Expansion of Organics Recovery Program in Orange County

2014 Spring Capstone Project

Client: Orange County Solid Waste Management
Current Situation
Total Municipal Solid Waste Generation (by material), 2012
251 Million Tons (before recycling)

U.S. EPA 2012

- Paper & paperboard: 27.4%
- Food waste: 14.5%
- Yard trimmings: 13.5%
- Wood: 6.3%
- Rubber, leather, and textiles: 8.7%
- Plastics: 12.7%
- Metals: 8.9%
- Glass: 4.6%
- Other: 3.4%

Current Situation
Survey Formation and Results
Recommendations and Deliverables
Total Municipal Solid Waste Generation (by material), 2012
251 Million Tons (before recycling)

~28% of waste stream to landfill is organic
Why collect organic waste?

- Hazards from decomposition process in landfill
  - Potential seepage/leeching from contact with leaded glass
  - Methane emissions

- Economic viability
  - Reducing trash bill
  - Useful organic material
We closed our landfill.

July 1st, 2013: Closure of Orange County Landfill

Landfill waste is a problem.

We closed our landfill.
Orange County Solid Waste Management &

- OCSWM Contact: Blair Pollock
- Partnership with Brooks Contractor in Goldston for pickup and composting services

Photo Cred: Pooja Aphale
Survey Formation and Results
Questions

- Current program participants and non-participants
- Size and type of business
- Willingness and potential barriers
- Motivations
Determining Survey Respondent Pool

Restaurant Inspection grades

267 restaurants

13 responses

Survey Formation and Results
Results

- All but one interested in participation
  - 75% follow-up
- Issues: Space, time, and staff training
- Odors/pests not primary concern
- Publicize participation – lack of awareness of current program
- OCSWM wants to proceed cautiously

Survey Formation and Results
What is the nature of the method of cooking?

- Mostly by scratch
- Half scratch/half prepackaged
- Mostly prepackaged
Results

Would you be interested in participating in organic waste collection?

- Yes
- No

Survey Formation and Results
Recommendations and Deliverables
Standardization of Operating Procedures and Cost Estimates

1. Best Practices
   - Standard operating procedures lower perceived negative associations of additional training and separation
Standardization of Operating Procedures and Cost Estimates

2. **Cost Calculator**
   - rather than just providing case by case estimation

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
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<tbody>
<tr>
<td>Business Type: Casual Dining</td>
<td>Fine Dining</td>
<td>Casual Dining</td>
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<tr>
<td>Current volume of waste: 8 cubic yard dumpster</td>
<td>6 cubic yard dumpster</td>
<td>4 cubic yard dumpster</td>
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<tr>
<td>Approximate % of organic waste: 50%</td>
<td>2</td>
<td></td>
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<tr>
<td># times per week for collection: 2</td>
<td></td>
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<tr>
<td>Total Volume minus % Organic:</td>
<td></td>
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<tr>
<td>Rate for Volume Category (weekly base rate):</td>
<td>$196</td>
<td>$196</td>
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BRAND UNIFICATION AND RECOGNITION

Building trust in OCSWM as a consistent and reliable program

Increasing community awareness of the program

Using the brand as a social mechanism for behavioral change

Recommendations and Deliverables
FURTHER ANALYSIS OF OUTSOURCING TO THIRD PARTY CONTRACTORS

1. Ability to handle increased capacity of expansion
2. Feasibility of insourcing composting capabilities
3. Upfront facility overhead costs could be met through local grant money
4. Sustainable revenue stream through sale of compost
acknowledgements

- Laura Cloak, Whole Foods
- Dr. Elizabeth Shay, Institute for the Environment
- Bianca Lopez, Curriculum for the Environment and Ecology, UNC Chapel Hill
- Blair Pollock, Orange County Solid Waste Management
- Muriel Williman, Orange County Solid Waste Management
Questions?