



# WASTE CHARACTERIZATION STUDY

*Presented by*

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Solid Waste



# PROJECT GOAL

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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

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# 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

### Material Categories

Paper

Plastics

Metals

Inorganics

Household Hazardous Waste

Other



# 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

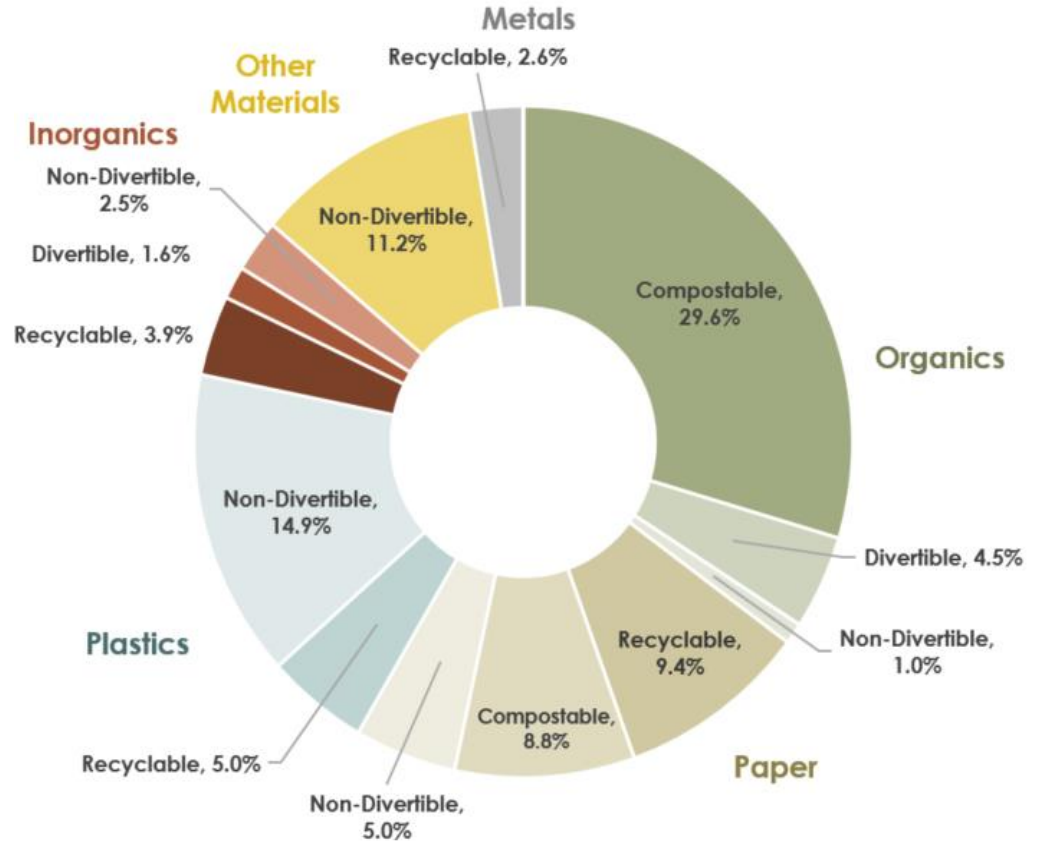
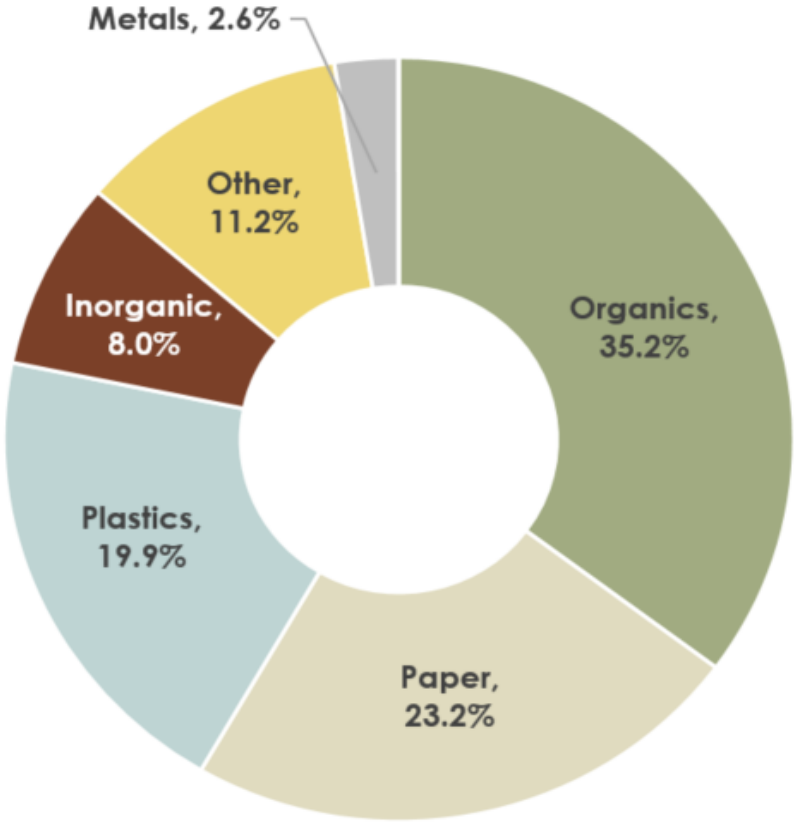
April 25 – 29, 2022



# 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*

Unincorporated Residential Waste Stream

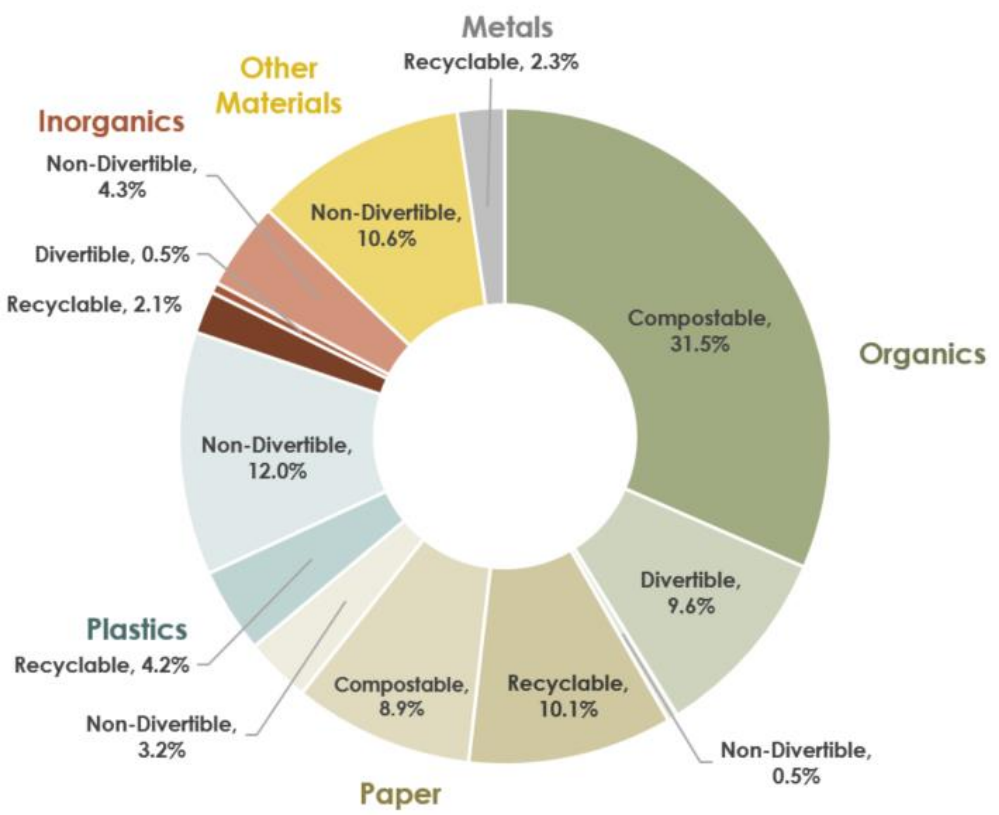
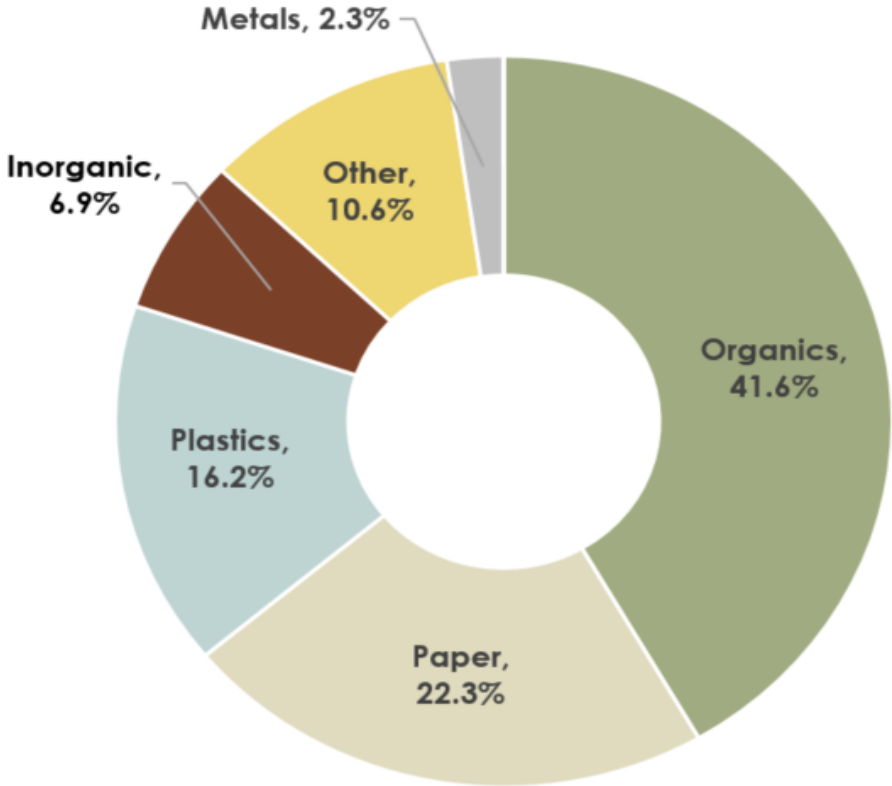




# WHAT IS IN OUR WASTE?

Organics was the largest material category found in the unincorporated commercial waste stream

Unincorporated Commercial Waste Stream

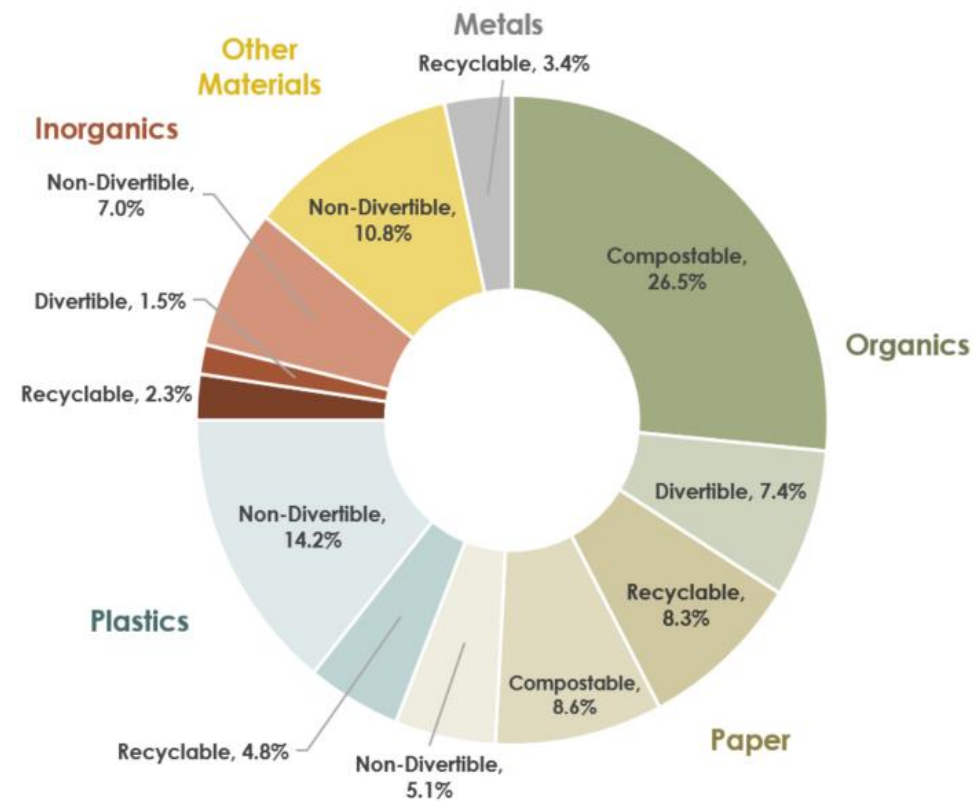
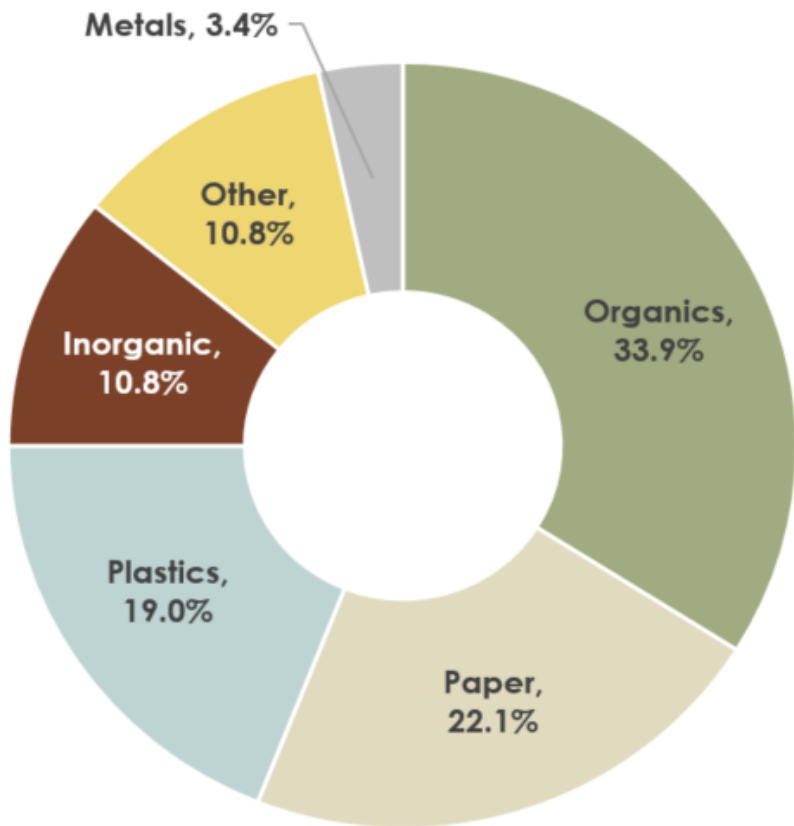




The majority component was compostable food waste and yard waste that can be diverted

# WHAT IS IN OUR WASTE?

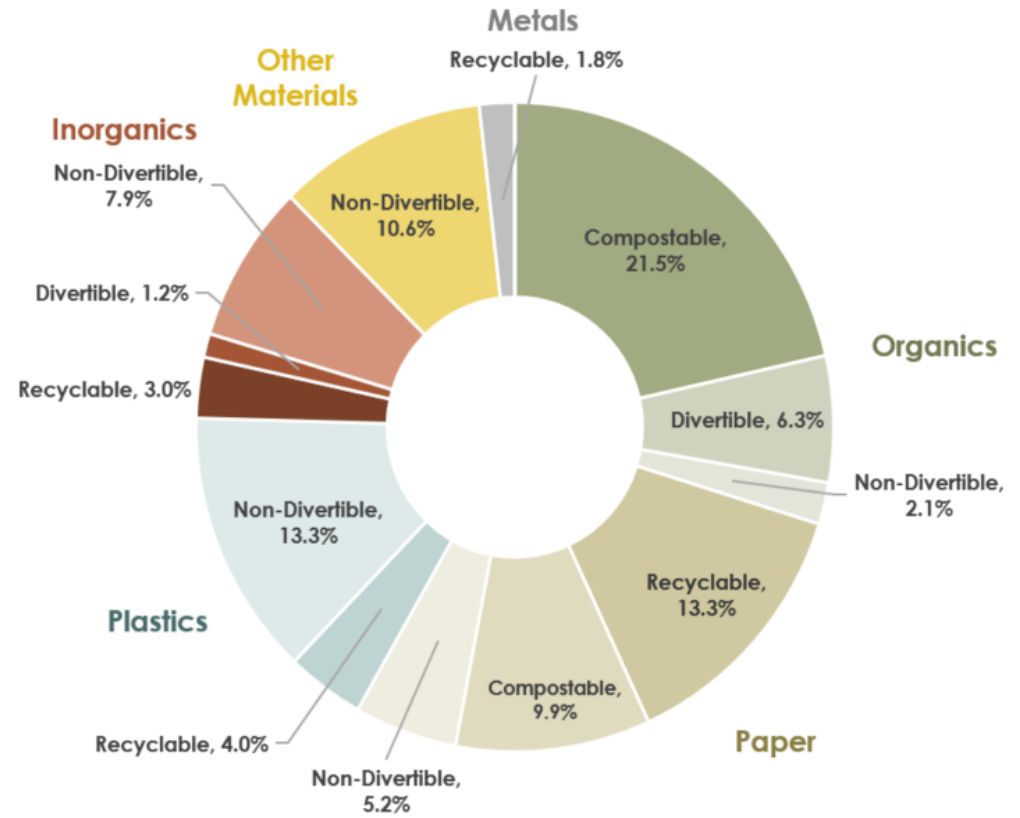
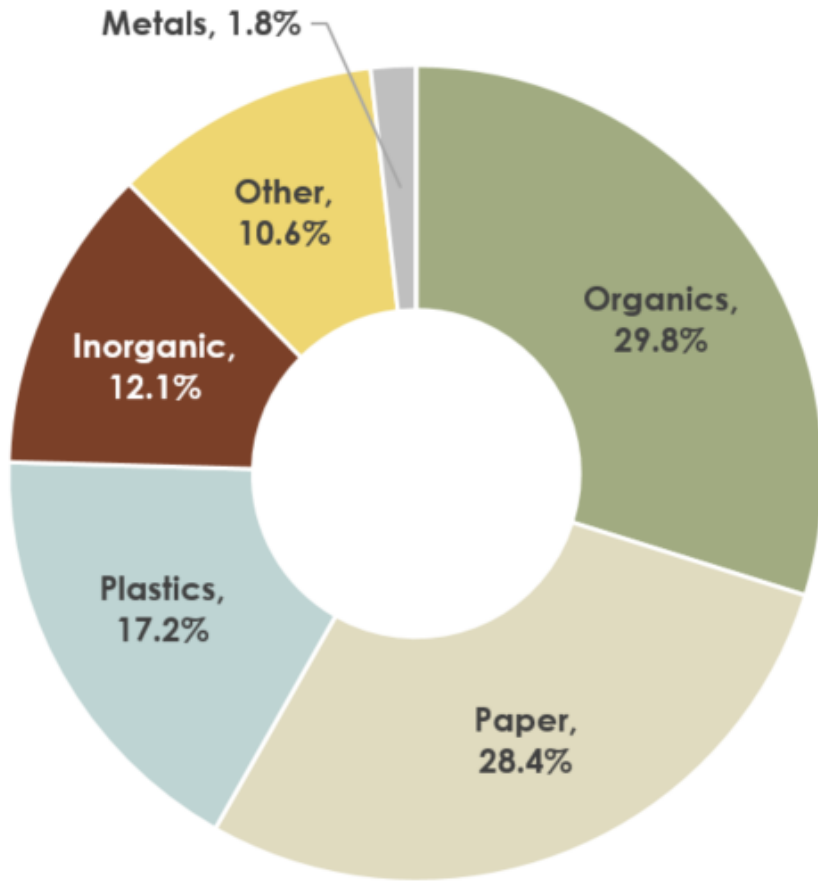
## Municipal Residential Waste Stream



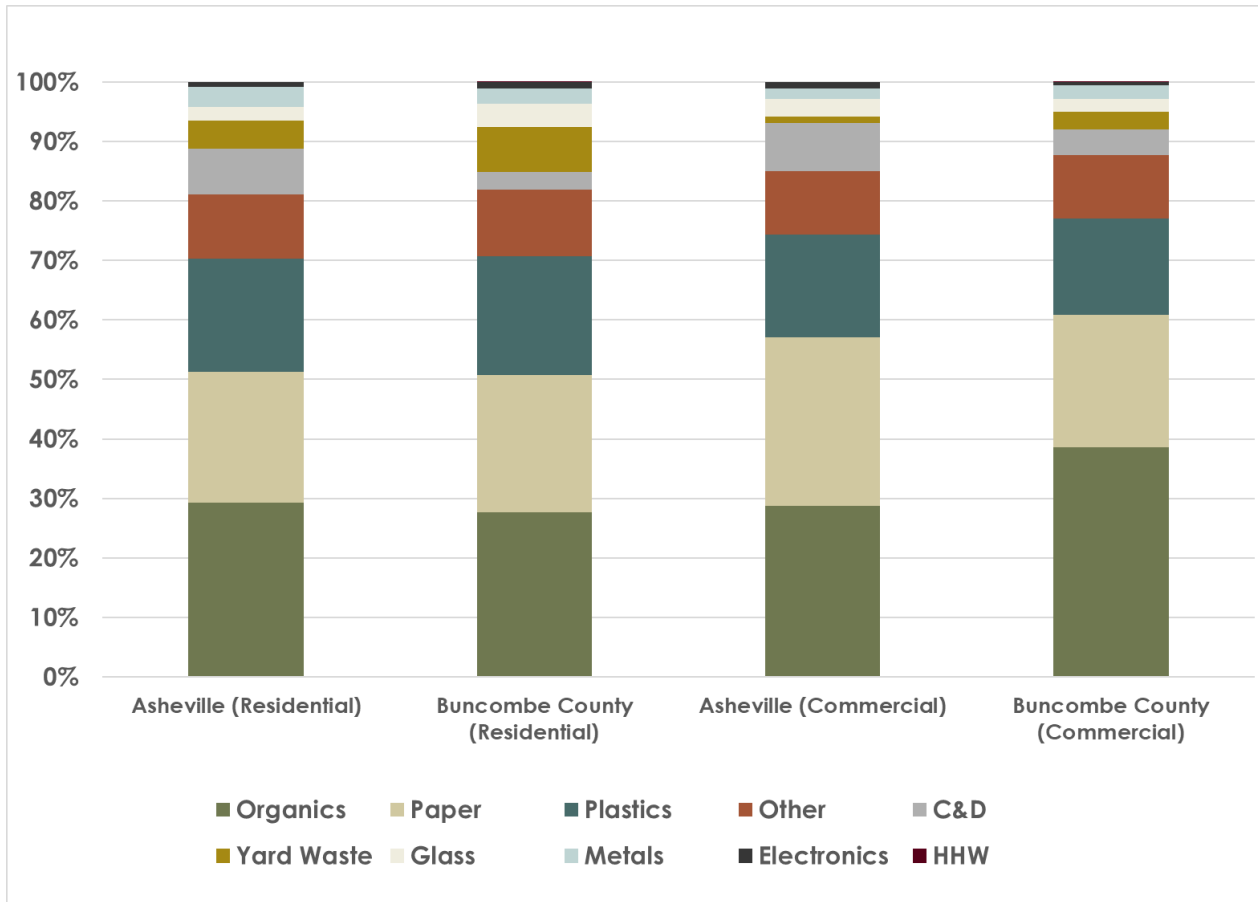
Food waste comprised the largest percentage of the waste stream, closely followed by paper

# WHAT IS IN OUR WASTE?

## Municipal Commercial Waste Stream



# HOW DO WE COMPARE?

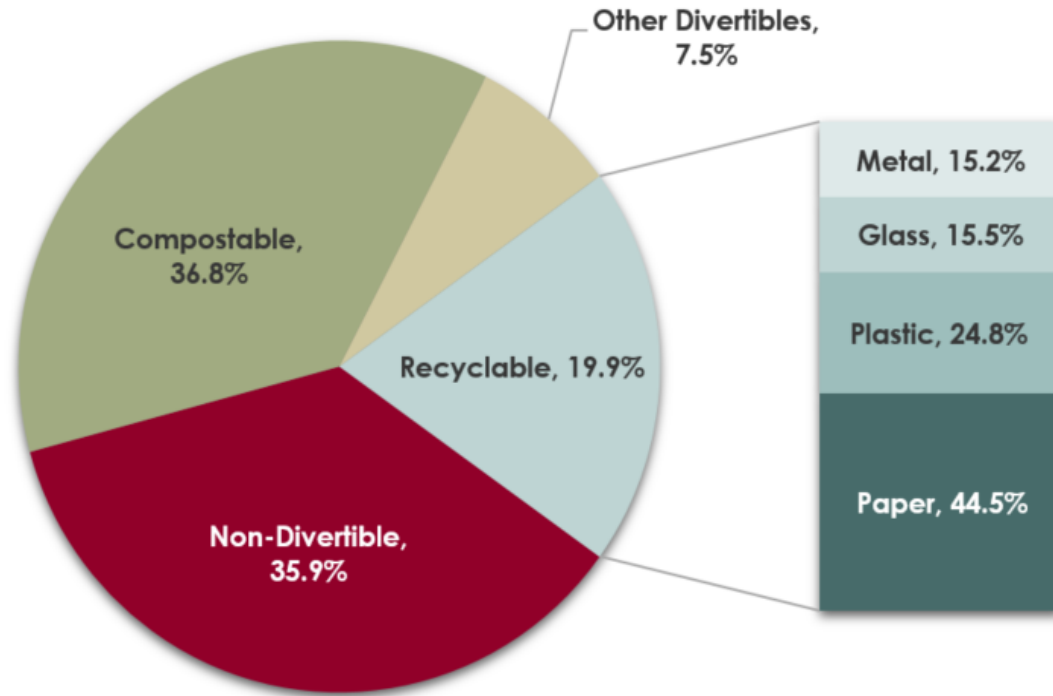


- **Organics, paper, and plastics** make up over 70 percent of waste across Buncombe County
- Residential groups dispose a higher proportion of **plastics and yard waste**
- Commercial waste in Asheville comprises the highest proportion of **paper**
- Commercial waste from unincorporated Buncombe comprises 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?

County and City Overall



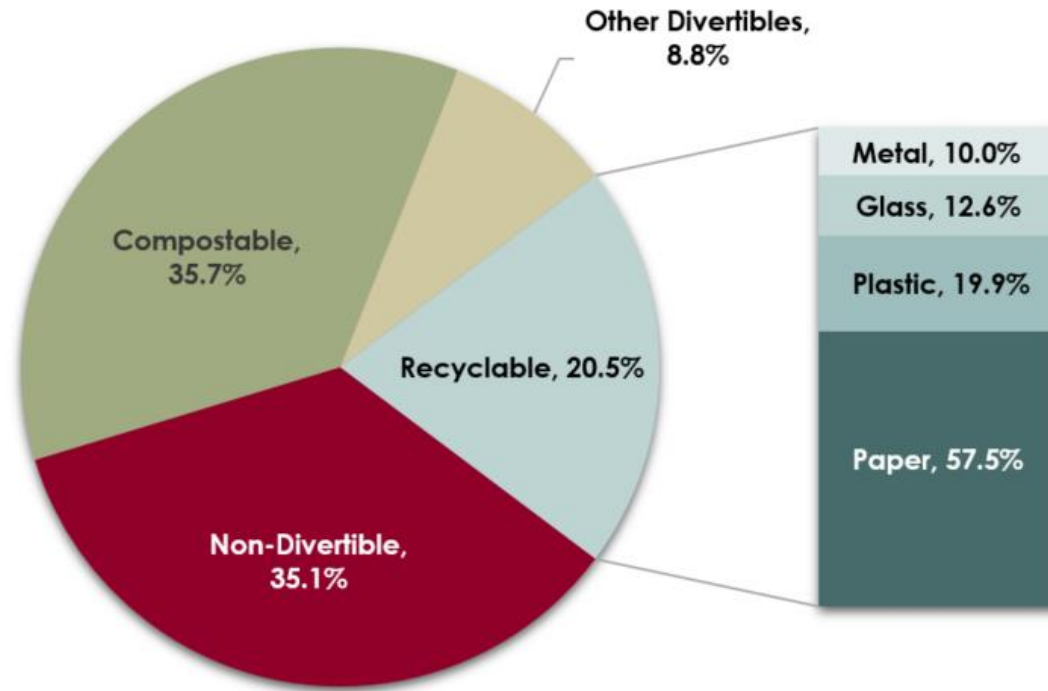
- Paper makes up nearly half of the recyclables from residential routes
- Plastics comprise about a quarter
- Overall, the County is able to divert ~20% of its waste material with infrastructure already in place





# HOW MUCH RECYCLING IS IN COMMERCIAL WASTE?

County and City Overall

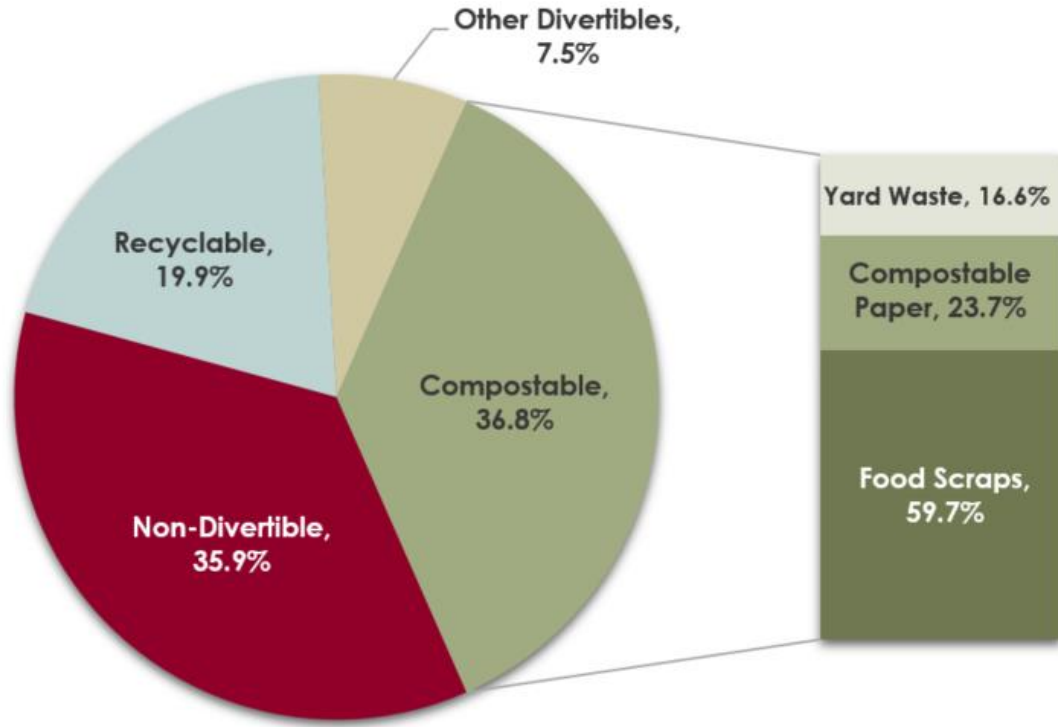


- Paper comprises over half of commercial recyclables
- Plastics make up about one fifth of the commercial waste stream
- The County is able to reduce commercial waste by 20% with existing infrastructure
- “Other divertibles” included clothing, electronics, and some HHW



# HOW MUCH COMPOST IS IN RESIDENTIAL WASTE?

County and City Overall

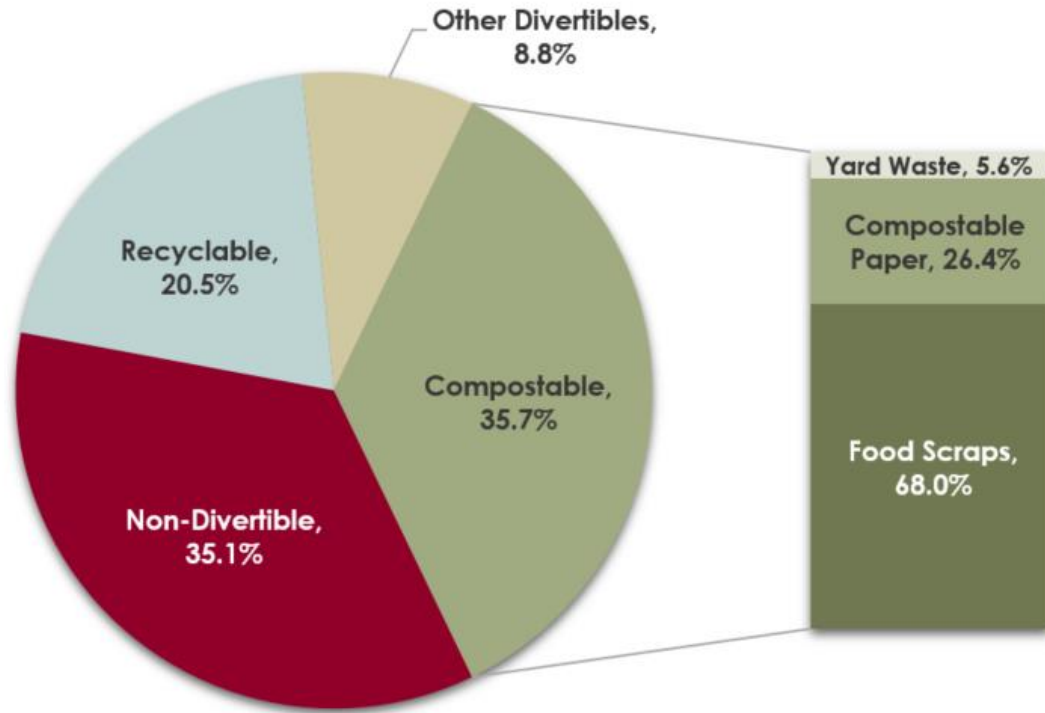


- Overwhelming majority of compostables in the waste stream are food scraps
- Solid Waste is increasing access to residential compost drop-offs
- As we expand, we will need to fortify infrastructure



# HOW MUCH COMPOST IS IN COMMERCIAL WASTE?

County and City Overall



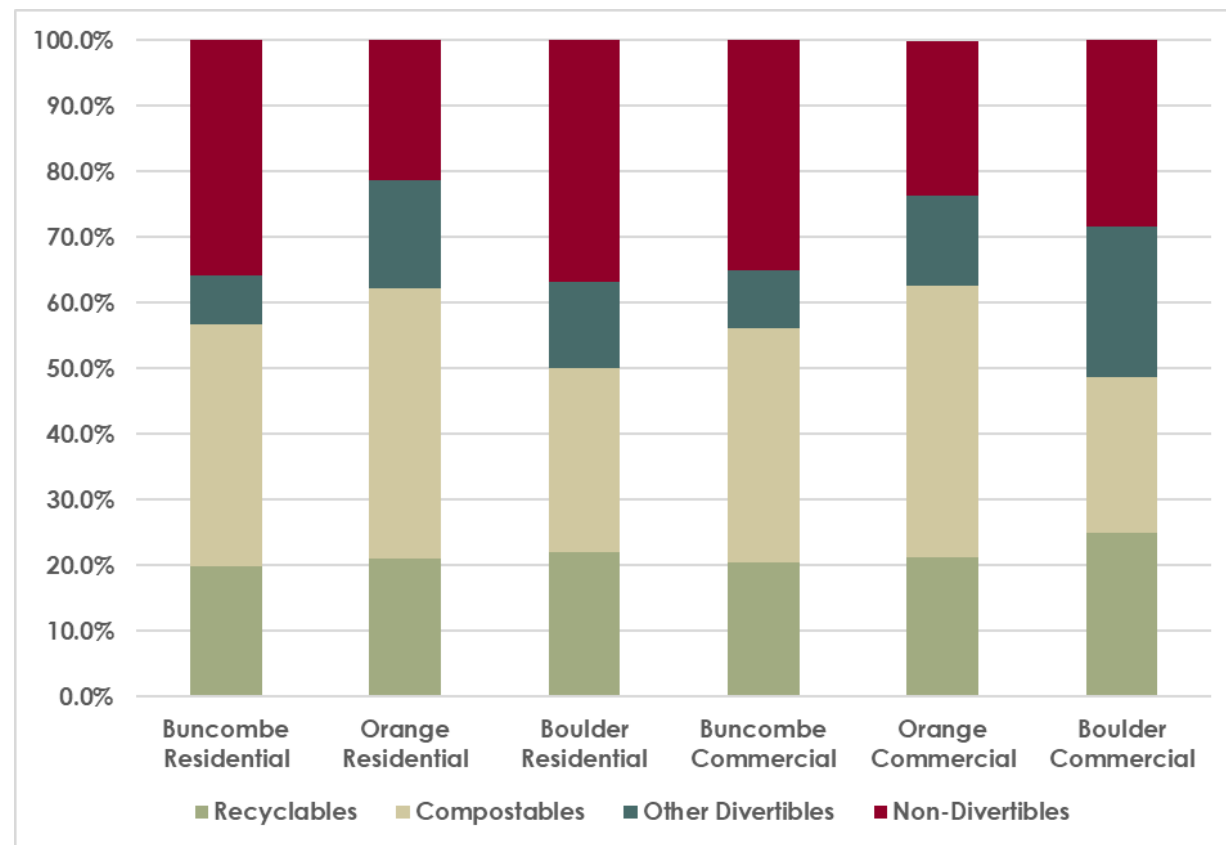
- Almost 70% of compostables are food scraps, making up a higher proportion of commercial compostables than residential
- The majority of this waste stream is from restaurants/grocery stores



# HOW DOES BUNCOMBE COMPARE?

County	Population	Annual Waste Tonnage
Orange	151,676	96,571
Boulder	350,000	234,216
Buncombe	275,678	305,059

- 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







# 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

-  Existing curbside program
-  Existing drop-off program

