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%
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

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
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)
## Primary Program Options

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<thead>
<tr>
<th>Collection Program Change</th>
<th>Benefits and Best Practices</th>
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<tbody>
<tr>
<td><strong>Changing collection frequency of garbage</strong></td>
<td>• Prioritizes green can and recycling participation&lt;br&gt;• Reduces garbage tonnage and maximizes organics diversion&lt;br&gt;• Decreases total amount of trucking leading to improved GHG reductions and cost savings&lt;br&gt;• New norm in Metro Vancouver</td>
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<td><strong>Changing container type to allow for automated collection</strong></td>
<td>• Decreases labour requirements to collect waste&lt;br&gt;• Cart based collection allows for container size options&lt;br&gt;• Supports implementation of Variable Rate fee structure</td>
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<td><strong>Expand services to rural and multi-units</strong></td>
<td>• 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</td>
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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

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<th>Recommendation</th>
<th>Key Driver</th>
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<tr>
<td>Implement Every Other Week (EOW) garbage collection in 2016.</td>
<td>• Increase diversion rate over 70%</td>
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<td>• Minimize greenhouse gas (GHG) emissions</td>
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<td>Implement automated collection with carts for organics and garbage.</td>
<td>• Optimize service efficiency</td>
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<td>• Meet service level expectations of the residents</td>
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<tr>
<td>Implement Variable Service Rates to offer different sizes of garbage and organics carts.</td>
<td>• Reduce per capita garbage generation</td>
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<td></td>
<td>• Optimize services and program efficiency</td>
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<tr>
<td>Pursue an extension of the existing contract for garbage and organics collection; commence with semi-automated collection.</td>
<td>• Ensure programs are effective and cost-efficient</td>
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## Single Family Recycling Collection Recommendations

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<td>Use larger recycling containers (i.e. blue boxes) for current collection.</td>
<td>- Meet service level expectations of the residents</td>
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| Transfer recycling collection to industry stewards such as Multi-Material BC (MMBC) when the opportunity presents. | - Adopt and implement new extended producer responsibility (EPR)  
- Ensure program costs remain efficient |
| Support new waste diversion programs. | - Adopt and implement new EPR programs  
- Increase diversion rate |
## Additional Recommendations

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| Expand collection zones in rural areas based on residents’ interest while optimizing route size, and adjust the Solid Waste Bylaw accordingly. | • Establish a consistent level of service for all residential properties across the Township  
• Meet service level expectations of the residents |
| Build in efficiencies and cost savings for Large Item Pick-up (LIPU) within current and future contracts considering the options | • 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 |
| Develop mechanisms within the Solid Waste Bylaw for increased enforcement of Solid Waste Bylaws for material bans and blue box/bag contamination | • Optimize services and program efficiency  
• Ensure program costs remain efficient |
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 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 Nova Scotia, and Alberta
Questions?

Tamara Shulman
Team Lead – Planning
Waste Management Practice
Tamara.Shulman@tetratech.com
604.685.0275