Adding Curbside Composting Affordably

CO SWANA 2019

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WHY CONSIDER ORGANICS & FOOD SCRAPS?

- FW / YW largest item remaining in stream: Organics 35%+
- 2005-25 million tons of food waste to LF (EPA)
- 2015: 38 million tons of FW generated
- 21.6% of discarded MSW
- In 2010, 219 lbs/PERSON to disposal
- In 2010, food was 31% of food supply
- 133 billion pounds valued at $161.6B
- 42 million Americans live in food insecure households
- MSW are 20% of US Methane
  - Addressing food key to climate change-2005-25 million tons of food waste to LF—GHG equivalent of removing 7.8 million passenger cars from the road! (USCC)
- FW Composting avoids 0.25 MTCE/Ton of food scraps (lower for yard trimmings and organics)
- Jobs – 10:1 recycling; 4:1 compost*
- Citizens want recycling & diversion options

*Estimates ILSR

PROGRAM EVOLUTION

Drop-offs, voluntary added fee recycling, education
0 – 15% Diversion
Embedded recycling, MF and commercial ed. / assistance, expanded O/D
10 – 25%
PAYT with embedded rates, yard waste, commercial programs, continued ed.
20 – 45%
Add Res Food scraps, mandates / bans, address MF recycling, hauler incentives, PAYT+
40% +
Every-other-week MSW, mandatory commercial and MF, EPR, zero waste
50% +

Source: Skumatz Economic Research Associates, all rights reserved
**Program Status**

Residential Access to Organics Programs 2018

Who Provide C/S Service?

- ○ Households
- ○ Schools
- ○ Other

U.S. Households with access to curbside food waste collection

Source: SERA: National Residential Survey 2018

**RESIDENTIAL PROGRAM ATTRIBUTES**

- Drop-off or C/S
  - ○ Materials in stream
    - ○ YW, FW only, combined
    - ○ Include meat, dairy, soiled paper
  
- Collection Frequency & Duration
  - ○ Weekly in most, EOW available; YR most common

- Presence of PAYT
  - ○ Majority have PAYT ("next steps")

- Payments and enrollment
  - ○ Voluntary added fee most common, embedded, opt-in / opt-out

- Containers
  - ○ 32 (solo), or 64 / 96 (with YW) carts, some bag programs

**THREE WAYS TO GET RESIDENTIAL ORGANICS MOST CHEAPLY**

Optimize stops

- ○ Reduce one recyc or trash collection
  
- ○ Include FW, EOW benefits...

More per stop

- ○ PAYT

Increase route density

- ○ Mandatory vs. opt in
- ○ Increase route density
- ○ Hauler contracts

Other considerations:

- ○ Seasonal shifts, etc...

Source: Skumatz Economic Research Associates, Inc. analysis

**GET ORGANICS - OPTIMIZE STOPS**

- ○ Stops (not amount of materials collected)
  - ○ Are vast majority of the cost of collection
  - ○ >80%

- ○ SERA statistical studies show:
  
  - ○ Weekly to EOW recycling loses 1-3 percentage points recycling
  - ○ Costs about half (40%) as much
  - ○ Those last few tons COST almost 4x as much

- ○ Apply that stop to ORGANICS
  
  - ○ Lose 1-3 percentage points of diversion
  - ○ Gain 15-20%+ for same stop
  - ○ 80% of costs are the same (stops) - need tip fee & containers

- ○ Then REALLY optimize – EOW Trash

  It’s <virtually> all about the stops!

Source: Skumatz Economic Research Associates, Inc. analysis
GETTING THERE...
TIPS

- Calendar – look-up collections
  - Missing garbage day EOW problematic (rerun route, special collection, complaints...)
  - Programs / apps – interactive packages to look up day & route
    And/Or auto reminders (phone, email, sms)

- Options at higher price...
  - Option to pay for weekly (diapers, etc.) – helps political and maintains efficiencies (few pay extra)
  - Options for lowest generator–don’t get the efficiencies or tons

- Selling is key
  - Unanimous electeds, walk talk, City offices, monetary benefit, work with newspaper for positive op-eds

- Prepare for peak seasons in processing, containers, and collections

DIRECTIONS WITH ORGANICS

- Indoor Containers
  - Kitchen pails, juice pitchers
  - Own containers, pizza boxes, paper bags, others to reduce costs
  - Coupons to reduce costs
  - Or none...

- Outdoor containers
  - 96 gallon carts when collected with YW
  - 13 gallon or 21-23 gallon if food scraps only (lgr may be cheaper)
  - Clear / marked bags, paper bags, cardboard boxes (pests?)
  - Mini-cans for automated

BARRIERS? – CONTAMINATION & YUCK

- Contamination
  - Bags in stream (bio and plastic); local decision
  - Education, staff training, have seen bans of bags / others it is fine

- Yuck & pests
  - BMPs suggestions; more perception
  - Just a change in containers(1); education, persistent message, clarify meat/dairy helps (freeze, layers, paper towels, boxes, etc.)
  - People do NOT put all their food scraps in can (pilots/sorts)
THREE WAYS TO GET RESIDENTIAL ORGANICS MOST CHEAPLY

Optimize stops
  ▪ Reduce one recycl or trash collection
  ▪ Include FW, EOW benefits...

More per stop
  ▪ PAYT

Increase route density
  ▪ Mandatory vs. opt in
  ▪ Increase route density
  ▪ Hauler contracts

Other considerations:
  ▪ Seasonal shifts, etc...

Source: Skumatz Economic Research Associates, Inc. analysis

GET ORGANICS: MORE PER STOP W/PAYT

- Most effective & cost-effective option
  ▪ Diverts 17%
- Encourages recycling & composting & source reduction
- In place in more than 10,000 towns – mandated in multiple states
- Elements of BMP for Residential PAYT
  ▪ Strong price incentive
  ▪ Small trash container available
  ▪ No extra fee for recycling**
    ▪ Convenient recycling, large container; same day, parallel containerization
  ▪ Education, enforcement, level playing field

GET ORGANICS: EOW TRASH – DRIVES FOOD DIVERSION

<table>
<thead>
<tr>
<th>Location</th>
<th>2019 Weekly</th>
<th>2019 Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver WA (47%)</td>
<td>$17.43</td>
<td>$11.16</td>
</tr>
<tr>
<td>Portland OR (~70%)</td>
<td>$22.23</td>
<td>$22.23</td>
</tr>
<tr>
<td>Renton, WA (70%)</td>
<td>$22.45</td>
<td>$22.45</td>
</tr>
</tbody>
</table>

- Diversion increased from 54% to ~70%; trash decreased 38%
- All SF up to 4-plex; recommend no weekly options
- Changed franchise rates

THREE WAYS TO GET RESIDENTIAL ORGANICS MOST CHEAPLY

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INTEGRATED DECISIONS – AFFECTED BY...

- Are trucks flexible?
  - Fully-automated helps... easily shift between materials
  - Don't have to bring materials to same location like split trucks
- Organics processing essential
- Recycling processing
  - Single stream (& large containers) helps... one collection, large containers that can wait
  - Can do dual stream by alternating material weeks
- Education concerns
  - Which week? Very manageable
- Perception & containerization
- Health departments & regulators
  - For every other week collection
  - For food scraps composting
- Hauler situation
- Labor, transition, etc.

Increase Density / Participation

<table>
<thead>
<tr>
<th>Program</th>
<th>Participation</th>
<th>Total Diversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opt-Out</td>
<td>~75%</td>
<td>~40%</td>
</tr>
<tr>
<td>Opt-In</td>
<td>~40%</td>
<td>~30%</td>
</tr>
<tr>
<td>Embedded</td>
<td>90%</td>
<td>~50%</td>
</tr>
</tbody>
</table>

- Orem UT (pop. 88,300) This program is for recycling, they went from a 13% diversion rate to 20% by changing from an Opt-In program to an Opt-Out program.
- Salt Lake City UT (pop. 191,200) The city changed from an Opt-In to an Opt-out due to low participation. To discourage those opting out, there is no discount in price for no longer using the service (Recycling and Organics are embedded in trash). Only about 1% have opted-out.

PROCESSING – CAPITAL COSTS

- Capital intensive; depends on quantity at low profit margins
- Land: >20 acres; with adjacent space; remote
- Building: required? Costly and neighbors will still smell “something”
- Permits: State-specific
  - Often require impervious pad (concrete or compacted clay or amended compacted)
  - Groundwater monitoring

GETTING ORGANICS GOING

- Contract
- Can use Ordinance that:
  - requires haulers to offer organics
  - Mandates lower fee for organics than trash
  - Mandates some sectors to receive organics
  - Mandates all businesses to receive service (embedded in trash or not)
  - Biggest bang if selected food licensed businesses; 80/20 rule... (80% collected for 20% of the cost)
**POLITICAL WILL & MOTIVATION**

- **Political Will**
  - Approach on jobs, goals, business – what THEY care about
  - Waste characterizations helpful to "make case"
  - A few **motivated individuals** can be effective

- **Make sure to get the most for the effort**

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**GETTING COMMERCIAL ORGANICS GOING**

- **Can use Ordinance that:**
  - Requires offering; requires service provided;
  - Mandates lower fee for organics than trash
  - Mandates some sectors to receive organics
  - Mandates all businesses to receive service (embedded in trash or not)
  - Biggest bang if selected food licensed businesses; 80/20 rule...
  - Targeted by sector, targeted by size

- **Significantly helped by Commercial PAYT**
  - Recycling embedded (ratio)
  - Organics can also be embedded, or for certain business types
  - Parallel to ABC law?

- **Other options**
  - Surcharges and discounts system
  - Clear bills / invoices
  - Technical assistance, recognition
  - Hauler incentives
  - Bans

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**BEST MANAGEMENT PRACTICES – SET-UP**

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>BMPS / ALTERNATIVES - RESIDENTIAL</th>
<th>COM’L</th>
</tr>
</thead>
</table>
| Start-up – getting interest | > Summit with stakeholders / face-to-face, match needs, work on Barriers
> Alt: University incubators (access to grants, etc.) | > Same |
| Pilot or not? | > Especially in areas without many programs; address barriers, tweak processing, familiarize, build support, examine efficiencies; use random assignment or selected neighborhood, not opt in for transferability of results
> Pilot not needed in all cases; Less need if facilities tested; use literature & neighbors; quicker implementation | > Same |

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**BEST MANAGEMENT PRACTICES – DESIGN**

<table>
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<th>ASPECT</th>
<th>BMPS - Residential</th>
<th>Commercial</th>
</tr>
</thead>
</table>
| Eligible materials | > Add food – AND soiled paper to yard waste program if possible – quick & cheap (paper~50%; "gateway")
> ALT: Food scraps only is an option – consider 12 gal or smaller container at drop-offs. | > Often pre-consumer first for lower container, education issues. Include soiled paper if possible.
Compostable serving ware ONLY if processing can really handle
> OR pre- and post- consumer for higher tons (but more contam.) |
| Coll'n Frequency – C/S | > Weekly; some change to EOW during winter
> Some EOW year-round in north – alternate with recy.
> BEST: EOW trash, weekly organics
> ALT: in-sink garbage disposal option | > At least as often as trash
> Weekly not sufficient unless small generators (and certain materials)
> ALT: in-sink disposal increasing |
| Coll'n Frequency – D/O | > Venues – examples include every other day, daily, other | > n/a |
BEST MANAGEMENT PRACTICES – RATES

<table>
<thead>
<tr>
<th>ASPECT</th>
<th>BMPS - Residential</th>
<th>Comm’n</th>
</tr>
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</table>
| Rates – Call’n  | • **BEST**: small container embedded in trash (best use, economies); pay extra for additional service (often with yard waste)  
• **ALT**: fee for service PAYT-style  
• **AVOID**: fully embedded (esp. if collected with YW) because it discourages composting  
• **AVOID**: computing costs assuming end-product sales – plan for $0 revenues to be safe | • Usually added fee; typically 40% cheaper / discount  
• **ALT**: a few embed costs in trash  
• **ALT**: if no rate discount; 3 months fee, subsidy (adjusting trash) |
| Rates - Tipping | • **AVOID**: computing costs assuming end-product sales – plan for $0 revenues to be safe  
• **ALT**: if no rate discount; 3 months fee, subsidy (adjusting trash) | • Same |

BEST MANAGEMENT PRACTICES – CONTAINERS

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<th>Comm’n</th>
</tr>
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</table>
| Kitchen or in-building containers | • **AVOID**: computing costs assuming end-product sales – plan for $0 revenues to be safe  
• **ALT**: if no rate discount; 3 months fee, subsidy (adjusting trash) | • **BEST**: small container embedded in trash (best use, economies); pay extra for additional service (often with yard waste)  
• **ALT**: fee for service PAYT-style  
• **AVOID**: fully embedded (esp. if collected with YW) because it discourages composting  
• **AVOID**: computing costs assuming end-product sales – plan for $0 revenues to be safe |
| Outdoor containers | • **KEY**: signage and convenient placement  
• **ALT**: waxed cardboard for grocery (free!)  
• **ALT**: compostable bags – allow but do not promote  
• **ALT**: bags (paper with YW ok / clear plastic poor). Plastic bags contaminate, hard to remove | • **AVOID**: computing costs assuming end-product sales – plan for $0 revenues to be safe  
• **ALT**: if no rate discount; 3 months fee, subsidy (adjusting trash) | • **OFFER** free or discounted containers to employees; typically 23-gal slims; larger too heavy  
• **ALT**: Compostable bags – allow but do not promote  
• **ALT**: Bags (paper with YW ok / clear plastic poor). Plastic bags contaminate, hard to remove  
• **ALT**: in-sink, in-ground |

BEST MANAGEMENT PRACTICES – EDUCATION PLUS

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| Education       | • **Consistent, clear, quarterly for new**  
• **Define food scraps clearly**  
• **Electronic, social marketing helps** | • **KEY**: on-site training (hauler or city); multi-lingual signs, flyers |
| Yuck Factor     | • **In addition to residential suggestions**  
• **Washing containers** (1-2/yr; some every time)  
• **Lining with compostable bags, cardboard, paper towels**  
• **Empty before full**  
• **Vented or silt containers for air** | |
| Vermin Fears    | • **Educate / remind not new materials – just different container**  
• **Free compostable bags, pictures of clean organics streams help** | |

BEST MANAGEMENT PRACTICES – SUPPORT

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| Diapers in EOW | • **Bag and seal with education**  
• **Increased frequency in summer**  
• **Allow in green cart**  
• **Special collection route for added fee** | |
| “Selling” / Political support | • **ID motivators for stakeholder local (GHG, jobs, LF, public)**  
• **Waste audit to demonstrate**  
• **Champions, talking notes to elected off.** | • **Savings if possible**  
• **Green** |
| End-product     | • **Procurement mandate for local certified compost the best option**  
• **Free compost for participants 1-2/yr generates support / participation** | |

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Thank You!

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