Family Recycling Collection Recommendations

Recommendation	Key Driver
<p>Use larger recycling containers (i.e. blue boxes) for current collection.</p>	<ul style="list-style-type: none"> Meet service level expectations of the residents
<p>Transfer recycling collection to industry stewards such as Multi-Material BC (MMBC) when the opportunity presents.</p>	<ul style="list-style-type: none"> Adopt and implement new extended producer responsibility (EPR) Ensure program costs remain efficient
<p>Support new waste diversion programs.</p>	<ul style="list-style-type: none"> Adopt and implement new EPR programs Increase diversion rate

Additional Recommendations

Recommendation	Key Driver
<p>Expand collection zones in rural areas based on residents' interest while optimizing route size, and adjust the Solid Waste Bylaw accordingly.</p>	<ul style="list-style-type: none"> ▪ Establish a consistent level of service for all residential properties across the Township ▪ Meet service level expectations of the residents
<p>Build in efficiencies and cost savings for Large Item Pick-up (LIPU) within current and future contracts considering the options</p>	<ul style="list-style-type: none"> ▪ Optimize services and program efficiency ▪ Ensure program costs remain efficient ▪ Meet service level expectations of the residents ▪ Ensure solid waste programs align with the goals of the Township's Sustainability Charter
<p>Develop mechanisms within the Solid Waste Bylaw for increased enforcement of Solid Waste Bylaws for material bans and blue box/bag contamination</p>	<ul style="list-style-type: none"> ▪ Optimize services and program efficiency ▪ Ensure program costs remain efficient

Setting Up for Success

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- **Employ a team effort**
- **Engage the community**
 - Behavior change tactics/direct interaction
 - Design surveys with user experience in mind
- **Consider what you want to get from your pilot**
 - Utilize well designed methodology and data collection approach
- **Collect solid data for quantifiable results**
- **Seek integrated solutions backed with bylaw changes and strong hauler engagement**
- **Leverage senior government drivers and regulatory tools**



What's next...

- **Food waste prevention**
 - Love Food Hate Waste (UK, Metro Vancouver)
 - Food Too Good To Waste (EPA, King County)
 - Food Waste Prevention Foundation Report (Commission for Environmental Cooperation)
- **Clear bags for garbage**
 - Jurisdictions in  and Alberta



FISH LOVERS hate waste

Nothing's better than a nice bit of fish. I always keep an eye on the use-by date and if it's getting close I'll either freeze it, or make fish pie for me and my florets. A winner every time. And only we don't polish off goes in the fridge for the next day. Perfect.

lovefoodhatewaste.com has more tips and recipes to help you waste less food and save up to £50 a month.



Questions?

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