



Food: Too Good to Waste – Successes and Lessons from Communities

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Food: Too Good to Waste – Successes and Lessons from Communities



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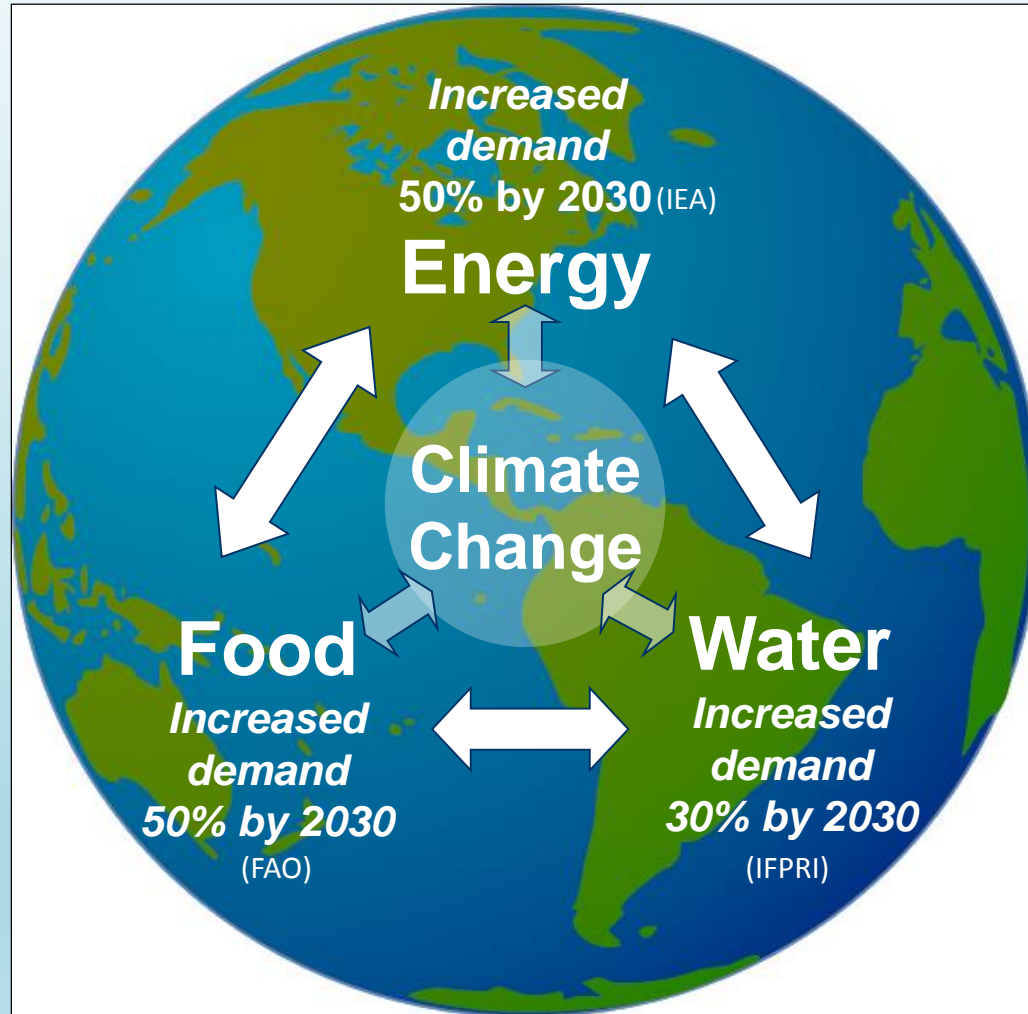
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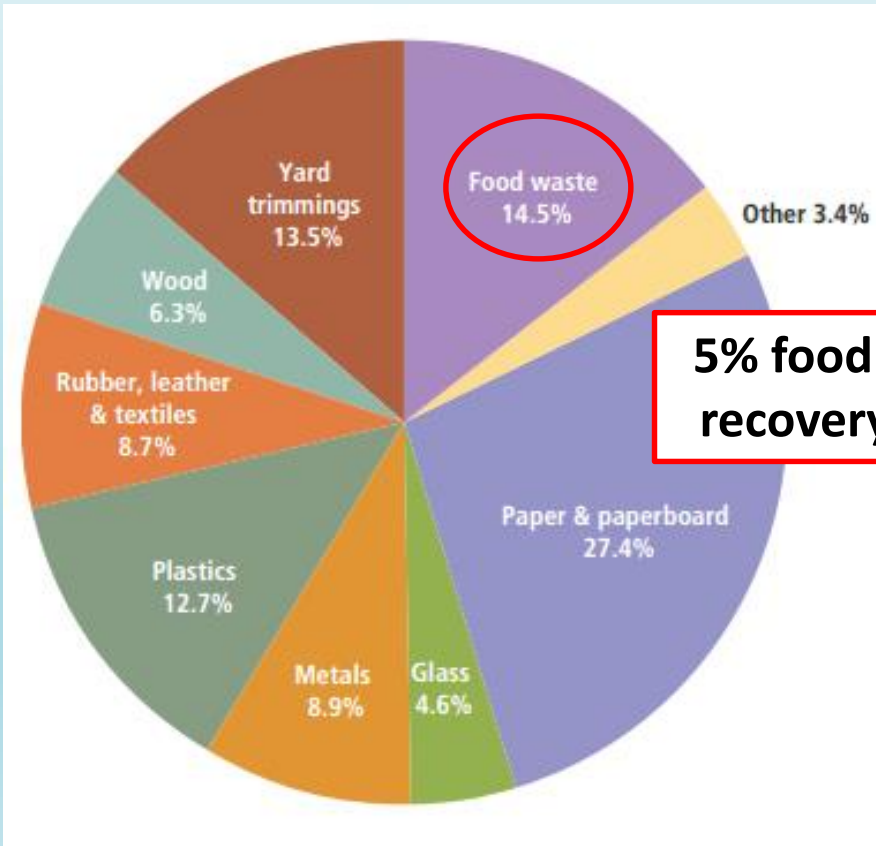
A “Perfect Storm”

One-third
of food is
wasted =
1.3 billion
tons per
year

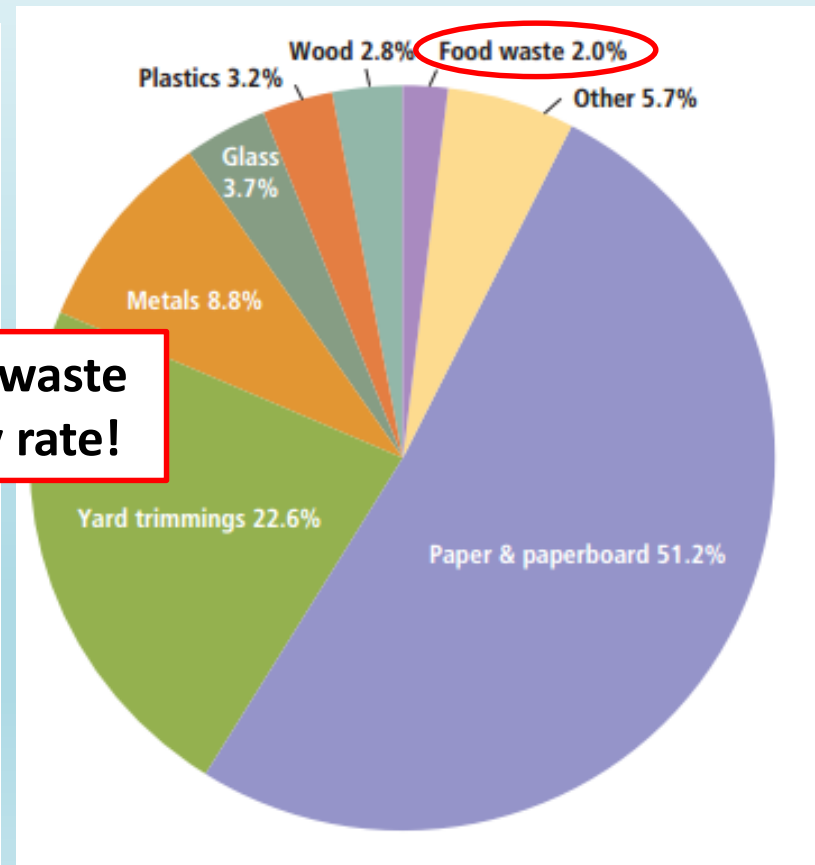


Food waste is the single largest and least recovered waste stream in the U.S.

Total MSW Discards (by material), 2012
251 Million Tons (after recycling and composting)



Total MSW Recovery (by material), 2012
87 Million Tons



5% food waste recovery rate!

The True Cost of Waste

Visible costs

Disposal costs

Invisible costs

Lost materials

Energy cost

Liabilities and risks

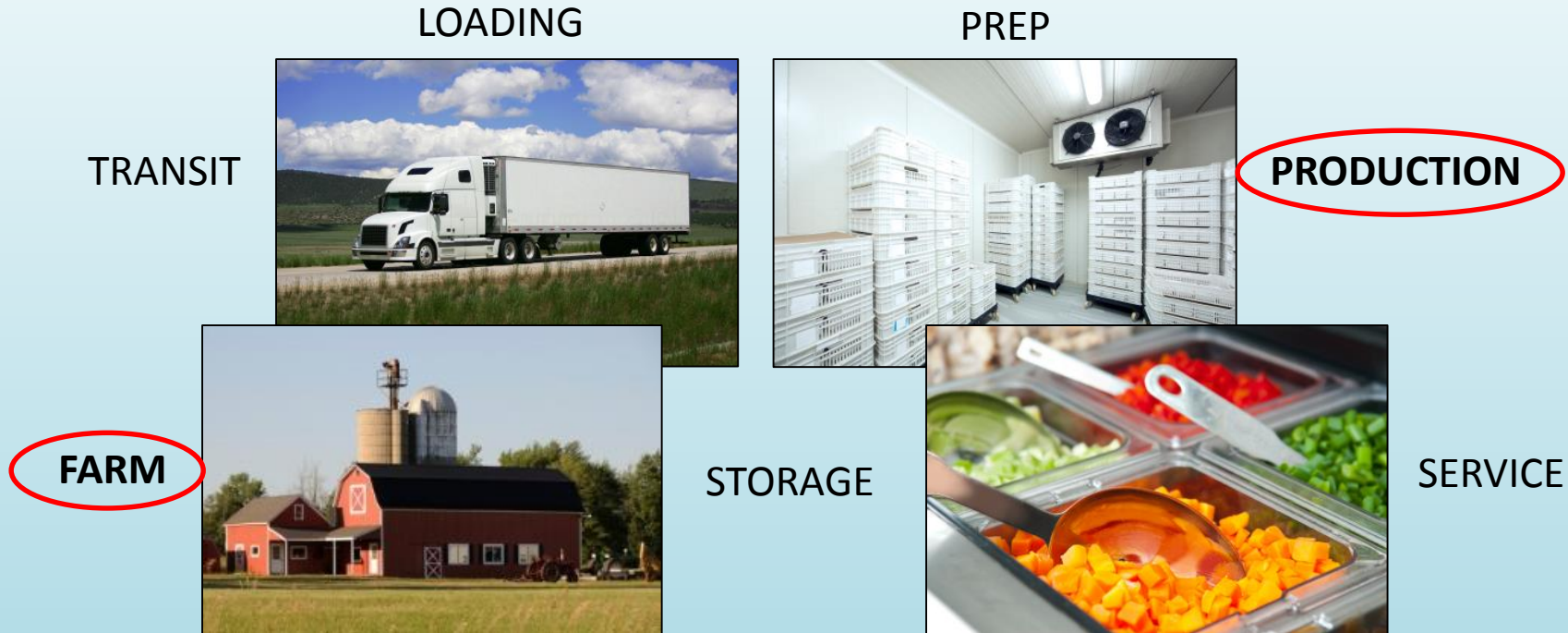
Lost labor

Other costs

*On average,
the true cost of
wasted
materials is
about 10 times
the cost of
disposal*

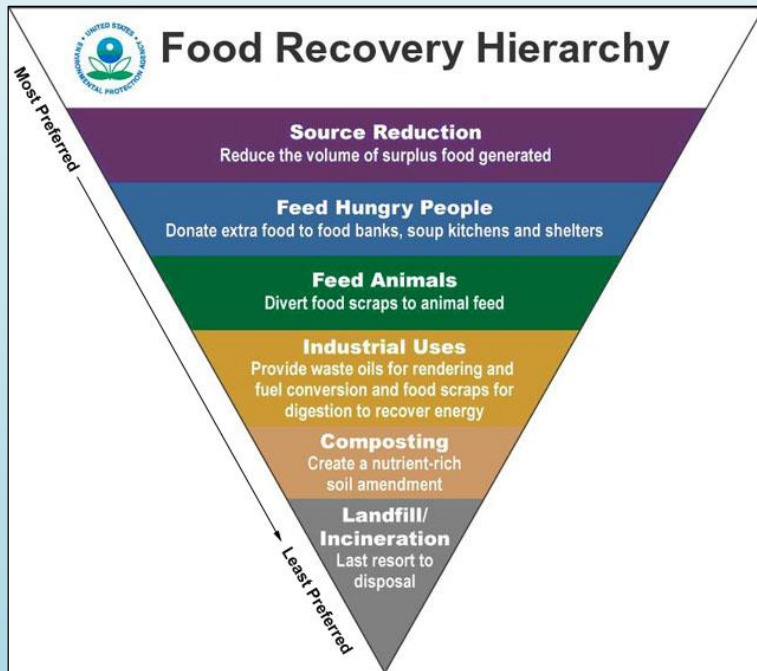
(Hall, PLOS 2009)

Prevention is the Key: Cost Savings and Environmental Impacts



Every food item we throw away results in a large amount of invisible embedded energy and other resources being wasted.

EPA's Sustainable Food Management Program

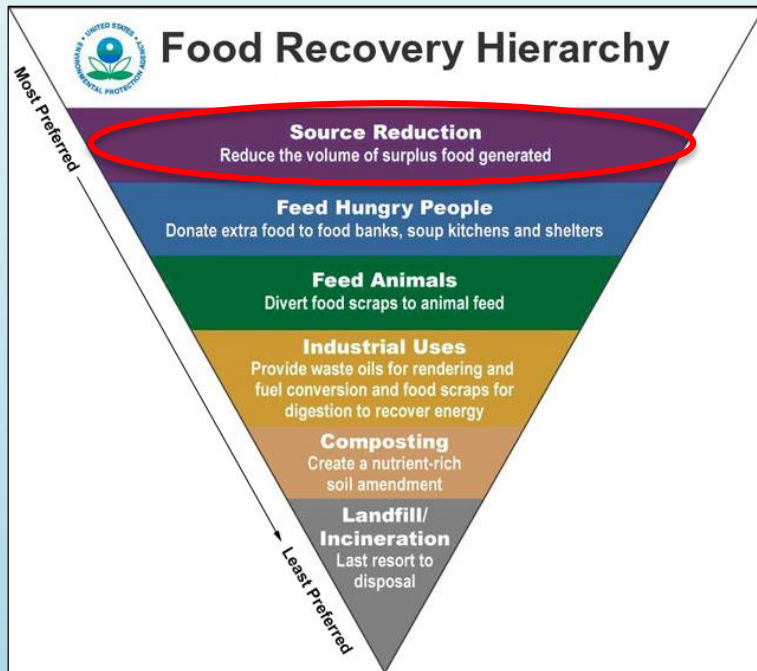


Commercial
Food Recovery Challenge

Residential
Food: Too Good to Waste

www.epa.gov/smm/foodrecovery

EPA's Sustainable Food Management Program



Commercial
Food Recovery Challenge

Residential
Food: Too Good to Waste

www.epa.gov/smm/foodrecovery

Food: Too Good to Waste

Goal: To prevent household wasted food

- **Main message:** *Food is too essential to throw away.*
- **Implementation guide**
- **Message map**
- **Behavior change tools**, including:
 - fruit and vegetable storage guide
 - shopping list template with meals in mind
 - “eat first” refrigerator prompt
- **Outreach Tools**, including:
 - infographic/poster
 - factoids across the supply chain
 - workshop presentation for community participants

CBSM \neq Dropping flyers



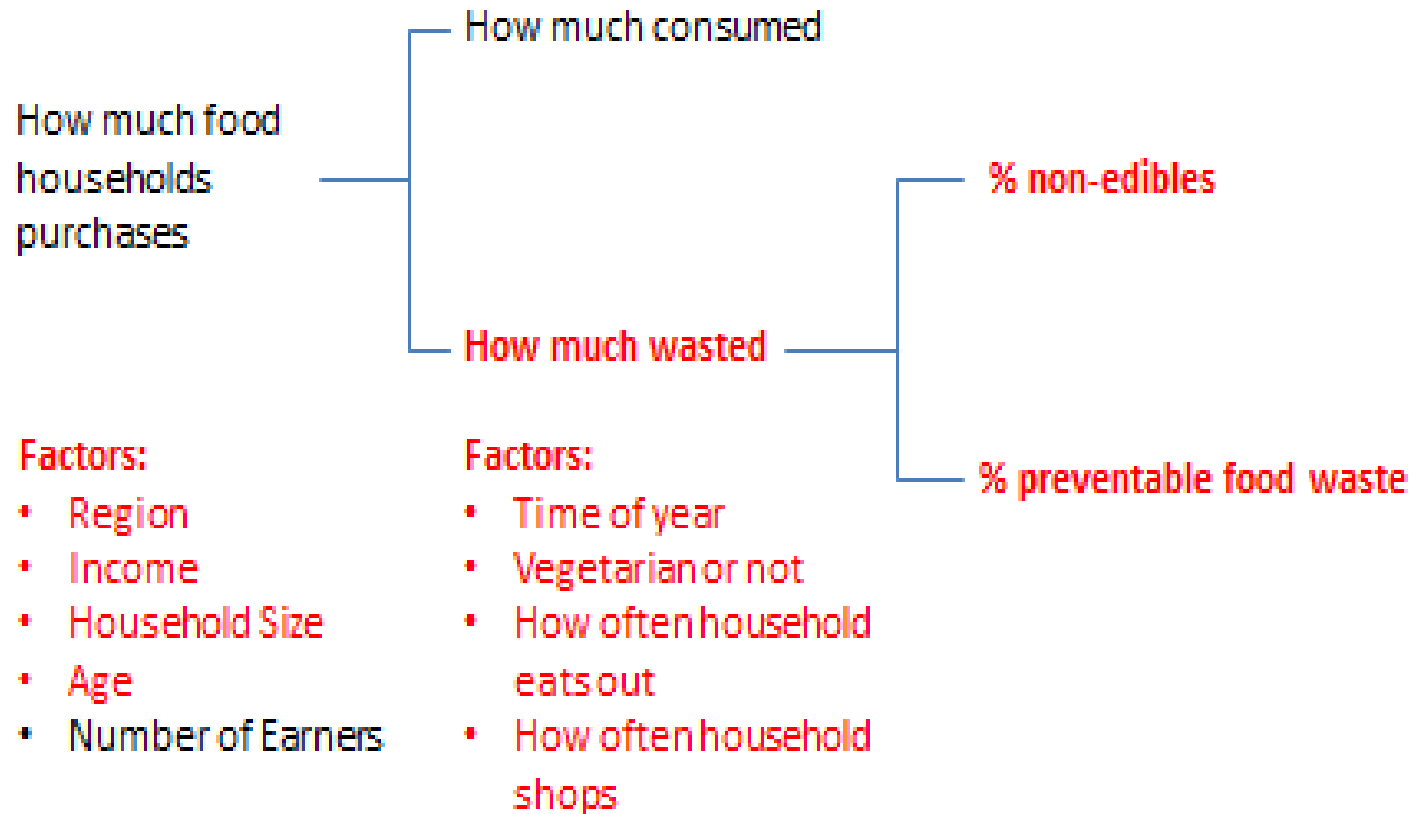
5 Key Behaviors

- **Get Smart:** See how much food (& money) you're throwing away
- **Smart Shopping:** Buy what you need
- **Smart Storage:** Keep fruits and vegetables fresh
- **Smart Prep:** Prep now, eat later
- **Smart Saving:** Eat what you buy



Can save a family of four about \$1 600 per year!

Figure 8: Calculating Impact: What is the percentage reduction in wasted food (by weight)?



Source: West Coast Climate Forum FTGTW Program Evaluation

Community Events



Research Objectives

- Reach and Effectiveness
- Impact

**For updates on the evaluation, submit
your contact info here:**

<http://bit.ly/FTGTWeval>



Questions?



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Opportunities for Your Organization

Cities and States

- May sign up to endorse EPA's [Food Recovery Challenge](#) (commercial focus) AND implement Food: Too Good to Waste (residential focus) with local businesses and technical assistance providers

Colleges and universities

- May integrate information to support sustainability programs aimed at the young adult demographic.

Community groups or non-profits

- Outreach through their social networks, or combine with a community challenge.

Grocers, Restaurants, and other businesses

- May assist with outreach and provide incentives

Farmers Markets, CSA, and municipal waste management companies

- Likely partners for implementation

What's New?

Annual Meeting

Join Us! / Login

Search

Food: Too Good To Waste *Keep your food (and money) out of the trash!*

- [Food: Too Good To Waste Home](#)
- [Learn About Wasted Food](#)
- [Waste Less Food at Home](#)
- [See What Other Communities Are Doing!](#)
- [Get Your Community Started!](#)
- [Acknowledgements](#)



Why it Matters

Whether it's moldy cheese, limp celery, or long lost leftovers in the back of the fridge, chances are you've wasted food this week. And you're not alone. Americans waste about 25% of all food purchases, but communities, families and individuals are working to toss less by making small shifts in how they shop, prepare, and store food.

The average family could save over \$30/week (\$1,600 a year) using this toolkit. When we throw away food, we're also wasting all the water, energy and other resources used to produce, package and transport food to our plates.

Food is wasted when we:

- Buy more than we need
- Store it incorrectly
- Throw away leftovers
- Cook too much
- This toolkit includes strategies and tools that have been linked to a 25% reduction in household wasted food among pilot participants.

The best results come when a group or community of households use it together.

Who can use the Toolkit?

- This toolkit is designed for families and individuals to reduce wasted food at home.
- You can increase your impact by joining with your community or a group of households.
- Cities, schools, and parents groups have all used it.
- Government or community groups interested in hosting a campaign, can find resources on our [Get Your Community Started](#) page.



NRDC "Wasted" Report



Next Webinar:

Community Based Social Marketing

When: March 24, 2015, 9:30-11 am PST

- **Speakers:**

- Amanda Godwin, Colehour + Cohen
- Community Case Studies, (TBA)

- Register online: bitly.com/mar15webinar



We value your feedback!

3-5 minute evaluation will be sent
out in the follow-up email

westcoastclimateforum.com



FTGTW Evaluation Findings

FEBRUARY 10, 2015

PRESENTED BY: DR. VIKI SONNTAG

FTGTW Purpose

- By making small shifts in how you shop, prepare and store food, you can waste less, save money, and keep the valuable resources used to produce and distribute food from going to waste.
- Develop and test a Community-based Social Marketing (CBSM) approach to reducing household food waste and its associated impacts.
 - CBSM is an approach to driving behavioral change through community initiatives that remove barriers to desired behaviors, while simultaneously enhancing those behaviors' advantages.
 - A CBSM campaign typically consists of: Outreach strategies and tools; messaging; and behavior change tools.

Evaluation Objectives

Primary

Reach and Effectiveness: Determine if FTGTW strategies and tools resulted in desired behavior changes.

Impact: Determine impact of behavior changes in terms of percentage waste reduction.

Secondary

Campaign Implementation Costs: Determine the cost to implement a campaign.

Environmental Impact: Estimate the environmental benefits of a FTGTW campaign.

Program Fit: Determine the fit of FTGTW with existing strategic plans and programs such as climate protection and healthy food programs.

Overview of Campaigns

Number of Campaigns	17
Time Period & Season	Fall 2012 through 2014; all seasons
Partners	Local solid waste departments and non-profits with broader missions
Location	Rural to urban across country
Project Scale	Small pilots to broad-scale media campaigns
Target Populations	Families with children; young adults; general population
Outreach and Engagement	Means adapted to needs of community and available resources

Behavior Change Strategy and Tool Effectiveness

FTGTW Strategies and Associated Benefits and Barriers

Behavior / Strategy	Benefit	Barrier
Get Smart: See How Much Food (and Money) You Are Throwing Away	Waste aversion	Time Dynamic lifestyle Automatic behavior
Smart Shopping: Buy What You Need	Waste aversion Saving money	Dynamic lifestyle Time Automatic behavior
Smart Storage: Keep Fruits and Vegetables Fresh	Waste aversion Health Saving money	Knowledge Time Not enough room in fridge
Smart Saving: Eat What You Buy	Waste aversion	Gratification Convenience
Smart Prep: Prep Now, Eat Later	Convenience Saving money Health	Skills Knowledge

The FTGTW Challenge



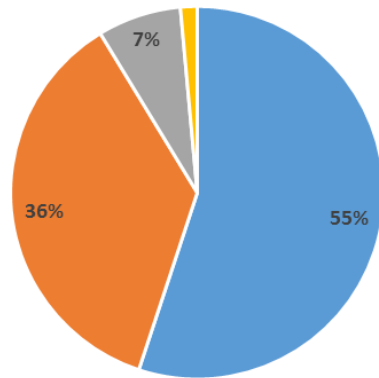
Household Steps

1. Pre-Challenge Questionnaire
2. Baseline Measurement
3. Strategy Implementation
4. Post-Challenge Questionnaire

Increased awareness is likely due to both providing feedback and activating people's natural waste aversion.

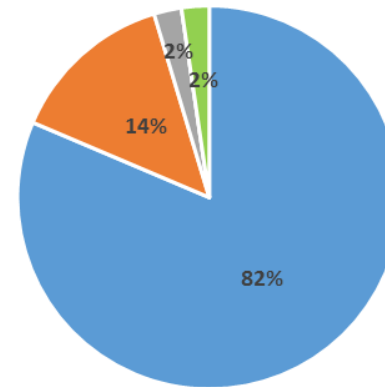
Challenge Effectiveness

Effect on Increasing Awareness of Wasted Food in Household
"I am now more aware of food going to waste in my household"



■ Strongly agree ■ Agree ■ Neutral ■ Disagree ■ Strongly disagree

Likelihood of Continuing to Use Strategies and Tools



■ Agree ■ Somewhat agree ■ Somewhat disagree ■ Disagree ■ Don't know/unsure

Strategy and Tool Effectiveness

Creating awareness is key to long term success.

- There are barriers to taking the Challenge but those who complete it are very motivated to continue behaviors.



Tools reinforce behaviors.

- A tool's design makes a difference.

Campaigns need multiple behavior change tools to target different audiences effectively.

Messaging Effectiveness

Messaging Content

food

- 1- buy it with thought
- 2- cook it with care
- 3- use less wheat & meat
- 4- buy local foods
- 5- serve just enough
- 6- use what is left

don't waste it 8

U.S. FOOD ADMINISTRATION

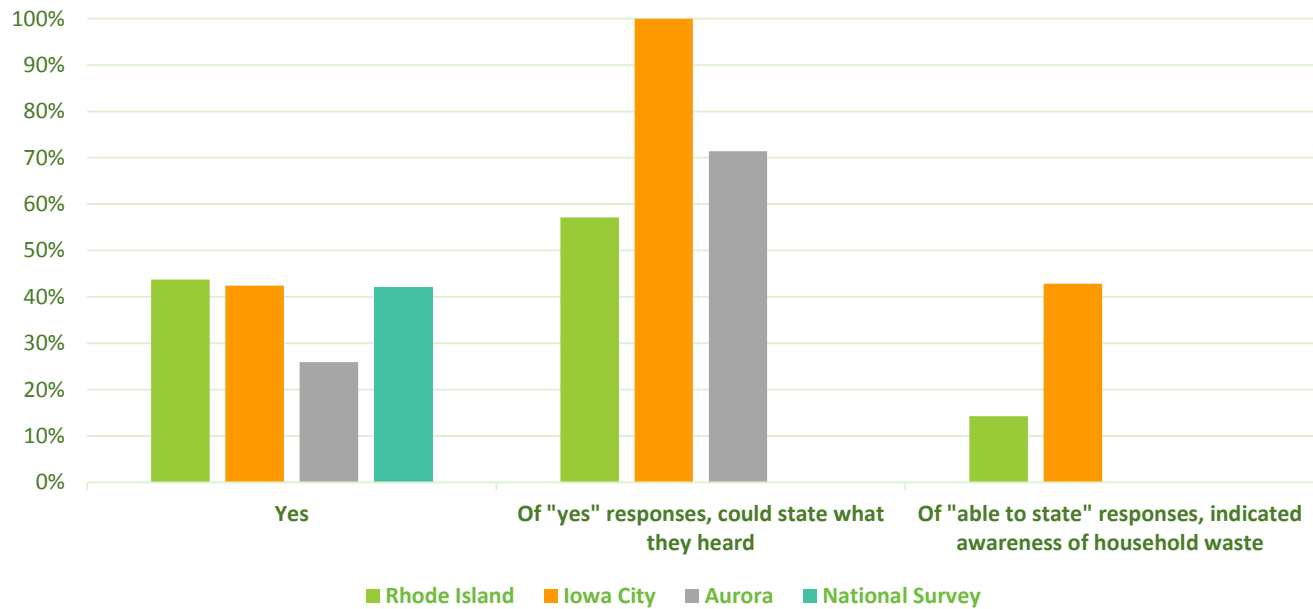


Each apple that's thrown away uses enough water to flush a toilet seven times.

Source: Waste. 2013. UNEP (Video)

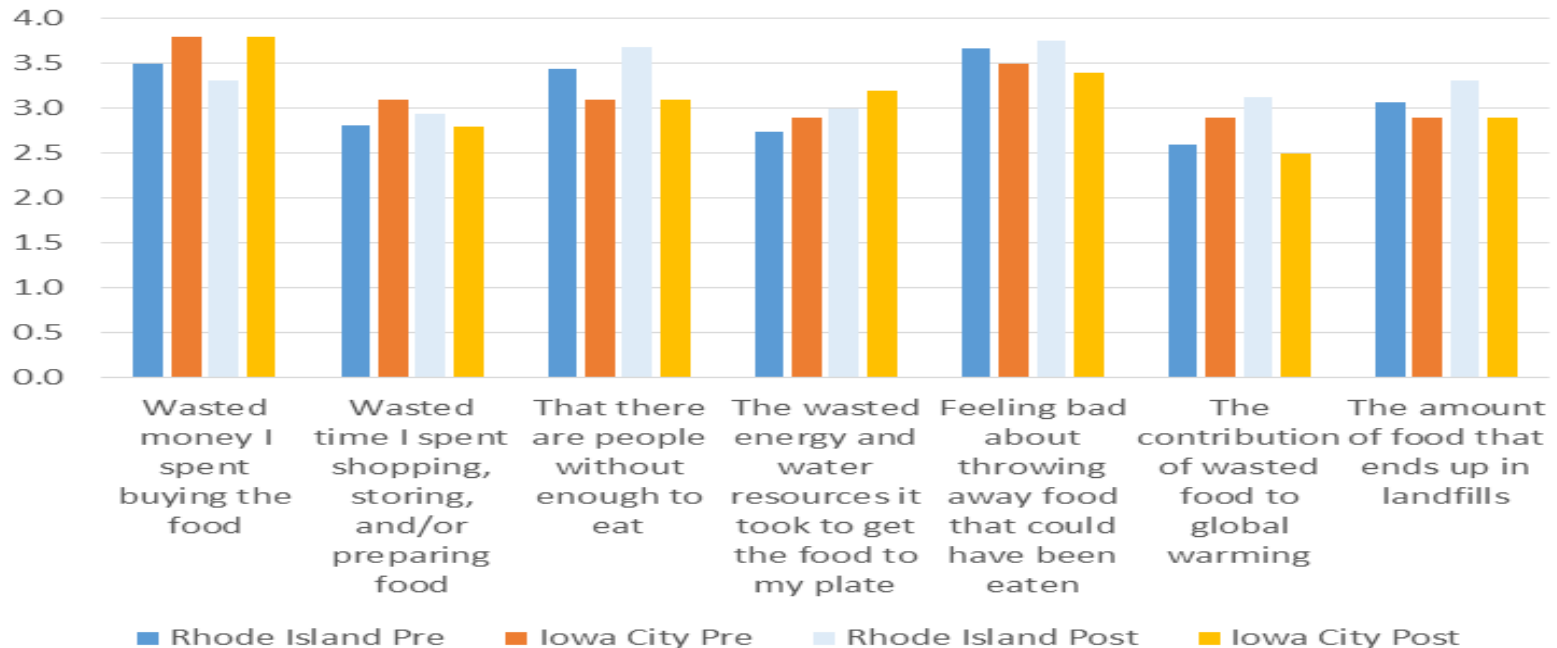
Awareness

Baseline Awareness: In the past year, have you seen or heard anything about the problem of wasted food?



Motivations to Reduce Waste

Motivations to Reduce Wasted Food



Scale: 1 - Not at all; 2 - A little; 3 - A fair amount; 4 - A great deal.

Outreach and Engagement Effectiveness

Outreach & Engagement Tools

Purpose of Tools:

- Leveraging Social Networks
- Creating Social Norms



Gresham, Oregon, Tabling Display



King County, Washington, Tabling Display

Recruitment and Retention

- Campaign volunteers and staff reported lively discussions and expression of interest at tabling events and spirited conversations at workshops.
 - A campaign staff person said that in 10 years of doing community outreach she had never seen such interest in an issue.
 - People expressed gratitude for bringing the issue forward.
- Challenge recruitment success factors include:
 - Direct personal contact
 - Targeted recruitment
- Rule of thumb is to engage early and often

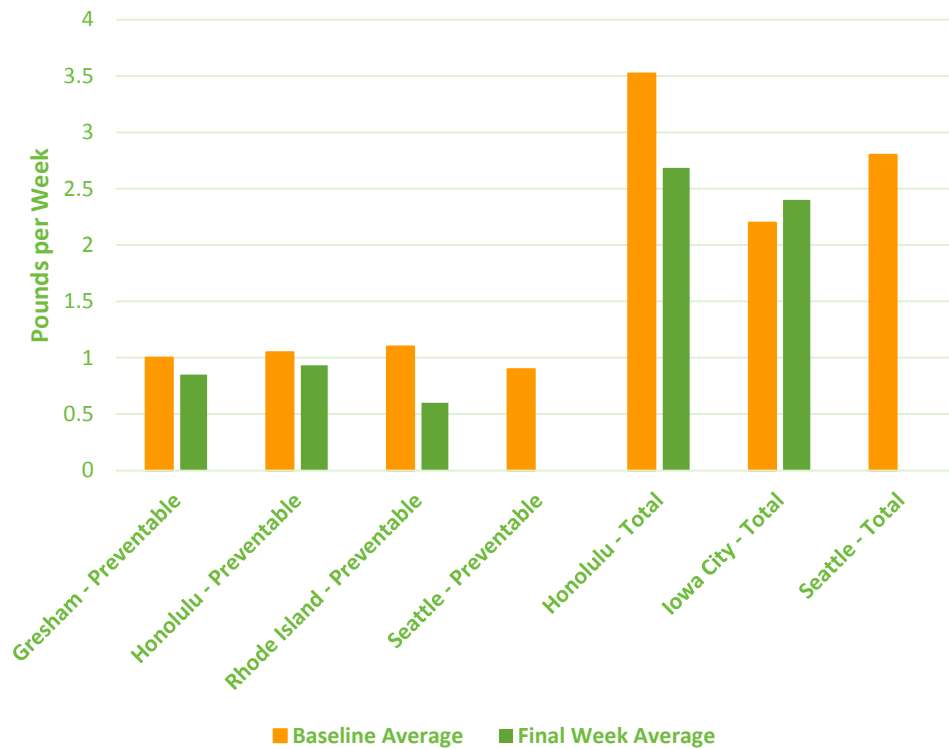
Challenge Implementation Trade-offs

- Preventable vs total fraction - What portions of the food waste stream for which to collect data
- Whether to use volumetric or weight measurements (or both)
- Recruitment vs retention – How long should the Challenge be
- Time of year to conduct a study
- Choice of analysis methodology

Impact

Impact Results

Per Capita Wasted Food Averages by Weight

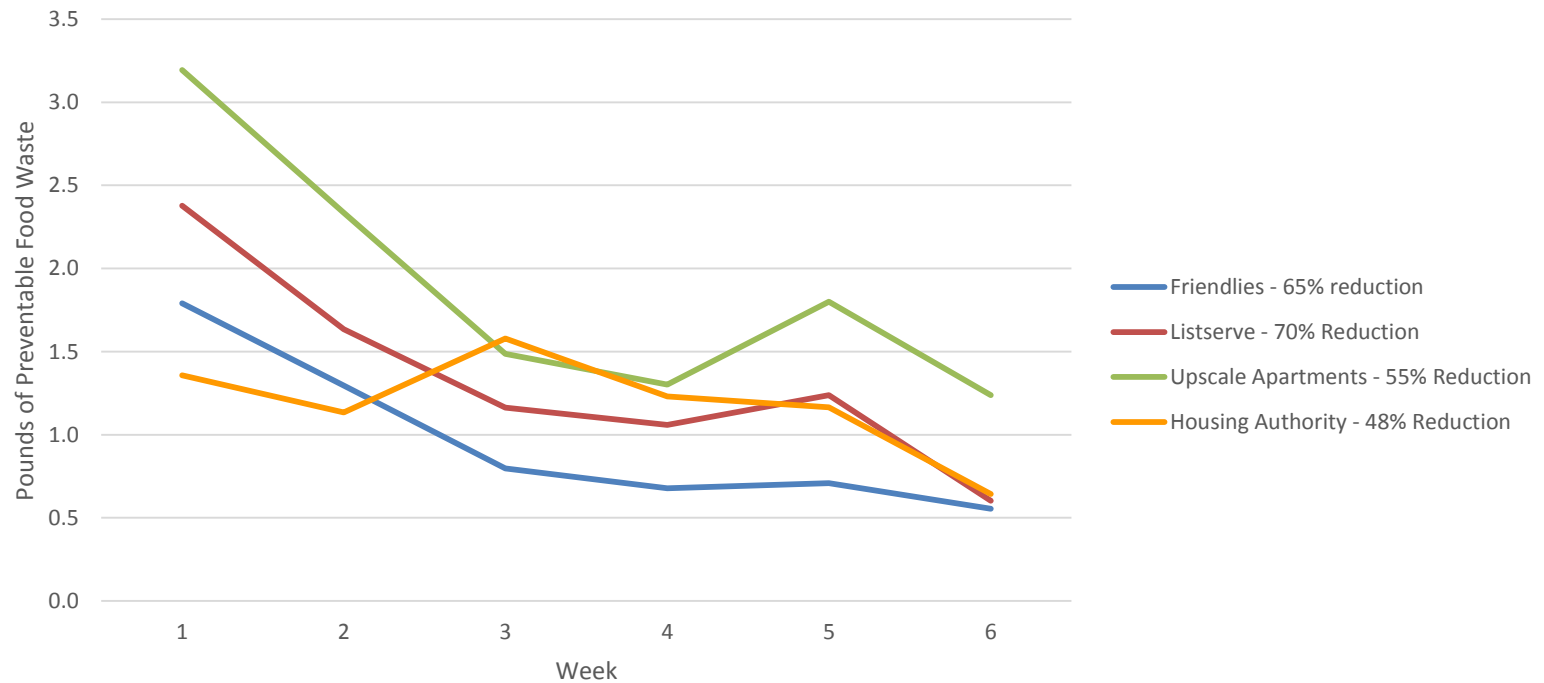


Reduction in Preventable Waste:
 By Weight: -11% to -48%
 By Volume: -27% to -39%

Reduction in Total Waste:
 By Weight: +7% to -30%
 By Volume: +7% to -27%

Impact – Edible Fraction by Weight and Test Group

RIFPC Preventable Food Waste Household Averages by Test Group



Summary Results

Major Findings

- There are strong indications that households have a significant interest in reducing their wasted food.
- FTGTW behavioral changes are relatively easy for households to make.
- Creating awareness is key to motivating people to sustain their behaviors.
- It is possible for households to reduce preventable food waste up to 50% and more by weight.
 - A 50% reduction is roughly a half pound per person per week or 20% of total food waste.
 - In addition, it is likely that the inedible fraction of waste is also reduced as households purchase less food.

Secondary Objectives

Campaign Implementation Costs: Implementation costs ranged from a few thousand dollars for small campaigns to above \$100,000 for broad scale campaigns.

Environmental Impact: Within the scope of our work, it is not possible to estimate the environmental benefits of a FTGTW campaign with any degree of accuracy given the current data sources and life cycle assessment assumptions.

Program Fit: Of the 17 campaigns, most had waste management goals as their primary objective.

- The significant drivers at this time seem to be state level mandates to reduce greenhouse gas emissions such as California's AB 341 or the recently enacted bans on food waste in landfills in Vermont and Massachusetts.
- Several campaigns had a dual objective of waste prevention and increasing composting. The implementation results were mixed. Those that focused on waste prevention as the primary message were more successful than those that tried to integrate the waste prevention messaging into composting programs.

Major Questions

What is the impact of a campaign at the community scale?

What is the ratio of preventable to inedible waste on average?

What percentage of purchases for in home consumption go to waste?

How do we cost effectively scale up campaigns to include direct contact?

What is the necessary level of engagement to sustain behavioral change?

What tools are best for spurring the development of new social norms around wasted food?

THANKS!

A report on the FTGTW evaluation will be issued later this year.

For updates on the evaluation: <http://bit.ly/FTGTWeval>

Other Information Sources on Food Waste Prevention:

- Food Waste: U.S. Consumers' Reported Knowledge, Attitudes, and Behaviors. Forthcoming. Roni Neff et al.
- Spaghetti Soup: The Complex World of Food Waste Behaviors. 2013. Tom Quested et al. In *Resources Conservation and Recycling*.
- West London Food Waste Prevention Campaign Evaluation Report. 2013. Tom Quested and Robert Ingle. WRAP report.



Jen Jordan, Recycling Coordinator

IOWA CITY: SUCCESSES, LESSONS AND NEXT STEPS IN FOOD WASTE REDUCTION

GETTING INVOLVED WITH FTGTW



- ✘ Commercial food waste & composting program
- ✘ Began process in January 2014
- ✘ Presented concept & budget to Public Works Director
 - + Worked with City Refuse division
- ✘ Outlined project goals and plan in April
- ✘ Finalized plan and secured supplies in May
- ✘ Pilot ran June-July

GOALS & OBJECTIVES

- ✘ Teach Iowa City residents what the larger social and environmental impacts are of food waste.
- ✘ Begin to change social norms regarding food/waste and share the new social norm
- ✘ **Gain experience implementing FTGTW** in Iowa to share with
 - ✘ All Iowa City area residents
 - ✘ Iowa Waste Reduction Center's Food Waste Reduction Program
 - ✘ Iowa Recycling Association
- ✘ To reduce the amount of food wasted by pilot families
- ✘ **To utilize the opportunity to pilot a curbside organics collection program**

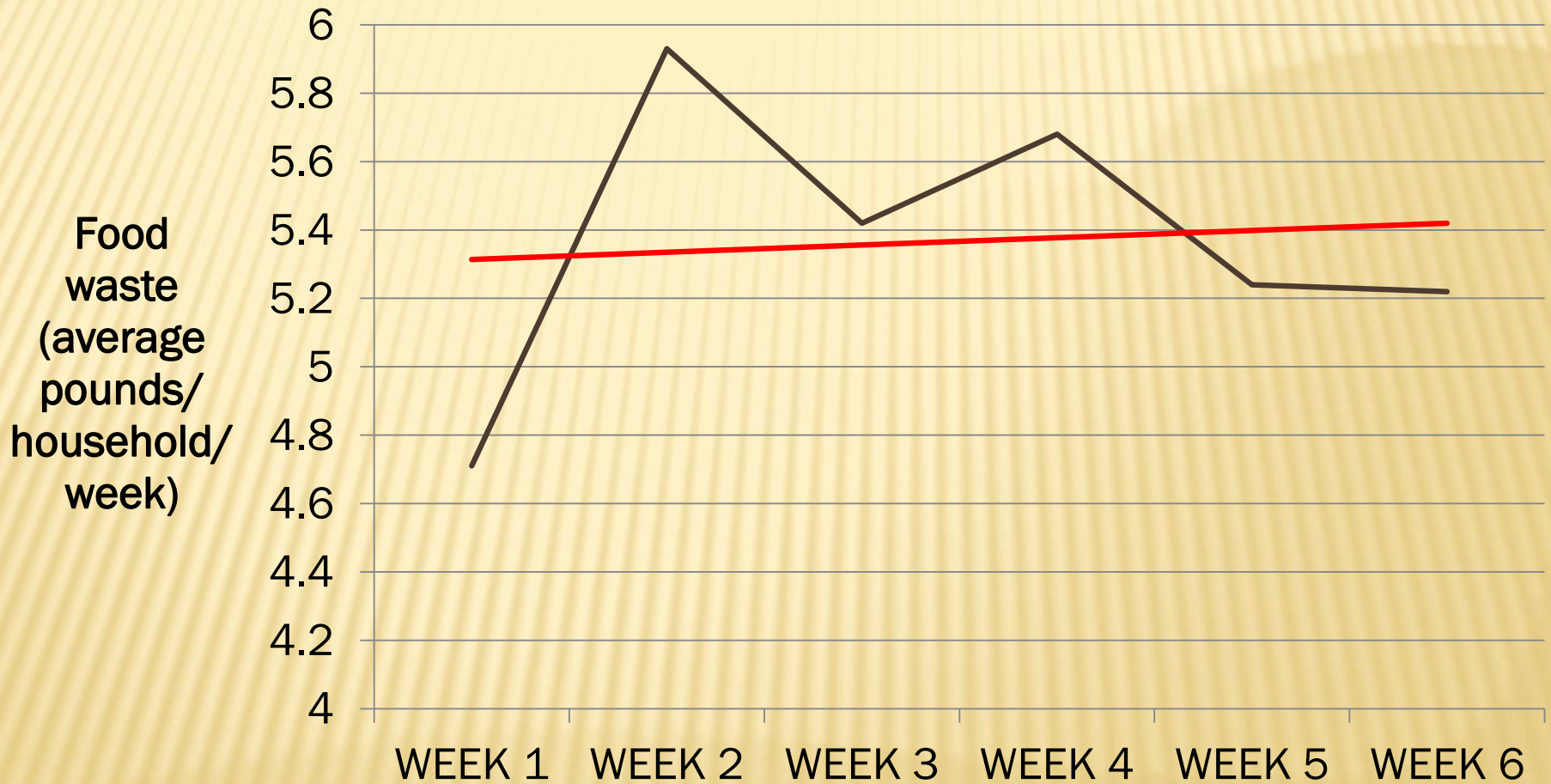
THE PILOT: FTGTW

- ✘ Invited 300 homes in five neighborhoods selected for mix of age and income
 - + Received 52 pre-surveys
- ✘ Open house in each neighborhood provided
 - + Counter top collection bins and bags
 - + Kitchen scale
 - + Information packets
 - + Face-to-face contact

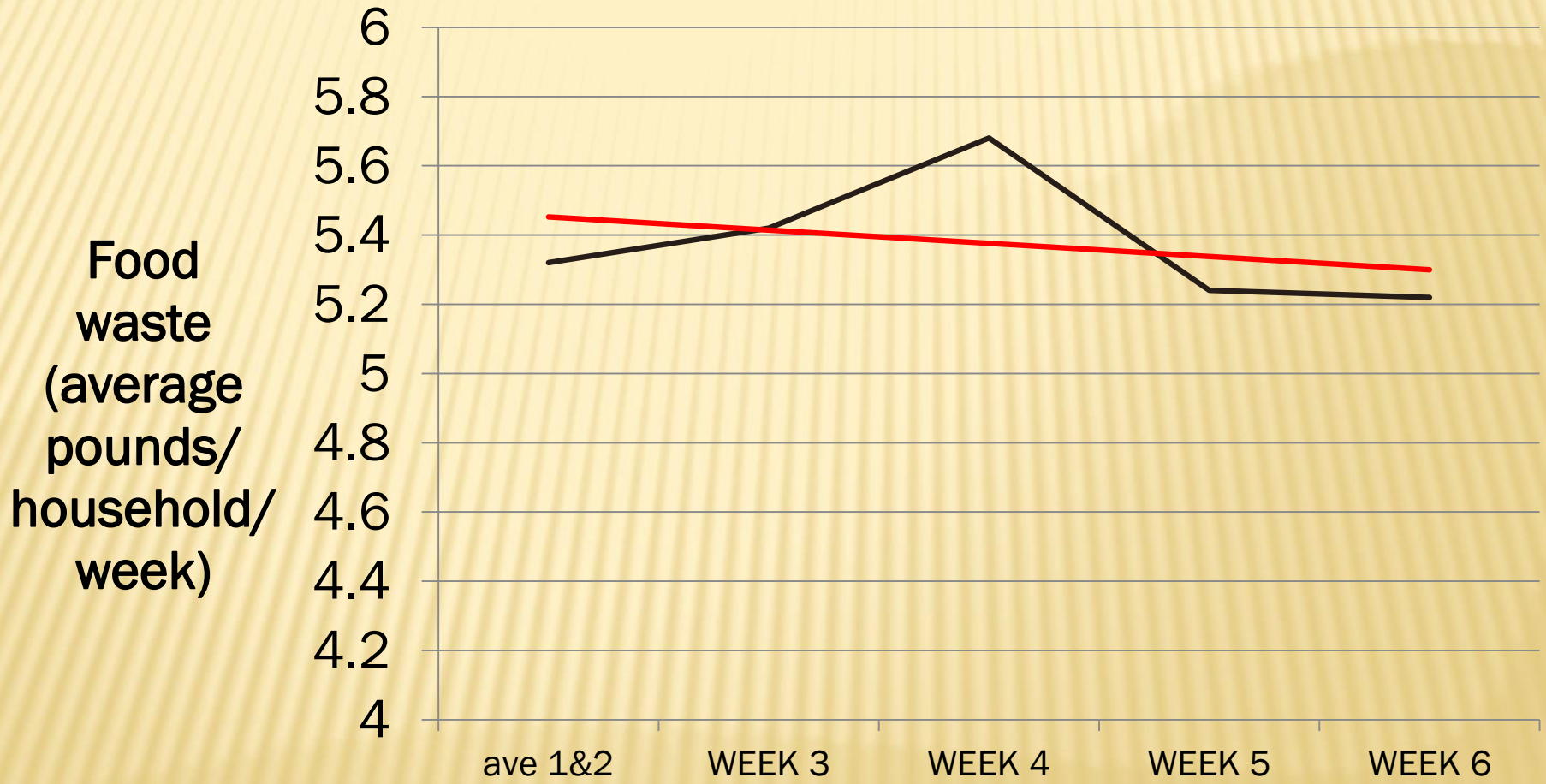
6 WEEKS

- ✘ Measured preventable & inedible waste together
- ✘ 1 week baseline
- ✘ Weeks 2-6
 - + FTGTW strategies
 - + Data collection: weekly weight
 - + Participant feedback
- ✘ Post-survey (received 26/52)
 - + chance to win prizes from New Pioneer Food Co-op

AVERAGE WEEKLY FOOD WASTE MEASUREMENT (1 WEEK BASELINE)



AVERAGE WEEKLY FOOD WASTE MEASUREMENT (AVERAGED WEEKS 1 & 2 FOR BASELINE)



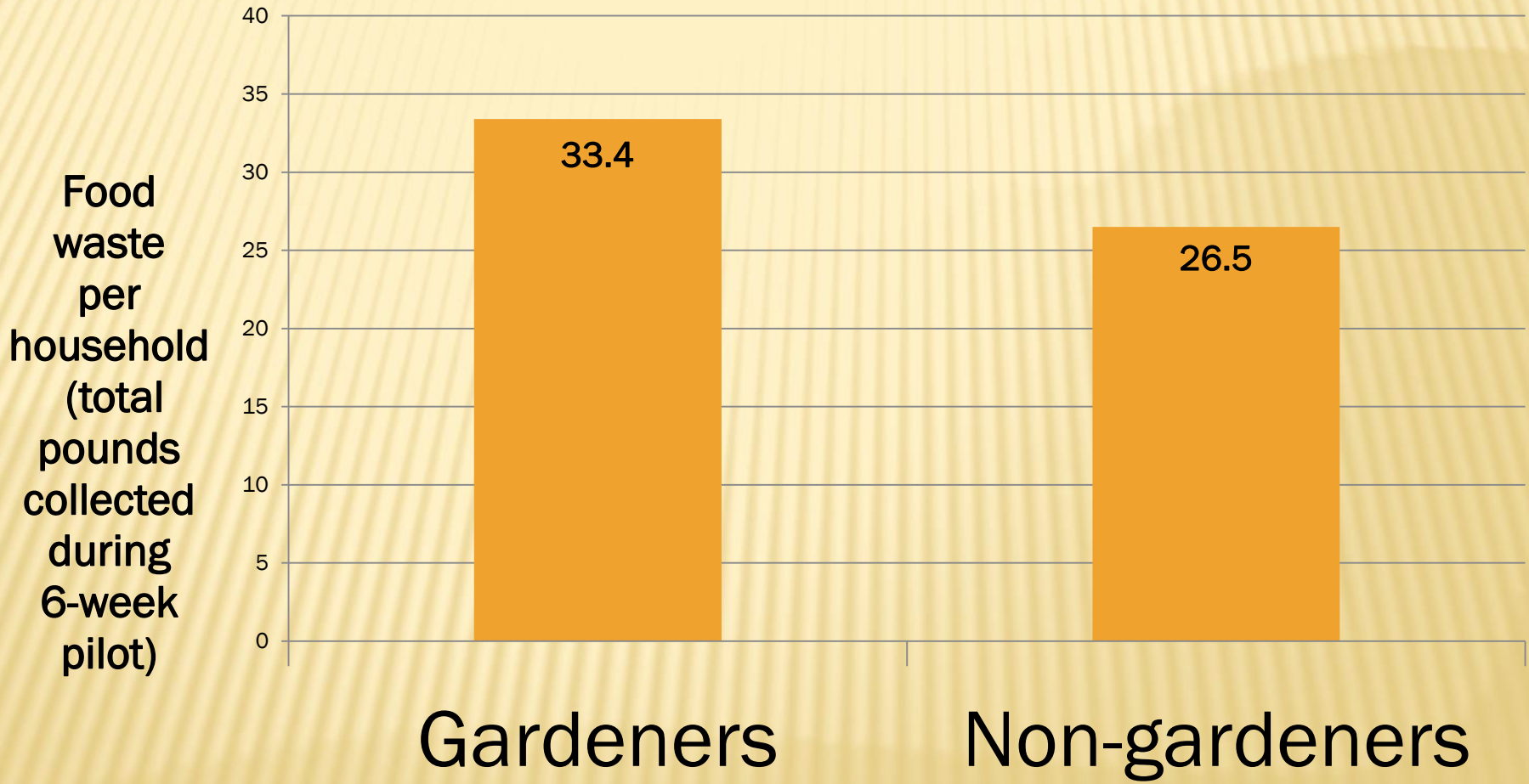
DEMOGRAPHIC INDICATORS

Annual Income vs. Food Waste Produced

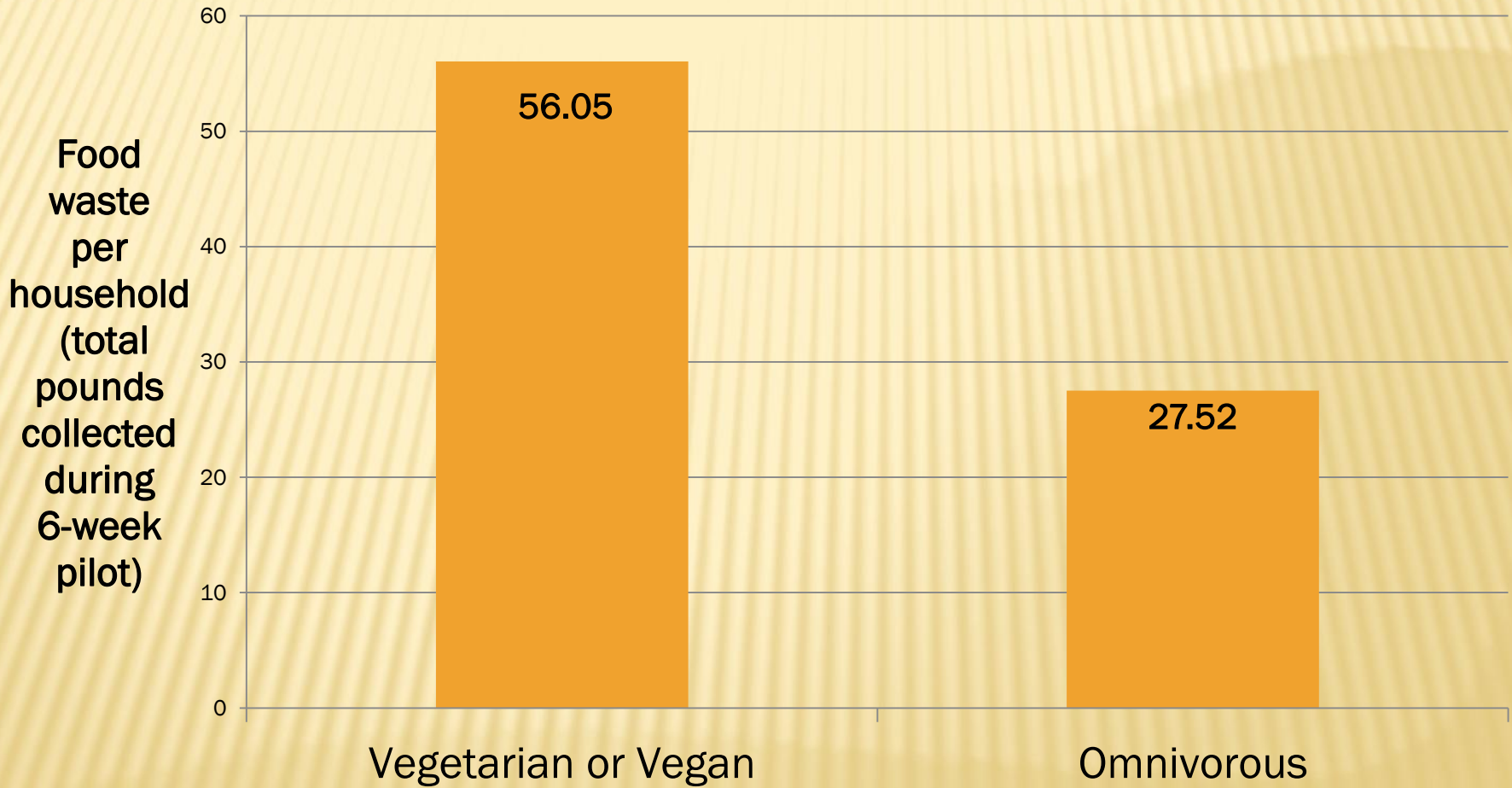




DEMOGRAPHIC INDICATORS

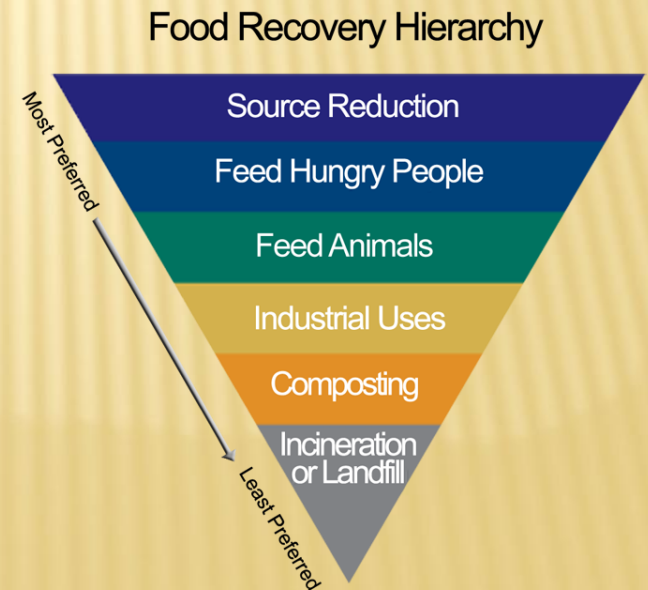


DEMOGRAPHIC INDICATORS



CURBSIDE COLLECTION

- ✘ REDUCE, “reuse,” then compost
- ✘ 3 types of collection within existing City yard waste routes
 - + Yard waste container with \$25 annual sticker
 - + Yard waste bags
 - + Wheeled carts





COSTS

item	est. costs	actual cost	cost per household (based on 52 initial participants)	source
staff time	\$ 10,000	\$ 9,178.50	\$ 176.51	ICLF
education	\$ 750	\$ 1,018.27	\$ 19.58	ICLF
containers & bags	\$ 750	\$ 517.27	\$ 9.95	Refuse Division, ICLF
scales	\$ 2,500	\$ 390.00	\$ 7.50	ICLF
TOTAL costs	\$ 14,000	\$ 11,104.04	\$ 213.54	

FEEDBACK & LESSONS

- ✘ strategies: “easy” or “somewhat easy” to use
 - + Smart Shopping ranked as easiest
 - + Smart Prep ranked as hardest
- ✘ “I am now more aware of food going to waste in my household.”
- ✘ Curbside containers
- ✘ Reach out to more homes initially for more participation
- ✘ Do longer baseline and measurement periods

NEXT STEPS

- ✘ Finalize analysis of curbside collection in progress
- ✘ Outreach campaign for FTGTW
 - + Family open house night
 - + Friday night food films with Iowa City Public Library
 - + Farmers Market tables (goal: monthly April-October)
 - + Rap: Love your Mother!
<https://www.youtube.com/watch?v=65AMXyzEhd8>

RI Food Policy Council

Promoting a more accessible, more equitable and more sustainable food system in Rhode Island

- Healthy Environment Working Group
- “Zero waste”; ecologically sound practices
 - Leo Pollock, Krystal Noiseux,
Sue AnderBois
- Pilot: 2 + 4; surveys; 40 people; \$9K

RI - Highlights



RI - Highlights

3. Prepare Ahora, Para Comer Más Tarde

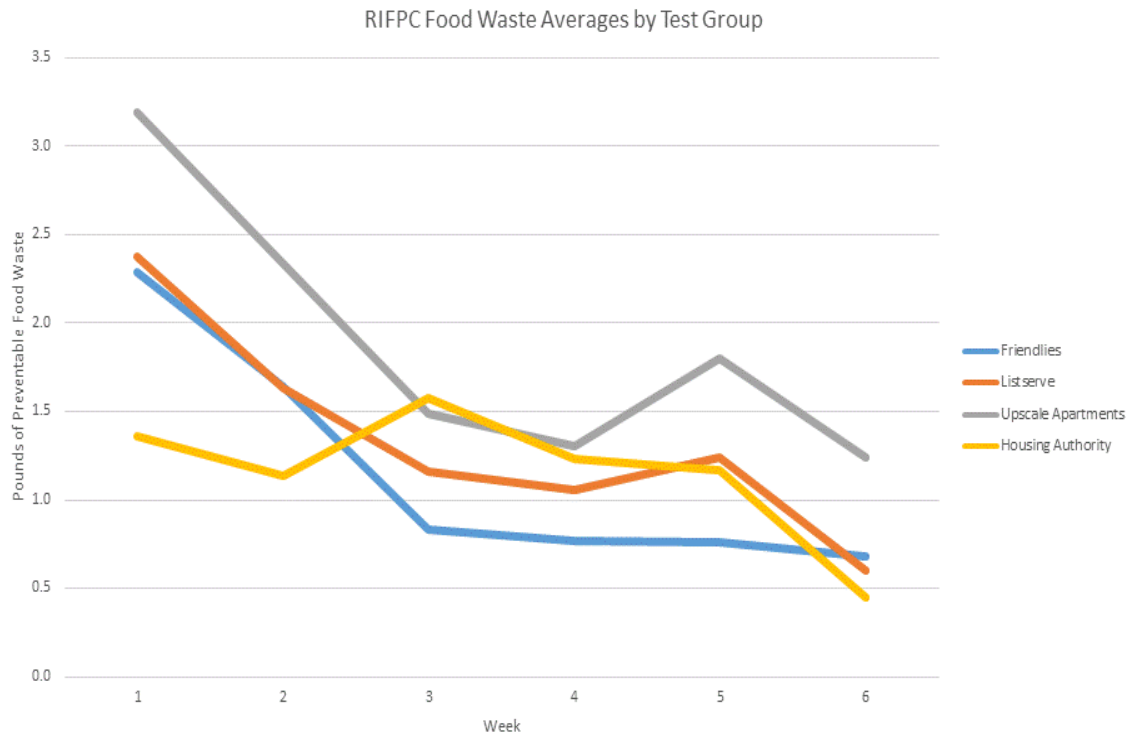


[Grant Cochrane/FreeDisitalPhotos.net](http://GrantCochrane/FreeDisitalPhotos.net)



www.foodfitnesandfamilyblog.com

RI - Highlights



RI - Outreach

- Pre-Pilot (aka “Friendlies”)
- Networking: “the Rhode Island Effect”
 - Providence Housing Authority
 - Diversity: People from different backgrounds/socio-economic status

RI – Lessons Learned

- Should have had a better data plan ahead of time!
- Be careful about targeting food-insecure communities
- Always offer refreshments!

RI – What's Next?

- Pursue funding
 - Workshop series; train-the-trainer model
 - Continue with Providence Housing; add a composting component?
 - Publicity, publicity, publicity
- ([RIPR: Learning to Reduce Food Waste](#))



West Coast Climate & Materials
Management Forum

February 10, 2015

Karen May
King County Solid Waste Division

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King County

Department of
Natural Resources and Parks
Solid Waste Division

Serving
Community

Protecting
Environment

Operating
Excellence



"TERRA FIRMA"
Project Artist: Carol DePelecyn
Photographer: Steve McGehee

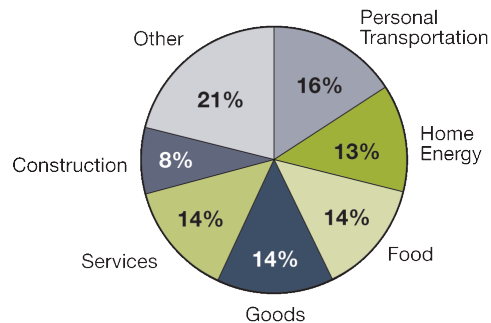
Cedar Hills Regional Landfill Maple Valley, Washington

STRATEGIC CLIMATE ACTION PLAN

WHAT KING COUNTY IS DOING

*to reduce greenhouse gas emissions and
prepare for the impacts of climate change*

**KING COUNTY COMMUNITY
CONSUMPTION BASED
GREENHOUSE GAS EMISSIONS**
Total: 55 Million Metric Tons CO₂e



King County

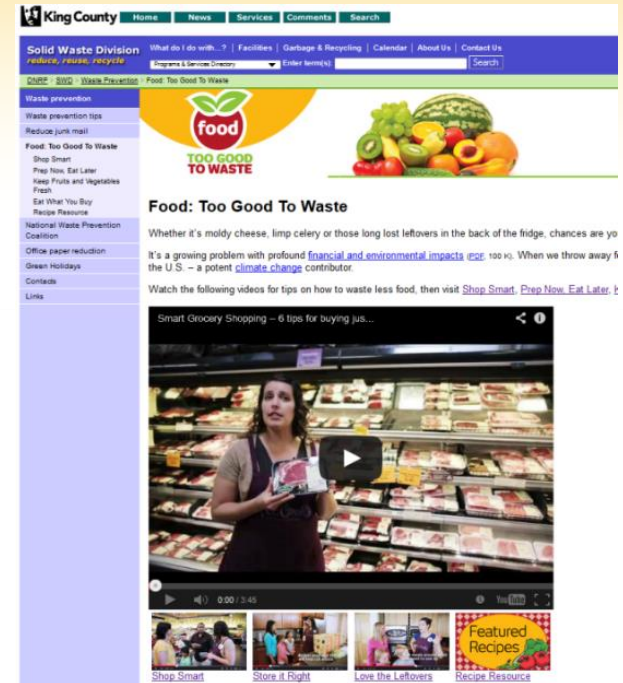
Department of
Natural Resources and Parks
Solid Waste Division

Collaboration: West Coast Climate and Materials Management Forum and EPA Region 10 team

- EPA's research and development of toolkit :
 - provided a strong foundation for launching King County's program
 - accelerated planning and implementation of a targeted campaign focused on key waste prevention behaviors
 - King County: one of the first EPA partners to launch community food waste prevention pilot

King County's Campaign Highlights:

- **Online videos -** cooking/shopping tips with food waste prevention strategies (*partner: PCC Natural Markets*)
- **Toolkit – distributed** through website and at community events
- **Farmers market outreach**



Farmers Market Outreach



Food: Too Good To Waste Challenge

- 4-week Challenge to measure food waste volumes
- Incentives necessary to enlist participants.
- Active contact: Weekly e-mails provided tips and encouragement to continue
- Resource intensive to coordinate, recruit participants, purchase incentives.
- Results:
 - 53 completed the Challenge
 - Overall volume reduction: 37%



Media Coverage

- Via local NBC affiliate:
 - 3 guest appearances on morning show
 - Online ads
 - PSAs
- FOX network: Challenge feature
- Several articles in local newspapers
- Local NPR radio interview at Thanksgiving time



2015

- Continue popular farmers market outreach
- Encourage Challenge through local networks
- Pilot an Imperfect Produce campaign:
encourage grocers and suppliers to sell imperfect
produce to consumers at a discount



Photo: Rex Features



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Karen May
King County Solid Waste Division

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