

2014-2015 Waste Management/Snohomish County RSA

Task 8 - Detailed Sub Task Proposal – SnoCo Paper Pilot

August 12, 2015

Background

Each year, Waste Management enters into a Recycling and Commodity Revenue Sharing Agreement (RSA) with King and Snohomish Counties in Washington State. The RSA plan outlines activities and programs intended to increase recycling and decrease contamination among Waste Management customers who reside in areas of the counties regulated by the Washington Utilities and Transportation Commission (WUTC).

The goals of the RSA are:

- ☞ To increase recycling and decrease contamination in King and Snohomish Counties
- ☞ Plan and implement activities to increase recycling
- ☞ Work in partnership with King and Snohomish Counties

In 2013, Waste Management, in partnership with King and Snohomish Counties, completed a behavior study to better understand WUTC resident barriers and motivations surrounding recycling and, ultimately, determine the most effective methods for educating and encouraging residents to recycle and compost more.

The behavior study found that 89 percent of the households surveyed had mixed paper in their garbage carts, the highest percentage of any recyclable material category, including plastics. Mixed paper is defined as office paper, paperboard (cracker boxes, mailing tubes, toilet rolls, etc.), junk mail, magazines and envelopes. Based on the study results, paper and food scraps were identified as the top two priority materials to focus education and outreach efforts because they represent the highest volume of what is ending up in the landfill.

To further test the information and recommendations gained from the 2013 Behavior Study, Waste Management will implement a paper recycling pilot in Snohomish County WUTC areas in 2015 that will help inform the development and implementation of future behavior change campaigns under the RSA.

This pilot will focus on getting residents to recycle more paper, focusing on the types of paper that are most prevalent in the garbage but also the most valuable in today's recycling markets. Educational materials and tools used in the pilot will be very specific on the types of paper that are found in the garbage that we want them to recycle.

Project Objectives

1. Compare the educational methods and tools that are most effective in getting recyclable paper out of single-family residents' garbage. This pilot, using a targeted group of customers, will be evaluated using pre- and post-pilot curbside cart collection and sorts, and will test the effectiveness of the following:

- Providing a prompt tool to recycle more paper, such as a collection bag, in order to address the barrier of not having recycling bins in rooms besides the kitchen.
 - Providing a cart tag prompt to recycle target paper types.
 - Messaging that emphasizes the cognitive dissonance found in customer recycling behaviors (we think we are doing a good job, but we still put paper in the trash); as well as giving feedback to residents on their paper recycling performance
2. In addition, this project will characterize the “mixed paper” that is ending up in resident’s garbage carts during the pre- and post-sorts, something that was not done in the 2013 Behavior Study. This characterization will help inform messaging for the pilot, but also for future campaigns.

Desired Behavior Changes

1. Collect paper from rooms around the house and put in recycling bin (e.g. outside of the kitchen)
2. Put only clean, recyclable paper in the curbside recycling cart
3. Shred less paper, recycle it instead

Barriers

The 2013 Behavior Study found that the reported barriers to recycling “mixed paper” included:

- 🗑️ Fear of identity theft – they didn’t want to recycle items with personal info
- 🗑️ Confusion about what types of paper are recyclable (e.g. envelopes with windows)

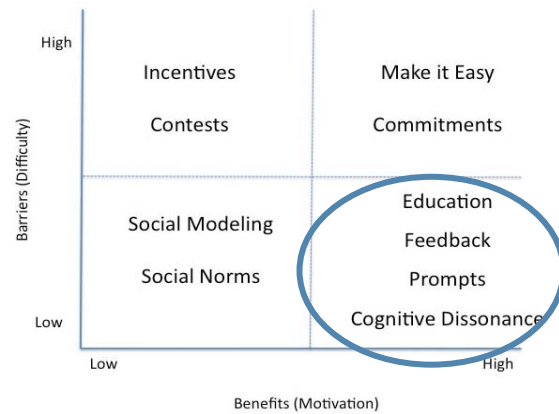
In addition, in the subsequent focus groups and recycling journals, these barriers came up as reasons why recyclables (generally, not just paper) ended up in their garbage:

- 🗑️ Lack of a system (no bins in other parts of the house)
- 🗑️ Lack of time (no time to separate in rush to get carts out on garbage pick-up day)
- 🗑️ When recycle bin is full, there is no desire to store items until the next pickup
- 🗑️ They shredded items with personal info and then didn’t know what to do with shredded paper

The Behavior Study determined that the barriers for recycling paper are relatively low compared to other recyclables/compostables and the benefits or motivations are high. Because of this, the recommended social marketing tactics to overcome the paper recycling barriers include:

- 🗑️ Education
- 🗑️ Feedback
- 🗑️ Prompts
- 🗑️ Cognitive Dissonance

Figure 1 – Barriers and Benefits Map¹



Pilot Design

Messaging Focus

As noted in the evaluation methodology summary later in this document, we will begin the pilot by gathering a pre-pilot data sample that will include sorting paper found in both the garbage and recycling carts into discrete categories that may include: office paper, paperboard (cracker boxes, detergent boxes, etc.), junk mail, magazines, cartons, envelopes, etc.

Once we get this baseline data, we will determine the top one or two categories of paper that are found in highest volume (or in the most garbage carts). We will also use data from Waste Management to help determine if those highest volume paper materials found in the garbage are also of high commodity value in recycling markets. We will, as a team, consider volume vs. value to choose the focus of the pilot messaging. For example, if we found junk mail to be most prevalent and of high value, we would focus on telling residents that junk mail is recyclable, how to ensure they collect it all at home, and give households tips for dealing with mail that contains personal information.

To our knowledge, this level of paper categorization has not occurred in previous waste characterization studies in WUTC areas of Snohomish or King Counties. Therefore, in addition to allowing this pilot to provide very targeted messaging, we will also have valuable information that can be utilized in future outreach efforts.

Community Based Social Marketing (CBSM) Tactics

As stated above, the goal of this project is to determine which social marketing interventions are most effective in driving the desired behavior change of recycling more paper. We recommend utilizing the recommended tactics—education, feedback, prompts and cognitive dissonance—with three sample groups in the following way:

 **Group #1:** Education/Feedback/Cognitive Dissonance Messaging + Prompt Tool

¹ Schultz (2013). Strategies for promoting pro-environmental behavior: lots of tools but few instructions.

- 📁 **Group #2:** Education/Feedback/Cognitive Dissonance Messaging + Prompt Tag
- 📁 **Group #3:** Messaging Only

Group #1: Education/Feedback/Cognitive Dissonance Messaging + Prompt Tool

This group will be sent a direct mail package after baseline data is gathered. The mailer, sent from Waste Management, will include a prompt tool (i.e. tote bag) and messaging:

Prompt Tool

We will mail households a prompt to recycle paper that will also serve to help them collect more paper for recycling throughout their house. Two options:

1. Tote bag: a tote bag that collects recyclable paper would be similar to bags that have been provided to residents in the past – three handles (one on each side and one on the bottom), durable, and will have messaging printed on the bag that clearly denotes that the bag is meant to collect paper and to be used in a room other than the kitchen. This bag will serve as a prompt to recycle paper that may have been generated in other rooms of the house, addressing one of the barriers noted in the Behavior Study and subsequent focus groups.
2. Bin labels: if scalability is a concern with the tote bags (cost is about \$1.55/bag for 10K bags), another option is to mail one or more labels that people could use to create their own recycling collection bin(s). The labels would be large enough to have similar messaging to the tote bag with what paper is recyclable and encourage collecting paper from around the home.

Messaging

In addition to the prompt tool, the mailer will contain a flyer or postcard that contains messaging addressing the following:

- 📁 *Cognitive Dissonance/Feedback:* 8 out of 10 homes in your neighborhood still have recyclable paper in the garbage.
- 📁 *Education:*
 - The paper found in the garbage most often is X and X (TBD in the baseline data). Please recycle it instead.
 - Here are some tips to help make it easy: include adding bin/bag to other rooms of the house once you determine where this paper is found in your home, possibly other tips depending on the paper type.
 - Note about what to do if your recycling bin is full

Group #2: Education/Feedback/Cognitive Dissonance Messaging + Prompt tag

Messaging

This group will also receive a direct mail piece from Waste Management (flyer or postcard), but will not receive the tote bag or bin label prompt tool. The mailer will contain identical messaging to that of Group #1.

Prompt Cart Tag

Instead of the tote bag mailer, this group will receive a prompt regarding paper recycling in the form of a cart tag. The tag will be placed on the garbage cart on their collection day, and will contain a simple message that contains the cognitive dissonance message of “8 out of 10

households in your neighborhood have paper in their garbage” and will prompt people to recycle the top 1-2 categories of paper that are identified in the baseline data. This tactic will allow us to determine the effectiveness of different styles/placement of prompts. The cart tag prompt is at the point of recycling at the curb and the tote bag prompt is placed at the point of recycling in the home.

The cart tag would occur approximately three weeks after the initial direct mailer.

Group #3: Messaging Only

This group will only receive the direct mailer with identical messaging to that of Groups 1 and 2, but will not receive prompts of any kind.

Evaluation Methodology

We recommend this pilot be measured using pre- and post-pilot sorts of garbage and recyclable materials set out by pilot groups in curbside carts by Cascadia Consulting, instead of using route data from WM drivers. This approach will allow us to determine capture rates for specific types of paper, rather than just volumes, and therefore provide a more accurate assessment of cart contents and whether the interventions we use result in actual behavior change. This approach will also help account for any seasonal issues that may result in changes in paper recycling (for example, the fall season brings on a lot of political mailers).

The pilot will be conducted with Waste Management WUTC single-family customers in Snohomish County. Each of the three sample groups will consist of 200 households, and will be selected from customers on two or three residential routes with consecutive pick-up days of Tuesday/ Wednesday/ Thursday. Each route will include households from each sample group. Each group of 200 households will receive their set of outreach tactics as outlined above, for a total of 600 households receiving some kind of touch about paper recycling.

Pre-pilot audit samples will be collected from 25-50 households within each sample group of 200 households. The reason for sampling a subset of the total group is that we need to ensure that we have enough options for collecting samples, given that not 100 percent of households will put out both recycling and garbage carts on any given collection day. In addition, selected routes will ideally have recycling subscription rates of 90 percent or greater.

Samples will be selected at random from among test group households with both garbage and recycle carts/cans placed at the curb on the day of the sampling event. Samples will include all contents of garbage and recycle carts/cans placed at the curb by the selected household, resulting in two samples collected from each sample household and 150-300 samples in total.

Paper from collected samples will be sorted into up to 12 categories, with all other materials classified as “Other.” The team will work with Waste Management to determine the best way to delineate and sort each category as needed. Possible material categories include:

“Recyclable General Household Paper”

1. Newspapers/Inserts
2. Books/Phone books
3. Magazines/Catalogs

4. Corrugated cardboard, kraft paper bags, and non-food paperboard boxes (e.g., appliance boxes, shoe boxes, toy boxes)
5. Shredded paper (bagged)
6. Mail/Envelopes/Office paper
 - Donation request mailers
 - Political cardstock mailers
7. Other Reading/Mail/Household
 - Receipts
 - School-related (construction paper)
 - Note pads
 - Greeting cards
 - Calendars
 - Wrapping paper, gift bags

“Recyclable Bathroom-related Paper”

8. Recyclable Bathroom Paper

- Tissue boxes
- Toilet roll cores

“Recyclable Kitchen-related Paper”

9. (Unlined) Paperboard food boxes

- Paperboard boxes (e.g. cereal boxes, frozen food boxes)
- Soda/beer cases

10. Polylined paper cartons and containers

- Gabletop milk/juice cartons
- Aseptic cartons
- Hot/cold cups
- Ice cream cartons
- Takeout food containers

11. Other kitchen-related paper

- Molded Pulp (e.g. egg cartons)

“Compostable Paper”

12. Food-soiled paper

- (e.g. napkins, towels, french fry bags, pizza boxes/liners, sandwich wraps, paper plates)

13. Other (all non-recoverable paper and other)

- Tissues, toilet paper
- Polylined bags (e.g. microwaveable popcorn bags, dog food bags)

Findings from the pre-pilot audits will be presented in a brief memo, including the baseline capture rates calculated for each paper category sorted, and the top 3-4 paper categories identified as most prevalent (by weight) in the disposed waste (garbage) stream.

The post-pilot audit will be conducted approximately 5-6 weeks after distribution of the mailer. Post-pilot audit samples will be collected and sorted following the same methodology as the pre-pilot audit.

Findings from the pre- and post-pilot audits will be used to analyze the effects of each of the pilot strategies on the behavior of pilot households, demonstrated through changes in pre- and post-pilot capture rates for individual paper categories and overall.

Analysis results will be presented in a project summary report. The report will also present an assessment of the cost-effectiveness of each of the pilot strategies tested, based on the relative changes.

Budget

BUDGET ESTIMATE	
OUTREACH	
# of households receiving outreach	450 (150/group)
Planning/PM	\$8,500
Direct mail, cart tag and tote bag design, printing/production (assumes 1,000 tote bags for all options – will have extra)	\$18,927
Cart tagging	\$2,090
Mailing costs + labor	\$1,005
Final campaign summary	\$1,740
Outreach total	\$32,262
EVALUATION	
# of households sampled pre/post	111 (37/group)
# of samples collected per sampling event (2 samples per home)	222 (74/group)
# of trucks required (1 truck per 25 samples/day)	3
# of sorting days (80-90 samples sorted/day)	3.5
Evaluation Total	\$57,175
GRAND TOTAL	\$89,437

Timeline

We will collect our baseline pre-pilot data collection before the 2015 holiday waste kicks in and will wait to conduct any outreach until February 2016 due to the extreme fluctuation in the paper stream over the holidays that can stretch through January. Detailed timeline is outlined below.

Activity	Timeline
Determine routes for pilot	As soon as possible
Conduct baseline data collection	Week of October 12
Data compiled and analyzed	11/13/15
Develop materials and order tools if needed	Nov/Dec 2015
Begin outreach with direct mail to all 3 groups	Week of 2/8/16
Cart tagging for group #2	Week of 3/1/16
Post-pilot data collection	Week of 3/21/16
Final analysis/results report	4/22/16