WASTE CHARACTERIZATION STUDY

Presented by

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Solid Waste
PROJECT GOAL

Identify and assess potential opportunities to divert waste from landfill disposal in order to extend the County’s landfill life and reduce greenhouse gas emissions
OVERVIEW

- **Outline** sample methods and study design
- **Review** collected data and results of the waste characterization study conducted at the Buncombe County Transfer Station
- **Analysis** of unincorporated versus City, commercial versus residential
- **Compare** Buncombe County metrics to similar counties
- **Discuss** where do we go from here
  - Waste Diversion Study
WASTE AUDIT: METHODS
April 25 – 29, 2022

Manual Sort
- 45 samples, 214 lbs per sample
- Buncombe County: Residential and Commercial
- City of Asheville: Residential and Commercial
- Hand sorted into one of 35 material categories

<table>
<thead>
<tr>
<th>Material Categories</th>
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<tbody>
<tr>
<td>Paper</td>
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<tr>
<td>Plastics</td>
</tr>
<tr>
<td>Metals</td>
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<tr>
<td>Inorganics</td>
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<tr>
<td>Household Hazardous Waste</td>
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<tr>
<td>Other</td>
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</tbody>
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WASTE AUDIT: METHODS
April 25 – 29, 2022

Bulky/Self-Haul Sort

• For loads that are too bulky/ heavy to sort by hand
• Visual inspection and estimated volume of waste

Material Categories

- Yard Waste
- Shingles
- Clean lumber
- Painted/treated wood
- Cardboard
- Drywall
- Window glass
- Agricultural waste
- Non-ferrous metal
- Bagged MSW
- Furniture
- Vinyl siding
WASTE AUDIT: PHOTOS

April 25 – 29, 2022
WHAT IS IN OUR WASTE?

Most significant component of the waste stream from unincorporated residential areas is food waste, which is able to be diverted.
WHAT IS IN OUR WASTE?

Unincorporated Commercial Waste Stream

- Organics, 41.6%
- Paper, 22.3%
- Plastics, 16.2%
- Inorganic, 6.9%
- Other, 10.6%
- Metals, 2.3%

Organics was the largest material category found in the unincorporated commercial waste stream.
The majority component was compostable food waste and yard waste that can be diverted.

**WHAT IS IN OUR WASTE?**

Municipal Residential Waste Stream
WHAT IS IN OUR WASTE?

Municipal Commercial Waste Stream

Food waste comprised the largest percentage of the waste stream, closely followed by paper.
HOW DO WE COMPARE?

- *Organics, paper, and plastics* make up over 70 percent of waste across Buncombe County.
- Residential groups dispose a higher proportion of *plastics and yard waste*.
- Commercial waste in Asheville comprises the highest proportion of *paper*.
- Commercial waste from unincorporated Buncombe comprises the highest proportion of *organics*.
- *C&D materials* comprise higher portions of the waste stream generated in Asheville.
HOW MUCH RECYCLING IS IN RESIDENTIAL WASTE?

- Paper makes up nearly half of the recyclables from residential routes.
- Plastics comprise about a quarter.
- Overall, the County is able to divert ~20% of its waste material with infrastructure already in place.
HOW MUCH RECYCLING IS IN COMMERCIAL WASTE?

County and City Overall

- Paper comprises over half of commercial recyclables
- Plastics make up about one fifth of the commercial waste stream
- The County is able to reduce commercial waste by 20% with existing infrastructure
- “Other divertibles” included clothing, electronics, and some HHW
HOW MUCH COMPOST IS IN RESIDENTIAL WASTE?

County and City Overall

- Overwhelming majority of compostables in the waste stream are food scraps
- Solid Waste is increasing access to residential compost drop-offs
- As we expand, we will need to fortify infrastructure
Almost 70% of compostables are food scraps, making up a higher proportion of commercial compostables than residential.

The majority of this waste stream is from restaurants/grocery stores.
HOW DOES BUNCOMBE COMPARE?

- Recyclable materials are fairly consistent across counties.
- Boulder County leads the way in compostable diversion.
- Buncombe and Boulder have smaller percentages of divertibles making up their material collection stream (~60%).
- Boulder and Orange receive revenue from tax bill.

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<thead>
<tr>
<th>County</th>
<th>Population</th>
<th>Annual Waste Tonnage</th>
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<tbody>
<tr>
<td>Orange</td>
<td>151,676</td>
<td>96,571</td>
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<tr>
<td>Boulder</td>
<td>350,000</td>
<td>234,216</td>
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<tr>
<td>Buncombe</td>
<td>275,678</td>
<td>305,059</td>
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DIVERSION OPPORTUNITIES

Residential

- Compostable organics: food waste and yard waste
- Recyclable paper: cardboard and box board and cardboard
- Compostable paper
- Recyclable plastics: PET, Other Plastic Containers

Commercial

- Compostable organics: food waste and cloth
- Recyclable paper: cardboard and box board
- Compostable paper
- Recyclable plastics: PET containers