

WasteZero®

Save Money. Reduce Waste.

Overview of the Save-As-You-Throw Approach to Residential Waste Reduction

Prepared for Los Alamos County, NM

March 2018



Today's Presentation



1

WasteZero Background

2

Save-As-You-Throw (SAYT) Overview

3

Estimated Impact of SAYT in Los Alamos County

4

Questions & Answers

About WasteZero



- In business since 1991, & 100% driven to **cut trash in half across the US**
- **National leader** in municipal waste reduction, working with cities and towns across the US
- Experience with a **full range** of waste reduction approaches
- Comprehensive capabilities, from **consulting** to **program management**
- **100% success rate** with WasteZero-designed programs
- Certified **B Corp**, meeting rigorous social & environmental standards
- Based in Raleigh, NC, with regional support around the nation



Overview of WasteZero's Key Program Types



**SAYT / Unit
Based Pricing**



Yard Waste



Organics



Textiles

Consulting —> Program Design —> Pilot Development —> Full-Scale Implementation

Save-As-You-Throw (SAYT) Overview

The Traditional Trash System



Electricity



Gas



Water



Residents pay for most utilities based on how much they use. Trash is different: In most places, trash is the last unmetered utility...

1 Flat Fee or No Fee

Service	Unit	Rate	Amount
Water	1000 GALLONS	\$2.00	\$2.00
Gas	1000 CUBIC FEET	\$1.00	\$1.00
Electricity	1000 KILOWATT HOURS	\$0.10	\$0.10
Solid Waste	Flat Fee	\$25.00	\$25.00
Total			\$28.10

2 Request



3 "Blank Check"



"Fill 'er up!"

The flat fee or "no fee" approach causes waste and provides no incentive to recycle.

Save-As-You-Throw (SAYT) Makes Trash Like Other Utilities

SAYT treats trash like any other utility: Residents pay for trash based on how much they generate. If they recycle more and throw away less, they pay less. The economic incentives to reduce waste are strong.

Benefits:

- ✓ Solid waste is reduced
- ✓ Recycling increases
- ✓ Collection and disposal costs drop
- ✓ The environment is improved
- ✓ Landfill life is extended



Types of SAYT

SAYT programs can take different forms. Bag-based systems are by far the most effective, in WasteZero's experience.



Variable-Rate Carts

Residents choose from among different sizes of carts, paying more per month for larger carts and less for smaller ones.

Average Waste Reduction

15%¹



Stickers/Tags

Residents pay by the bag by affixing a pre-paid tag or sticker to each bag of trash. Stickers are sold at local retailers, with proceeds going to the City.

25%²



Bags (or bags in carts) **Most Effective**

Residents dispose of waste in official trash bags approved by the municipality and clearly marked with the municipal seal. Bags are sold at local retailers, with proceeds going to the City.

44%³

Notes:

1. SCS Engineers, "Pay-As-You-Throw Options—Long-Range Solid Waste Master Plan," Report to City of Springfield, Mass., Dec. 20, 2010; Confirmed by WasteZero analysis of variable rate cart programs in 9 states across the US.
2. WasteZero experience with 150 tag / sticker-based programs, including multiple programs that converted from stickers to bags and saw a further 25-30% waste reduction.
3. WasteZero experience with 225 bag-based programs; Data from WasteZero "WasteZap" database; Confirmed by Mass. DEP data showing bag-based SAYT systems result in annual per capita pounds of trash 48% below the national average.

Bag-Based SAYT

How It Works

Bag-based SAYT ([see video](#)) is the most effective available means of reducing municipal solid waste.

1 Cut Fixed Fees (if possible)

The image shows a utility bill from the City of Anytown. A prominent red 'X' is drawn over the 'Solid Waste \$1,000' line item, indicating that this fixed fee is being eliminated. The bill includes various other charges like water and sewer, and a table of services.

Service	Unit	Rate	Amount
Water	100 Gals	\$2.00	\$2.00
Sewer	100 Gals	\$2.00	\$2.00
Solid Waste	100 Gals	\$10.00	\$1,000.00

2 Pay per Bag for Trash



- Bags sold at local stores
- Revenue goes to County to be used as appropriate

3 Residents Recycle More



- No extra charge for recycling

- Fairer to residents
- Easy to implement

- No direct cost to the City
- Works with any collection method, automated ([see video](#)) or manual

Bag-Based SAYT

Compliance Process with Automated Collection

See [video](#)



Official bags are placed in automated carts for collection



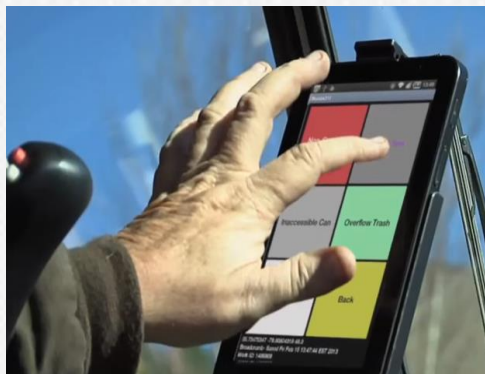
Trucks are equipped with video cameras mounted to the hopper (standard on most automated trucks)



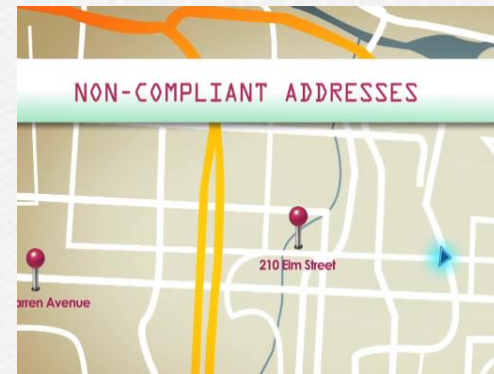
Camera clearly shows what goes into hopper



Driver can easily see non-compliant bags on video screen



Driver pushes one button on Mobile311 app (or similar solution) if non-compliant bags are spotted



Non-compliant addresses are auto-uploaded to central database so notices (or citations) can go out.

Bag-Based SAYT

Core Program Components

To run optimally, bag-based programs require a range of components.

Official Bags



- Drawstring closure for convenience, litter control
- Trash bags identifiable by
 - Color
 - Printing

Distribution



- Delivery to retailers for sale or distribution to residents
- Retailer relationship management
- Order processing and fulfillment
- Inventory management
- Customer service
- Accounting and reporting

Communications



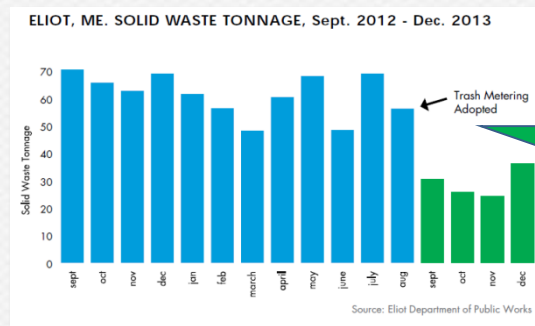
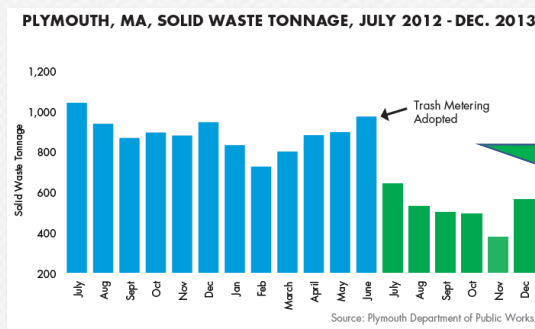
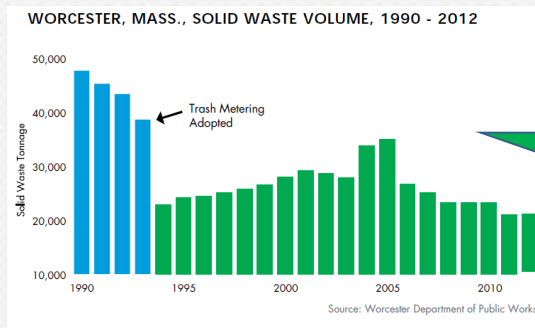
- Communications to educate residents about the program:
 - Launch Announcements
 - Program Web Site
 - Customer Service
 - Educational Materials
 - Media Relations

These programs can be structured to operate at no direct cost to the municipality. WasteZero can provide all of the components above, and is paid only by collecting a portion of retail sales, with the rest going to the County.

Bag-Based SAYT

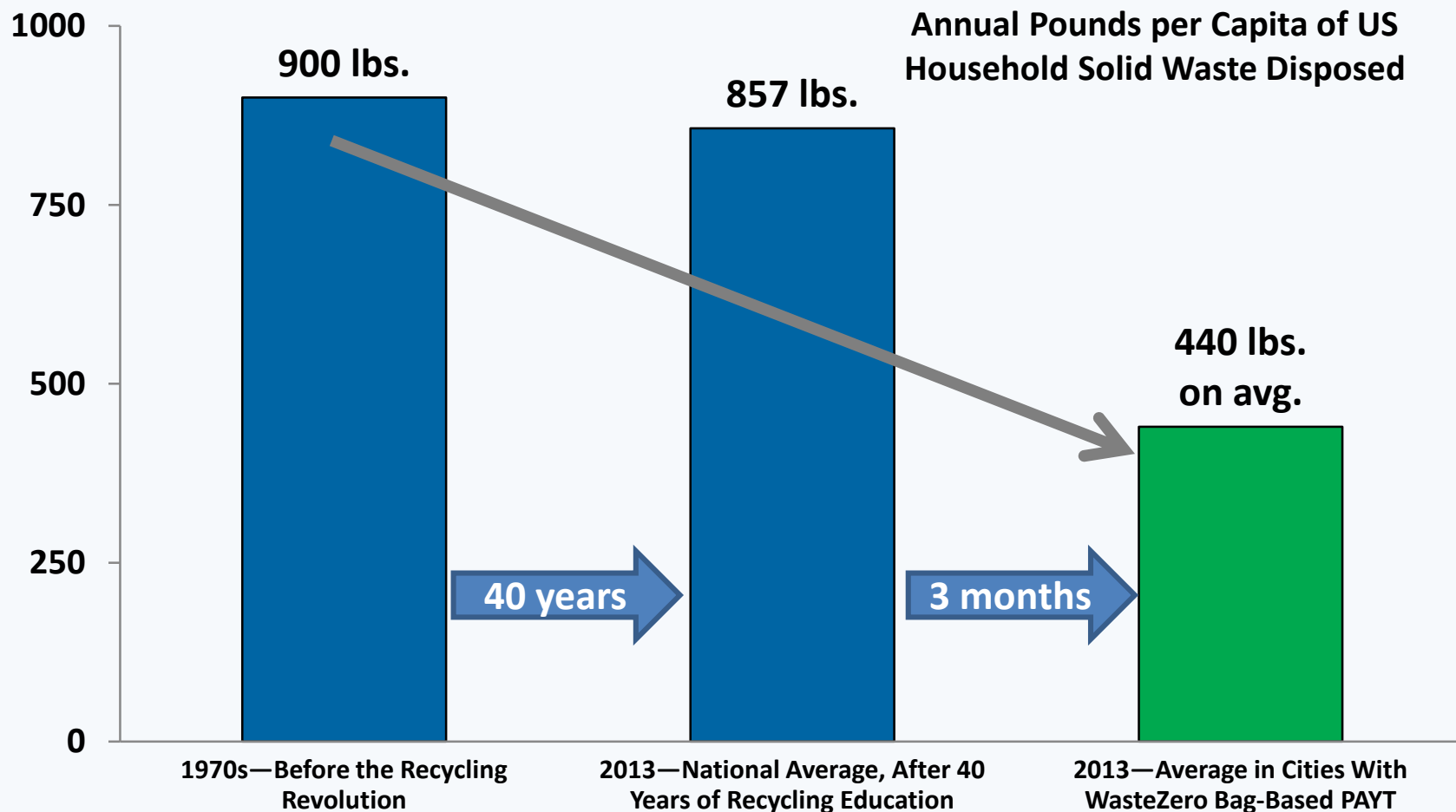
Typical Results

- Average residential trash reduction of 44%
- Substantial increases in recycling
- Significant results within 30-60 days
- Permanent impact
- Effective in cities and towns, regardless of
 - Population size
 - Average income level
 - Geographic region (examples in the NE, SE, and MW)
 - Method of trash collection



Bag-Based SAYT

Typical Results - *Continued*



Note: Calculations Based on Data from *Advancing Sustainable Materials Management: Facts and Figures 2013*, US EPA, June 2015

Estimated Impact of Bag-Based SAYT in Los Alamos County, NM



Los Alamos County

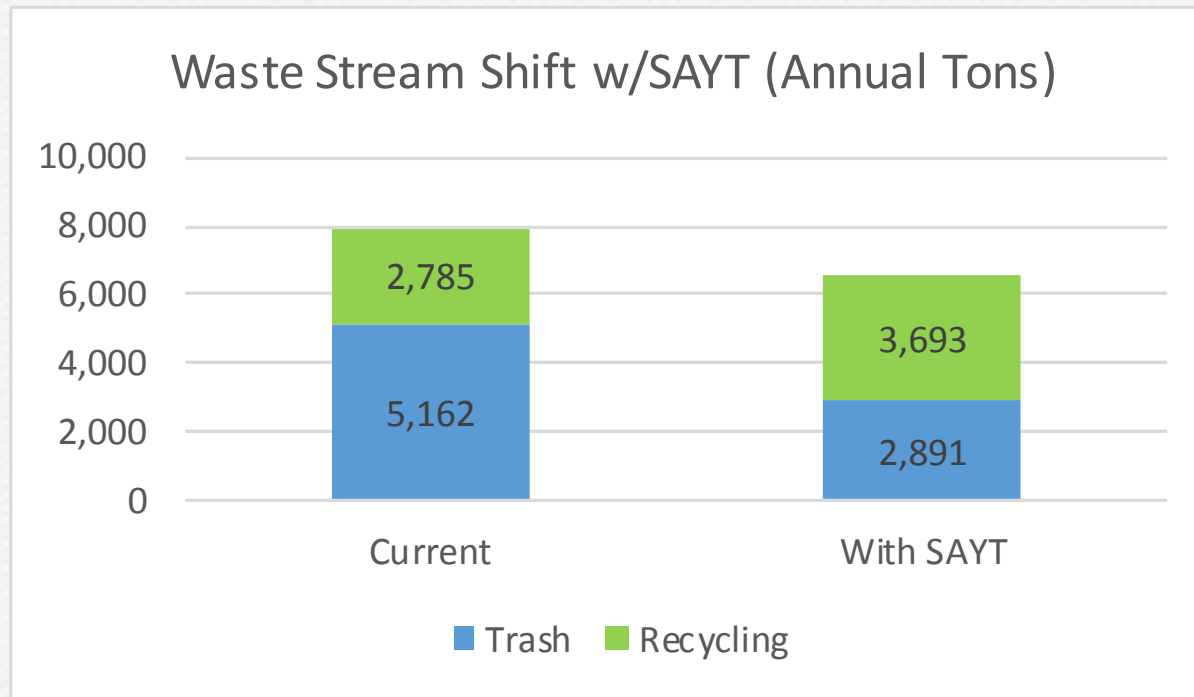
Background Data



# HH & People with Trash Service	<ul style="list-style-type: none">• 6,850 served households• Estimated served population of 16,385 (2.39 people per HH, per US Census)
Collection Protocols	<ul style="list-style-type: none">• Automated Curbside Trash in Carts• Automated Curbside Single-Stream Recycling in Carts (Glass is drop-off only)• Curbside Yard Waste (Quarterly)
Collection Responsibility	<ul style="list-style-type: none">• County
2017 Residential Trash	<ul style="list-style-type: none">• 5,161.84 tons
2017 Residential Recycling	<ul style="list-style-type: none">• 2,785 tons
Household Fee	<ul style="list-style-type: none">• \$25 per month for trash (\$300 per year); Recycling included
Trash Tip Fee	<ul style="list-style-type: none">• \$47.32 total:<ul style="list-style-type: none">– \$24.55 per ton to tip at Rio Rancho landfill (Waste Management)– \$22.77 per ton to haul
Recycling Tip Fee	<ul style="list-style-type: none">• \$15, though a rebate may be paid if market conditions allow
Sanitation Financial Status	<ul style="list-style-type: none">• Q1 2018 Deficit for Residential Trash: \$77,401.⁴¹ (\$309,606 annualized)• Q1 2018 Deficit for All Enviro Services: \$59,015.⁶⁸ (\$236,063 annualized)

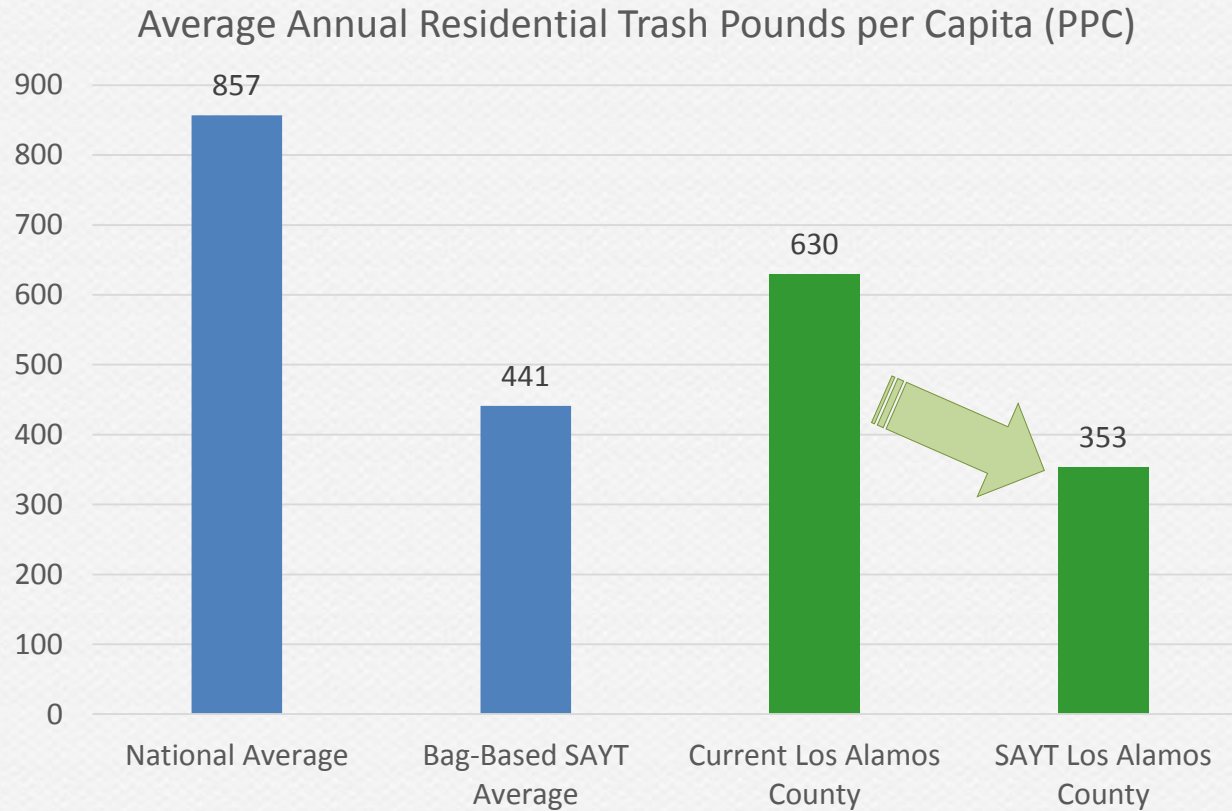
Note: Data provided by Heidi Rogers, Los Alamos County Environmental Sustainability Board Vice Chair

Projected Waste Stream Shift with SAYT



- Trash drops by 2,271 tons (44%)
- Recycling increases by 908 tons (33%)
- Total material handled drops by 1,363 tons (17%)
- Recycling Rate increases from 35% to 56%
- Net annual disposal savings are \$93,847 (accounts for reduced trash tip costs and increased recycling tip costs)

Projected Shift in Annual Pounds of Trash per Capita



Notes:

1. National Average calculation based on data from *Advancing Sustainable Materials Management: Facts and Figures 2013*, US EPA, June 2015
2. Bag-Based SAYT average is among all WasteZero Bag-Based SAYT programs

Projected Financial Impact on County



Standard Pricing Scenario

Retail Pricing Assumptions for Bags:

30-gallon Large Trash:	\$2.00
15-gallon "Tall Kitchen":	\$1.25

SAYT Results: Municipal Financial Impact (Cumulative)

	1 Yr	3 yrs	5 yrs	10 Yrs
# Bags Sold	322,435	968,757	1,617,019	3,246,202
Net Revenue	\$461,082	\$1,385,322	\$2,312,337	\$4,642,069
Trash Tip Svgs	\$107,474	\$322,905	\$538,983	\$1,082,020
Add'l Recycle Tip Svgs (Cost)	-\$13,627	-\$40,943	-\$68,341	-\$137,196
Net Benefit	\$554,929	\$1,667,284	\$2,782,979	\$5,586,893

Low Pricing Scenario

Retail Pricing Assumptions for Bags:

30-gallon Large Trash:	\$1.25
15-gallon "Tall Kitchen":	\$0.75

SAYT Results: Municipal Financial Impact (Cumulative)

	1 Yr	3 yrs	5 yrs	10 Yrs
# Bags Sold	322,435	968,757	1,617,019	3,246,202
Net Revenue	\$251,499	\$755,630	\$1,261,275	\$2,532,038
Trash Tip Svgs	\$107,474	\$322,905	\$538,983	\$1,082,020
Add'l Recycle Tip Svgs (Cost)	-\$13,627	-\$40,943	-\$68,341	-\$137,196
Net Benefit	\$345,346	\$1,037,592	\$1,731,917	\$3,476,862

Notes:

Revenue figures are net of WasteZero's projected fees
Assumed population growth is very low at 0.15% per year.

Projected Financial Impact on the Average Household



Standard Pricing Scenario

Retail Pricing Assumptions for Bags:

30-gallon Large Trash:	\$2.00
15-gallon "Tall Kitchen":	\$1.25

SAYT Results: Avg. per HH Financial Impact (Annual)	
Total Spend, PAYT Bags	\$548,140
Per HH Spend, PAYT Bags	\$80.02
<i>Per Month</i>	\$6.67
Less Regular Trash Bags	\$27.00
Net per HH Cost	\$53.02
<i>Per Month</i>	\$4.42
Avg. Net to City per HH	\$67.31
Avg. Disp. Svgs per HH	\$15.69
Avg. Net Impact per HH	\$83.00

Low Pricing Scenario

Retail Pricing Assumptions for Bags:

30-gallon Large Trash:	\$1.25
15-gallon "Tall Kitchen":	\$0.75

SAYT Results: Avg. per HH Financial Impact (Annual)	
Total Spend, PAYT Bags	\$338,557
Per HH Spend, PAYT Bags	\$49.42
<i>Per Month</i>	\$4.12
Less Regular Trash Bags	\$27.00
Net per HH Cost	\$22.42
<i>Per Month</i>	\$1.87
Avg. Net to City per HH	\$36.72
Avg. Disp. Svgs per HH	\$15.69
Avg. Net Impact per HH	\$52.40



Both pricing scenarios (Standard and Low) would:

- Provide annual net financial benefits to the County that would more than cover the current deficits in Environmental Services.
- Represent only a minimal extra monthly cost to residential households (on average):
 - Standard = \$6.67 per month (\$4.42 net cost, as HH would no longer have to buy regular trash bags)
 - Low = \$4.12 per month (\$1.87 net cost)
- Potentially enable the County to reduce the monthly fixed fee of \$25 while still covering its deficits:
 - Standard = Could reduce flat fee by ~\$3.85 per HH per month and still cover overall deficit
 - Low = Could reduce flat fee by ~\$1.33 per HH per month and still cover overall deficit

Next Steps

- Answer questions and collect your feedback.
- Determine level of interest.
- Identify other stakeholders with whom we should speak.

Thank You!

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