Up to 40%

Of all food goes uneaten – enough to feed 164 million people
From farm to fork: consumers and consumer-facing businesses account for 83% of food waste.
Why Cities?

LESS WASTED FOOD

= 

LESS WASTE MANAGEMENT  +  MORE FOOD RELIEF  +  ALLEVIATED CLIMATE IMPACTS
EXPANDED FOOD RESCUE EFFORTS WITHIN EACH CITY COULD POTENTIALLY HELP MEET AN ADDITIONAL

46% IN DENVER
48% IN NASHVILLE
23% IN NEW YORK

ANNUAL FOOD NEEDS
$200,000 grant funding 21 local non-profits and businesses, whose ongoing work will contribute to the achievement of our goals to reduce food waste in Denver and Baltimore.
Perceptions of Food Waste Findings

• ½ of respondents feel less guilty about wasting food if it is composted.

• 70% of respondents sometimes save leftovers even if they think they will not be eaten.

• No link between wasted food generation and households that know about the issue of wasted food versus households that do not know about the issue of wasted food.

• Using to shop for food more than once per week was linked with wasting more food per capita.
Surveying Denver Households

Total wasted food (average): 6.5 pounds/household/week

Edible wasted food (average): 66% of wasted food total

Most wasted food: 25% inedible, fruit/vegetables edible 29%, 19% edible leftovers

In Denver, 70% of the contents of compost bins collected were yard waste
Common Barriers

- ACCESS TO BASIC DATA
- LACK OF CAPACITY
- KNOWING WHERE TO START
Four main tactics make up the Food Matters’ cities strategic vision:

1. Rethink the nature of the problem
2. Prevent food from being wasted
3. Rescue surplus food for the community
4. Recycle food scraps

Always in that order.
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DENVER’S WASTE SYSTEM

Research and Context
Denver Food System

- 2,221 Firms (2014)
- 55,990 Jobs (2015)
- $6,960,765,373 Total Economic Activity (2013)
- $312,002,066 Tax Revenue (2013)

18% of Colorado Food System is located in Denver

The Denver food system makes up 6% of Total Economic Activity in Denver
PRIORITY R3. Reduce amount of food going to waste: 57% reduction tons of food waste collected

- Support consumer education for home food waste
- Expand business food waste prevention and expanded food donation by restaurants, retailers, institutional food service, distributors, and food processors
- Connect seconds and other food waste from Colorado farms to value-added food manufacturing and green businesses
- Invest in hunger relief efforts and infrastructure required to rescue fresh and healthy foods
- Expand residential and commercial composting to reduce bulk and emissions at landfills
- Continue full implementation of solid waste master plan program and policy initiatives
Less than 3% of residents use city composting

Sustainability Goal: 2020 goal of recycling and composting 34%, 21% in 2017

No service for commercial and larger residences
Denver Baseline Research: Rescue

- Building a unified voice and culture of collaboration among rescuers and “last-mile organizations.”
- Improving the quality and usability of donated foods used by shelters, soup kitchens and other LMOs that operate meal programs.
- Increasing LMO capacity for paid staff and systemwide efforts to attract, train and retain qualified volunteers.
- Innovation in end-user delivery.
 Denver Baseline Research: Recycling

- 68 to 81% of the total residential and commercial organics (not including industrial / agricultural) materials processed in the state are processed w/in 50 miles of Denver.
- Low market demand for finished compost
- Landfill fees are low, compost high
- Contamination of streams is high
- Studying Pay-As-You-Throw system
Denver Metrics & Data

310 to 1,456 metric tons CO$_2$/Year could be avoided in Denver

Public Health Inspections: # of restaurants inspected, pounds wasted change annually.

Consumer Education

Restaurant Challenges

Composting & Composting Education

NRDC is developing guidance on metrics
Denver’s Approach to Tackling Food Waste

PROJECT LEAD: NRDC
Denver Dept of Public Health & Environment

PROJECT PARTNERS: Denver Public Works

PROJECT STRATEGIES:

2018
- Deliverable: Wasted Food Prevention
  - Consumer education
  - Business engagement
  - Health inspector education

2019
- Deliverable: Surplus Food Rescue
  - Food donation policy change
  - Business engagement
  - Philanthropic investment to reach food donation potential

2020
- Deliverable: Food Scrap Recycling
  - Sustainability plan for residential composting
  - Sustainability plan for commercial composting pilots
Questions?

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Tackling Food Waste in Denver, USA

Lesly Baesens
Food Waste Recovery Program Administrator
Three-Pronged Approach

- Prevent
- Rescue
- Recycle

Food Recovery Hierarchy:
- Source Reduction: Reduce the volume of surplus food generated
- Feed Hungry People: Donate extra food to food banks, soup kitchens, and shelters
- Feed Animals: Divert food scraps to animal feed
- Industrial Uses: Provide waste oils for rendering and fuel conversion and food scraps for digestion to recover energy
- Composting: Create a nutrient-rich soil amendment
- Landfill/Inclination: Last resort to disposal
Prevent

• Engage with businesses:
  o Restaurant food waste reduction pilot
  o Add food waste reduction requirements in green certification business program
Prevent

• Changing Consumer Behavior by Conducting Education Campaigns:
  • Engage community groups to spread the word about food waste
  • Explore partnerships with grocery stores to provide info to shoppers.
Rescue

• Engage with the Food Rescue Community:
  o Convene donors, food banks, and recipients to figure out how to rescue more food.

Wedontwaste.org
Rescue

• Educate Food Business
  o Food inspectors clarify food donation guidelines.
  o Educate restaurants around liability protection.
Recycle (Compost)

- Increase Number of Residents Who Compost:
  - Engage neighborhood organizations on getting residents to sign up for compost.
  - Educate residents on proper composting: 
    https://denver.recycle.game/
Recycle (Compost)

- Implement zero-waste policies:
  - Roll-out volume-based pricing
  - Explore feasibility of requiring the use of city compost on city properties.
Ensuring Longevity

• Create long-term funding strategy to ensure project moves forward beyond grant.
  o explore funding opportunities in philanthropic and business sector.
Questions?

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BALTIMORE’S WASTE SYSTEM

Research and Context
Baltimore, Maryland, USA
Rethink
## Food Waste Reduction Goals

<table>
<thead>
<tr>
<th>Sector</th>
<th>Target</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>All of Baltimore City</td>
<td>50% reduction</td>
<td>2030</td>
</tr>
<tr>
<td>Commercial sector</td>
<td>50% reduction</td>
<td>2040</td>
</tr>
<tr>
<td>Higher Education</td>
<td>100% diversion</td>
<td>2040</td>
</tr>
<tr>
<td>K-12 Schools</td>
<td>90% diversion</td>
<td>2040</td>
</tr>
<tr>
<td>Residential</td>
<td>80% diversion</td>
<td>2040</td>
</tr>
</tbody>
</table>
Food Insecurity in Baltimore

150,000 are food insecure

22.2% of population
  (vs. 12.9% nationally)

Gap = 24 million meals year
Hierarchy to Reduce Food Waste and Grow Community

**Source Reduction**
- Prevention. Do not generate food waste in the first place! Reduce portions, buy what you need, and organize your fridge for optimal food usage.

**Edible Food Rescue**
- Feed hungry people. Divert food not suitable for people to animals such as backyard chickens or to local farmers' livestock.

**Home Composting**
- Composting in backyards or in homes. Avoid collection costs!

**Small-scale, Decentralized**
- Onsite composting or anaerobic digestion, and community composters can accept material from off-site or simply process their own material.

**Medium-scale, Locally-Based**
- Composting or anaerobic digestion at the small town or farm scale. These systems handle typically between 10 and 100 tons per week and are designed to serve small geographic areas.

**Centralized Composting or Anaerobic Digestion**
- Facilities serving large geographic areas that typically handle more than 100 tons per week. Material generally leaves the community in which it is generated.

**Mechanical Biological Mixed Waste Treatment**
- Mixed garbage is mechanically and biologically processed to recover recyclables and reduce waste volume and the potential for methane emissions before landfill disposal.

**Landfill and Incinerator**
- Food waste should be banned from landfills and trash incinerators due to their high capital costs, pollution, and contribution to greenhouse gas emissions.
PREVENT
SAVETHEFOOD

NINETY PERCENT
OF FOOD IN AMERICA IS WASTED.

FOURTY PERCENT
OF FOOD IN AMERICA IS WASTED.

EACH OF US
THROWS NEARLY 100 POUNDS OF
FOOD EVERY YEAR.

FOOD LASTS LONGER THAN WE THINK.

TRASHING ONE EGG WASTES
55 GALLONS OF WATER

BEST IF USED.

MEAL PREP MATE
RESCUE
Food Rescue Baltimore
RECYCLE
Multi-Sector Engagement

**Residential**
- Farmers market collection
- Urban farms and community gardens
- Community centers

**K-12 Schools**
- Food waste reduction workshops
- Food waste pilots in elementary and high school

**Commercial**
- Training and education
- Supporting hauling contracts
- Zero waste chefs
Community Composting
TRACK
Residential Waste Sort

- Food Scraps
- Mixed Paper
- Cardboard
- Glass
- Aluminum
- Mixed Plastics
- Plastic No. 1
- Plastic No. 2
- Ferrous Metal
- Yard Waste and Clean Wood
- Unclassified (Other)

Unclassified materials are those that do not fit in one of the previous 10 categories, are made up of composite materials, or are unidentifiable. Diapers are a good example.