Multicultural Behavior Study:
Spanish-dominant Speaking Residents
2014-2015

Prepared for:
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Overview

King and Snohomish counties resident population represents a rich diversity of cultures and ethnicities. Waste Management is working to determine the barriers and benefits to recycling specific materials in order to better understand garbage and recycling behaviors among Waste Management Spanish-speaking Latino customers residing within the Washington Utilities and Transportation Commission (WUTC) area in King and Snohomish Counties. This information will be utilized to inform and shape the development, implementation and evaluation of effective education campaigns for WUTC Spanish-speaking residents.

Background

Waste Management is currently developing a comprehensive research study that builds on the 2013 Behavior Study conducted in King and Snohomish Counties to determine the barriers and benefits to recycling specific materials among English-speaking residents. Although there were some interesting findings from non-English speaking households in that study, the sample size for any specific group was not large enough to reliably describe the attitudes and behaviors of the various non-English speaking audiences, thus identifying the need for more targeted research.

King County’s 2010 Equity and Social Justice Ordinance established a priority in providing fair and just services to everyone in King County by removing barriers that limit their full potential and participation.Acknowledging the growing demand to serve the multicultural and diverse residents in King County in a more equitable manner and Snohomish County’s commitment to serving all of its residents, Waste Management built a team of stakeholders which included a research firm to design innovative recruitment strategies and conduct the multicultural behavior study that would be successful in both King and Snohomish counties.

In 2014, Waste Management completed the following portions of the study:
- Analysis to define the key research questions
- Analysis to define and narrow the focus audience to Spanish-dominant speakers
- Identify two potential recruitment methodologies for the study

In 2015, Waste Management completed the following portions of the study:
- Finalized the study design with innovative recruitment strategies
- Reviewed the feasibility of the various methodologies for each county
- Established a behavior study implementation plan

Goal

The goal of the study is to gather insights that lead to the development of actionable outreach strategies and educational messages that can be effective in removing barriers and motivating Spanish-speaking residents to participate in existing recycling programs.

The results of the study will be used to inform and shape the development, implementation and evaluation of campaigns for Spanish-speaking UTC residential customers. Additionally, the study will help understand how to best partner with key organizations and influencers within the Hispanic/Latino communities in King and Snohomish counties. Implementation of the study is scheduled to take place in 2016. Following the study, WM will work with King and Snohomish Counties to develop, implement and evaluate the next phase of pilot campaigns and any new strategies, key messages or campaign materials will be developed at that time.
Development Process

Team
In early 2014, Waste Management worked with King and Snohomish counties to scope out the behavior study and identify potential stakeholder team members to inform the research and design of the behavior study.

Waste Management along with King and Snohomish Counties built the following team to develop and implement the behavior study:

- **C+C | PR & Social Marketing**: selected as the main project lead responsible for project management, cultural competency and equity consulting, research and support for the research firm in study design and implementation.
- **globalsojourn**: selected to lead the research project because of its experience conducting research with Limited-English Proficient (LEP) and multicultural audiences and its expertise combining qualitative and quantitative data.
- **ECOSS**: selected to assist in the recruitment process because of its extensive experience working with LEP residents in King County and the expertise of boots-on-the-ground outreach, and work with multifamily units.
- **Eco-lógica**: the only bilingual magazine about environmental topics in Washington State was selected to assist in the recruitment process because of its experience working on outreach to the Spanish-speaking audience on environmental topics.
- **TDW + Co**: the multicultural advertising firm was brought on board due to its expertise in working with Spanish-speaking residents who live in single family homes in King County.
- **Cascadia**: selected to manage the waste characterization portion of the study because of its extensive experience in conducting waste sorts.

Research Partner
Through the 2013 Behavior Study, the team determined a focused and dedicated study was required to obtain insights from multicultural and multilingual populations. WM set out to find a dedicated research partner with experience in conducting culturally inclusive and competent research. To determine the best partner, the team identified firms that specialized in conducting research with a high degree of cultural competency. WM evaluated and compared the capabilities of multiple research firms—globalsojourn, Pacific Market Research, Portland State University, and Su Público (Appendix A) as potential research partners for this study.

Background Research
While the 2013 Behavior Study yielded some insights into various multicultural residents, the sample size was not large enough to direct the Multicultural Behavior Study in any particular direction. Therefore, it was important to conduct research in 2014-2015 to determine which audience to focus our efforts on and find an innovative way to get to these customers and learn from them.

An initial meeting with Seattle Public Utilities yielded a similar experience in recruitment of study participants; classic randomization efforts do not work to capture targeted multilingual customers. The discussion provided an initial baseline of knowledge from SPU’s previous efforts and informed potential approached to recruitment for the study:

- Knowledge:
  - Low income communities are not participating in recycling
Multilingual residents tend to live in multifamily housing which means a high percentage of renters. Traditional surveys are not representative of a multicultural audience. Terminology and products are often confusing to multicultural residents.

- **Recruitment:**
  - Neighborhood based recruitment is more effective
  - Utilize a trusted source from the community to start the conversation
  - Residents may be open to allowing the research firm to enter their home and look in the garbage if a trusted source is involved
  - Focus groups have also been effective for SPU in gathering insights from multicultural audience; getting the respondents may be a challenge but once respondents are in the room, they are engaged

The Team conducted an in-depth analysis of Geographic Information Systems (GIS) and American Community Survey (ACS) data to map the language proficiency for King and Snohomish Counties to determine the language of focus for the study. First, King County GIS department created a map indicating the density of nine languages spoken in King and Snohomish Counties by census tract. These GIS maps provided a clear visual representation of various densities and geographic concentration of the nine languages spoken in each county by census tract. This effort was supplemented with more in-depth language proficiency analysis utilizing the data from American Community Survey 2008-2012 (B16001 Language Spoken at Home by Ability to Speak English for the Population 5 years and over). Finally, all Waste Management WUTC customers were matched to their respective census tracts to be utilized as a cross referencing data point in all research analysis. Spanish was determined to be the primary language, other than English, among the target audience for the study.

The cross referencing data, however, had multiple limitations and were used as a guiding point to start the study design process. The identified limitations were:

- The data only looked at language proficiency by individuals within census tracts and not necessarily provide information about household type (single family vs. multi-family)
- It did not take into account country of origin, levels of assimilation or acculturation, generation, and immigration.
- Direct correlation cannot be established by cross referencing language proficiency by census tracts and number of WM UTC customers by census tracts. The data looks at overall density and propensity of language proficiency by census tracts not in relation to the number of Waste Management WUTC customers in each census tract.

Despite the limitations, the data analysis helped identify a clear priority audience group and subsequently key research questions the study must help answer.

**Study Design and Recruitment Strategy**

To answer the key research questions, the research team held multiple meetings to explore various study design and recruitment methodology options.

Prior to identifying the right methodologies, important considerations were discussed including:

- The importance of considering the level of acculturation and Latino values that exist within particular households.
- Sensitivity around the rich diversity within the Latino community.
The family dynamic, language sensitivity and how to be inclusive of different members of the family.

The team considered numerous recruitment options (Appendix B) and identified the advantages, disadvantages, and keys to success with each tactic. A total of seven alternatives were generated as summarized below:

<table>
<thead>
<tr>
<th>Recruitment option</th>
<th>Summary Description</th>
<th>Appendix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faith based organizations (FBO)</td>
<td>Utilize the clergy and/or lay leadership to recruit and screen members to participate in the study; incentives for both the FBO and the members will be provided.</td>
<td>B.1</td>
</tr>
<tr>
<td>Community based organizations (CBO)</td>
<td>Utilize CBO management and/or leaders to recruit and screen members to participate in the study; incentives for both the CBO and the members will be provided.</td>
<td>B.2</td>
</tr>
<tr>
<td>Recruit for later interview</td>
<td>Recruit potential respondents at central location (i.e. retailers) for possible interview after Waste Characterization.</td>
<td>B.3</td>
</tr>
<tr>
<td>Double Recruit</td>
<td>Recruit potential respondents at central location (i.e. retailers) via preliminary interview which may include one or two questions about Hispanic/ Latino overall behavior and attitudes; conduct interview after Waste Characterization</td>
<td>B.4</td>
</tr>
<tr>
<td>Concurrent Studies</td>
<td>Recruit for study; conduct Waste Characterization and in-home surveys concurrently and later merge data.</td>
<td>B.5</td>
</tr>
<tr>
<td>Intercept with later Waste Characterization</td>
<td>Conduct behavioral study at intercept location and subsequently perform Waste Characterization; merge data at later date.</td>
<td>B.6</td>
</tr>
<tr>
<td>Door to Door</td>
<td>Predict high potential households and mirror 2013 Study process</td>
<td>B.7</td>
</tr>
</tbody>
</table>

After analyzing the different recruitment methodologies, the broader team prioritized two recruitment approaches. Six key criteria were developed to help evaluate the different methodologies presented.

1. **Accuracy and Reliability**: Will this methodology yield results that are accurate and reliable
2. **Success Potential**: What are the chances of success using this particular methodology
3. **Sensitivity to Cultural Differences**: Is the approach culturally appropriate
4. **Community Relations**: Does the methodology further WM and King/Snohomish County’s community objectives
5. **Cost Considerations**: Does the approach make sense from a cost productivity perspective
6. **Match with Waste Characterization**: Is the approach compatible with waste characterization guidelines and processes

Important considerations were made in planning for the waste characterization portion of the study.

- Replicate the pioneering study methodology from the Waste Management 2013 Behavior Study which consisted of customizing the survey to each household to reflect the common misplaced items in the recycling cart collected from waste characterization
- Consider looking at all the carts available at the home to identify which cart the items are being disposed
- Identify which carts they have and incorporate into the questionnaire what is happening to the items that should be going into the missing cart
- There should be enough time in between the notification and the actual waste characterization to capture the most authentic behavior through the characterization
- Budget will determine the feasibility and scope of waste characterization

**Measuring for Feasibility for Success**

Once the preferred recruitment strategies were identified, additional research was needed to evaluate the feasibility of implementation. This meant understanding who are the potential community-based, faith-based and retail partners to assist in the implementation of the recruitment strategies. Also a need to better understand which geographic locations would be heat map areas that could yield the most successful recruitment in both counties was identified. It was important to cross reference if these community-based, faith-based organizations and grocery stores were located or would draw people from the identified heat map areas within each counties. The analysis of these sets of data would help the team determine which would be the most viable recruitment strategy for each county.

**Implementation Outcomes**

**Research Partner**

globalsojourn, in partnership with Crestwood Associates, was selected as the research partner for this study due to their extensive research experience with Hispanic/ Latino communities and ability to conduct a hybrid of quantitative and qualitative research to provide insights.

**Priority Audience**

Following the analysis of GIS and ACS data, the team identified that Spanish speakers represented the largest language group next to English-speakers in both counties. In addition, according to the data almost 50% of the Spanish speakers in each county spoke primarily Spanish and also said they did not speak English very well. It was determined by the stakeholder group that understanding more about the Spanish-dominant (speak Spanish and English not very well) customers was a key priority for WM and the counties.

**Research Questions**

The team also identified and prioritized the information that would meet the needs of all interested parties and better inform future efforts:

1. Are recycling behaviors universal?
   a. Is there a similarity/difference between Spanish-dominant audience and English-speaking audience when it comes to recycling behaviors and barriers?
   b. Do they all have a similar or different perception, behavior and barriers with the same items?

2. What is the role each member of the household and their language proficiency play into recycling?
   a. Who are the Spanish-dominant members of the household?
   b. How is education and information about recycling coming into the household?
   c. What language and which member would be the most effective advocate for recycling within a Spanish-dominant household?

**Study Design & Recruitment Strategies**

At a facilitated discussion held on November 4, 2014 at Snohomish County’s Government Center, the broad group evaluated each methodology against evaluation criteria outlined in Appendix B.
In subsequent discussion, the group zeroed in on two methodologies that, with some adjustments, best met the research needs for the project. The two selected methodologies were:

- **Hybrid Double-Concurrent Recruitment:** Potential respondents will be pre-surveyed at a strategic central retail location and those who meet the qualification criteria will be scheduled for in-depth surveys at a later date. The waste characterization will be conducted prior to the survey date. Participants will receive an incentive for their participation after the completion of the pre-survey and a larger incentive upon completion of the in-depth survey. *(Appendix C)*

- **Combined Organization Outreach:** Strategic partnerships are formed with Community Based Organizations (CBO) or Faith Based Organizations (FBO) and advocates within those organizations will be identified to conduct recruiting. Those who meet the qualification criteria will be scheduled to in-depth surveys at a later date. The waste characterization will be conducted at the homes of the recruited participants followed by an in-home interview. Participants and organizations will receive an incentive for their participation in the study and recruitment process. *(Appendix D)*

In both of the above strategies, potential respondents will be screened for key characteristics such as language preference, WUTC residency and single family dwelling. With the pre-screening system, the research team will be able to balance respondents to be as representative as possible.

Upon prioritization of these two recruitment strategies, the stakeholder group determined it was important to explore and evaluate the feasibility of implementation and if there would be a one recruitment methodology for both counties or a preferred methodology that is distinct in each county.

**Measuring for Feasibility for Success**

The team conducted additional research using the knowledge of the stakeholder group to assess the feasibility for success of the proposed recruitment strategies. In order to answer these questions, various efforts were completed:

- Review of potential recruitment partners and locations
- Utilize geodemographic tool to narrow geographic locations

globalsojourn created an initial comprehensive list of CBOs, FBOs, and other potential community partners which was shared with the stakeholder group: Waste Management, King County, Snohomish County, C+C, Eco-lógica, ECOSS, & TDW+Co. The list consisted of 74 organizations total for both King and Snohomish Counties. The stakeholder group shared their expertise and knowledge about the organizations and their feasibility as a partner for the study. All the feedback were compiled and the organizations were sorted and ranked as:

- GREEN – High probability of partnership
- YELLOW – Mid-probability of partnership
- RED – Low probability of partnership

Simultaneously, C+C partnered with the Latino magazine and newspaper distributor for Washington State, *Felix Connection*, who is responsible for distributing the majority of the Spanish newspapers and magazines in the state. A list of 827 Latino retail stores was reviewed and sorted to only include those that were in the Waste Management WUTC zip codes in King and Snohomish Counties. There were 213 retail locations that met the WUTC criteria.
In order to measure the feasibility of success in implementation under either strategy, globalsojourn created a geodemographic tool that helped narrow down geographic locations that would yield the most qualified participants for the study through the development of a heat map areas for potential recruitment.

The geodemographic modeling was developed on a census tract basis through identifying areas where there is a high concentration of both WUTC Waste Management customers and a high degree of Spanish dominant individuals. Where there was a higher overlap, these were identified as “primary” areas; adjacent areas where the match was not as strong were designated as “secondary”. Merging continuous primary and secondary areas formed “regions.”

The analysis determined:
- Snohomish County high potential areas were South Everett, Lynwood, Lake Stevens and Stanwood. *(Appendix E)*
- King County high potential areas were the intersection of Seattle and Burien, Seattle-Renton, and Redmond-Sammamish. *(Appendix F)*

Having identified the potential geographic locations in each county where the desired priority audience group lived, the potential CBO/FBO partners and retail locations were cross-referenced to see if these partnerships would help with recruitment of the desired participants.
- Snohomish County had a limited number of CBOs within the primary areas; however a high number of central locations such as grocery stores.
- King County had a high number of CBOs within the primary areas; however a limited number of central locations such as grocery stores that primarily supported the UTC.

The analysis suggested that for Snohomish county, there was a higher probability of success in recruiting participants through the hybrid double concurrent recruitment methodology at high-traffic central locations like grocery stores or the retail centers near said grocery stores. There was a good number of grocery stores that were located within the heat map areas in Snohomish counties. *(Appendix G)*

On the other hand, in King County, the heat map areas were more dispersed and retailers such as grocery stores were not necessarily located within these heat map areas which led the research team to suggest that partnerships with community-based and faith-based organizations may yield better chances of recruiting the desired participants. *(Appendix H)*

**Evaluation**

Some lessons learned throughout the study design and development of recruitment strategies are:

1. A study designed to better understand the behavior and barriers of the multicultural audience whether that be defined by language or culture require a unique study design and recruitment methodology.
2. As a result of the demographic data analysis, we learned that Spanish-speakers are the largest demographic in King and Snohomish county after Caucasian and that within the Spanish-speaking audience groups approximately half of them speak Spanish and English not very well.
3. The geodemographic tool shined light on potential geographic locations within each county where a higher percentage of our desired audience group may reside
4. Furthermore, we learned that King and Snohomish County have distinct characteristics when it comes to Spanish-speaking residents. In King County, there are concentrated regions but those
regions are dispersed and distant from each other whereas in Snohomish county, the concentrated regions are close to each other throughout the county.

5. Due to their unique geographic dispersion of Spanish-speaking residents in each county, different methodologies were identified as optimal for recruiting the right audience for the study.

6. We’ve learned that it is important to identify key cultural insights that are important and valued by the focus audience group into the study design. For example, we examine the importance of building trust and not being mistaken by an immigration raid efforts were key to recruiting participants to follow through with the study. Therefore, the methodologies developed took into account ways to build in trust and support from the community and partners like community-based, faith-based organization and trusted retailers to optimize the success of the study.

7. There has not been a study of this kind ever completed in the solid waste world. This is a ground breaking and pioneering effort to better serve the diverse communities that make up each county and WUTC residents. Therefore, there have been new innovations and learning lessons to develop a culturally competent and successful behavior study design.

8. Finally, a thorough effort has been completed to date to predict the feasibility of success. The team is ready to see the plan in action and learn from the new insights that will be gathered from the study.

Next Steps
The multicultural behavior study with focus on Spanish-dominant speaking residents will be implemented in 2016. Strategic check-in points with all partners to track the progress of the behavior study will be clearly defined and assigned in the timeline throughout the implementation of the study.
APPENDIX A: Comparative Chart of Research Firms to Implement the Multicultural Behavior Study

<table>
<thead>
<tr>
<th>Description of the research firm</th>
<th>globalsojourn</th>
<th>Pacific Market Research</th>
<th>Portland State University</th>
<th>Su Público</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Globalsojourn approached research through partnership with Crestwood Associates.</td>
<td>Strong base of experience in a full range of consumer research.</td>
<td>Renee Bogin Curtis is a project manager at Portland State University Community Environmental Services. She would partner with her research staff &amp; Research Survey Lab</td>
<td>Marketing agency – Hispanic News. Structure of the agency was odd:</td>
</tr>
<tr>
<td></td>
<td>- Combines multicultural knowledge and experience from Global Sojourn with</td>
<td>- Combines in-house staff for research design with</td>
<td></td>
<td>- Part news</td>
</tr>
<tr>
<td></td>
<td>- Research expertise of Crestwood Associates.</td>
<td>- On-site in-house call center</td>
<td></td>
<td>- Part agency</td>
</tr>
<tr>
<td>Firm Size</td>
<td>Mid-sized: 10 – 50</td>
<td>Large: 300+</td>
<td>University Research Team &amp; Survey Research Lab (4 main staff)</td>
<td>Focus is primarily in event-based outreach. No prior formal experience of research projects.</td>
</tr>
<tr>
<td>Research objective</td>
<td>- Hybrid – quantitative and qualitative research to provide insights and strategies that will lead to an increase in recycling among Spanish-language preferred or dominant Latinos</td>
<td>- Conduct quantitative research to assess consumer attitudes and behaviors around recycling and waste management</td>
<td>- N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Research approach | - Similar methodology to the 2013 study.  
- Key element 1: Waste characterization study among the desired audience.  
- Key element 2: Personal, in-depth interview with qualified household respondents | - Similar survey work from 2013.  
- Key element 1: Waste characterization study among the desired audience  
- Key element 2: Shorter in-person or phone interview with qualified household respondents | - N/A | - N/A |
| Research audience: | - Less acculturated Spanish language preferring Latinos  
- WASTE MANAGEMENT customers  
- WUTC in King and Snohomish | - Spanish preferred/Spanish dominant  
- WASTE MANAGEMENT customers  
- WUTC in King and Snohomish | - N/A | - N/A |
| Sample Size | - 50 respondents  
- 40 in King  
- 30 in Snohomish | - 70 respondents.  
- 40 in King  
- 30 in Snohomish | - N/A | - N/A |
<p>| Recruiting methodology | - Grassroots | - Quantitative phone survey using a 2-minute | These were some suggested research strategies: | - N/A |</p>
<table>
<thead>
<tr>
<th>Interviews</th>
<th>- Customized face to face</th>
<th>- In person household interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- 30 minutes + 10 minutes of critical “relationship-building” time.</td>
<td>- 15 minutes</td>
</tr>
<tr>
<td></td>
<td>- In Spanish</td>
<td>- In Spanish</td>
</tr>
<tr>
<td></td>
<td>- Number of interviewees not</td>
<td>- Up to three interviewees.</td>
</tr>
</tbody>
</table>

| - Faith-based organization partnership |
| o Recruited through their church or other social organizations (5-10 partnerships). |
| - Potential respondents will be confirmed through a review of addresses and a phone qualification. |
| - Flexible with review and revise strategies |

| - screening questionnaire. |
| - Using the WASTE MANAGEMENT customer phone list. |
| - If the phone list phone recruitment does not work, they will seek to either: |
| o Purchase a different list |
| o Partner with CBOs |

| - Site address and name review |
| - Further breakdown the Census tracts |
| - Postcard mailers |
| - Practice-based rapid recruitment |
| - Incentivize through drawings |
| - Sampling company |

| - N/A |
| - N/A |
specified in the proposal as it depends on who can participate in the household.

| Incentive          | - $100 per interview  
|                   |   o 50/50 split between church or community organization and the respondent household | - $25 gift card | - Yes - TBD | - N/A |

| Cost Estimate      | - $109,950  
|                   |   - First 50 household interviews + $1,400 (each additional interview above initial 50).  
|                   |   - Includes:  
<p>|                   |   - All research design, management and analysis | - $91,114 | - N/A | - N/A |</p>
<table>
<thead>
<tr>
<th>Potential Cost Increase</th>
<th>- globalsojourn will address twists and turns within the budget but if we make major course corrections those would be discussed if it impacts the budget.</th>
<th>- Price will increase if there is a lower incidence of 5% in the recruit.</th>
<th>- N/A</th>
<th>- N/A</th>
</tr>
</thead>
</table>
## APPENDIX B: Group Evaluation Results of the Recruitment Methodology Options Developed by globalsojourn

<table>
<thead>
<tr>
<th>Methodology Option</th>
<th>Accuracy &amp; Reliability</th>
<th>Success Potential</th>
<th>Sensitive to Cultural Differences</th>
<th>Community Relations</th>
<th>Cost Considerations</th>
<th>Match with Waste Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A: Faith Based Organizations</td>
<td>Reliable for the psychographic served</td>
<td>Assumed high</td>
<td>Yes</td>
<td>Yes</td>
<td>Expect moderate if focus on few churches</td>
<td>Yes</td>
</tr>
<tr>
<td>1B: Community Based Organizations</td>
<td>Reliable for the psychographic served</td>
<td>Concern if enough incentive for org</td>
<td>May have lower control</td>
<td>Yes, unless low qualification</td>
<td>Expect moderate if focus on few orgs</td>
<td>Yes</td>
</tr>
<tr>
<td>2A: Recruit for later interview</td>
<td>Reliable for the recruiting locations</td>
<td>Challenging due to delayed gratification</td>
<td>Dependent upon recruiting location</td>
<td>Possible issues with forgetters or suspicious</td>
<td>Can become expensive as expect high drop off</td>
<td>Yes</td>
</tr>
<tr>
<td>2B: Double Recruit</td>
<td>Reliable for the recruiting locations</td>
<td>Slightly higher that straight recruit due to relationship</td>
<td>Dependent upon recruiting location</td>
<td>Few issues with forgetters or suspicious</td>
<td>Dependent on locations and delay timing</td>
<td>Yes</td>
</tr>
<tr>
<td>2C: Concurrent Studies</td>
<td>Reliable for the recruiting locations</td>
<td>Assumed high if good recruiting locations</td>
<td>Dependent upon recruiting location</td>
<td>Few issues with forgetters or suspicious</td>
<td>Dependent on locations and delay timing</td>
<td>Requires back end data merge</td>
</tr>
<tr>
<td>2D: Intercepts with later Waste Characterization</td>
<td>Reliable for the recruiting locations</td>
<td>Assumed high if good recruiting locations</td>
<td>Limited to those at location</td>
<td>Neutral</td>
<td>Least costly if high efficiency locations</td>
<td>Requires back end data merge</td>
</tr>
<tr>
<td>3A: Door to door</td>
<td>Yes, as allows greatest selectivity</td>
<td>Very low</td>
<td>Yes</td>
<td>Neutral</td>
<td>Very high due to low cooperation rates</td>
<td>Yes</td>
</tr>
</tbody>
</table>
APPENDIX B.1: Advantages and Disadvantages of Faith-Based Organization Recruitment Strategy

### Evaluation:

#### Option 1A: Faith-Based Organization Recruiting

<table>
<thead>
<tr>
<th>Advantages:</th>
<th>Disadvantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generates immediate trust for high in-home interview participation</td>
<td>Limited to church goers</td>
</tr>
<tr>
<td>High efficiency as will be able to draw on broad audience</td>
<td>Assumes strong cooperation from congregation</td>
</tr>
<tr>
<td>Access to families</td>
<td></td>
</tr>
</tbody>
</table>

#### Overall Evaluation:

- Strong alternative to implement similar research design to 2013 study
- Must assume psychographic is adequately representative

### Keys to Success:

- Building quality relationships with clergy/orgs
- Willingness to help screen for qualified respondents
- Less is more to generate sufficient incentives
APPENDIX B.2: Advantages and Disadvantages of Community-Based Organization Recruitment Strategy

**Evaluation:**

**Option 1B: Community-Based Organization Recruiting**

<table>
<thead>
<tr>
<th>Advantages:</th>
<th>Disadvantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Has an immediate base of potential respondents</td>
<td>• May have lower control over cultural differences and sensitivity to screening criteria</td>
</tr>
<tr>
<td>• Variety of CBos may reduce psychographic bias</td>
<td>• Organizational incentive may not be sufficient</td>
</tr>
<tr>
<td>• May need broad base of SBois for diversity</td>
<td>• May need broad base of SBois for diversity</td>
</tr>
</tbody>
</table>

**Overall Evaluation**

• Similar design to 2013 study
• Expect lower in-home cooperation vs faith based
• Could fail if not sufficient members/audience meeting recruiting standards reducing org support

**Keys to Success:**

• Building quality relationships with orgs
• Orgs willingness to work with screening criteria
• Less is more to generate sufficient incentives
APPENDIX B.3: Advantages and Disadvantages of Recruit for Later Interview Strategy

**Evaluation:**

**Option 2A: Recruit for Later Interview**

- **Recruit at central location but do not conduct in-home interview until after Waste Characterization**

<table>
<thead>
<tr>
<th>Advantages:</th>
<th>Disadvantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Access to large potential respondent base</td>
<td>• May need to heavily screen to find respondents</td>
</tr>
<tr>
<td>• Minimal psychographic bias</td>
<td>• Expect low in-home cooperation due to delayed timing</td>
</tr>
</tbody>
</table>

**Overall Evaluation**

- Delayed gratification may present significant challenge attaining in-home interviews
- May require very high recruit and Waste Characterization expense due to in-home cooperation

**Keys to Success:**

- Location selectiveness near potential respondent shopping and living
- Finding a means to encourage greater cooperation and trust after time delay
APPENDIX B.4: Advantages and Disadvantages of Double Recruit Strategy

Evaluation:
Option 2B: Double Recruit

Immediately conduct screening and recruiting via a “preliminary” study, with “follow up” recruiting for later interview following Waste Characterization.

Advantages:
- Access to large potential respondent base
- Respondents see reward from initial interview
- Minimal psychographic bias
- Provides pre-study that may also improve research

Disadvantages:
- May need to heavily screen to find respondents
- Some respondents will still forget commitment over time

Overall Evaluation
- Improve design over straight recruit, but delayed gratification may present significant challenge
- May require very high recruit and Waste Characterization expense due to in-home cooperation

Keys to Success:
- Location selectiveness near potential respondent shopping and living
- Engineering continued dialogue with respondents to encourage greater cooperation and trust after time delay
APPENDIX B.5: Advantages and Disadvantages of Concurrent Recruitment Strategy

Evaluation:
Option 2C: Concurrent Study

Recruit for in-home behavior study with Waste Characterization happening almost immediately. Merge Waste Characterization data in analysis.

Advantages:
- Access to large potential respondent base
- Higher cooperation due to shorter delay from screening

Disadvantages:
- Location dependent
- Waste Characterization does not happen in advance of interview

Overall Evaluation
- Potentially strong design if back end merge is acceptable research design change

Keys to Success:
- Location selectiveness near potential respondent shopping and living
- Minimizing the time delay from screening to interview
- Close coordination with Waste Characterization/Cascadia
APPENDIX B.6: Advantages and Disadvantages of Interview at Intercept Strategy

Evaluation:
Option 2D: Interview at Intercept

<table>
<thead>
<tr>
<th>Advantages:</th>
<th>Disadvantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Access to large potential respondent base</td>
<td>• Location dependent</td>
</tr>
<tr>
<td>• Avoids time delay issues</td>
<td>• Not in-home; will be limited to fewer family members and shorter interview</td>
</tr>
<tr>
<td>• Reduces research timeframe</td>
<td>• Waste Characterization may be influenced by interview</td>
</tr>
</tbody>
</table>

Overall Evaluation
• Very different approach with less depth than currently specified
• Potential biases

Keys to Success:
• Location selectiveness near potential respondent shopping and living
• Minimizing waste handling characterization bias
APPENDIX B.7: Advantages and Disadvantages of Door-to-Door Recruitment Strategy

Evaluation:
Option 3: Door to Door

Score households for Latino potential and mirror 2013 Study design.

<table>
<thead>
<tr>
<th>Advantages:</th>
<th>Disadvantages:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eliminates advance recruiting challenges</td>
<td>Was not successful with multicultural audiences in 2013; potentially very low cooperation rates</td>
</tr>
<tr>
<td>Avoids Waste Characterization biases</td>
<td>Minimal ability to capture broader family perspective</td>
</tr>
<tr>
<td>Allows broadest respondent participation</td>
<td></td>
</tr>
</tbody>
</table>

Overall Evaluation

- Probably has low success potential if mirror 2013 approach

Keys to Success:

- Successful data scrub to determine desired households
- Ability to more successfully generate cooperation

3/27/2016  Research Design Evaluation
APPENDIX C: Description of Hybrid Double-Concurrent Recruitment Strategy Developed by the Stakeholders Team

OPTION 1: Hybrid Double-Concurrent Recruit Study

Methodology Description
- Select a strategic central location to conduct recruitment
- Pre-survey all potential participants and gather pre-study data
- Participants receive small stipend for completing the pre-survey building trust and legitimacy to the study.
- Screen our pool and select the qualified participant on-site and ask them to participate in another study with larger incentive.
- Schedule time for in-depth survey.
- Conduct waste characterization prior to the survey date
- Participant receives a larger incentive for participation
OPTION 2: Combined Organization Outreach (Faith and Community-Based Orgs)

Methodology Description
- Identify potential strategic partners (reach out equitably to the organizations)
- Identify key advocate within to conduct recruitment
- Conduct waste characterization for the homes of the recruited participant
- Follow-up with in-home interview
- 50% incentive goes towards participant and 50% goes towards organization
APPENDIX E: Geodemographic Analysis for Snohomish County & Top Regions for Optimal Recruitment

Snohomish County Results

3 Regions in particular offer highest concentration for the study

<table>
<thead>
<tr>
<th>Region</th>
<th>Primary # of WM UTC Customers</th>
<th>UTC WM Customers % of Pop</th>
<th>Speak Spanish and English less than &quot;very well&quot;</th>
<th>English &lt; very well % of Pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1 - Everett</td>
<td>22,526</td>
<td>29%</td>
<td>2,575</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>3,893</td>
<td>9%</td>
<td>3,978</td>
<td>9%</td>
</tr>
<tr>
<td>Total</td>
<td>26,419</td>
<td>22%</td>
<td>6,555</td>
<td>5%</td>
</tr>
<tr>
<td>Region 2 - Lynwood</td>
<td>3,161</td>
<td>25%</td>
<td>442</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>1,126</td>
<td>9%</td>
<td>844</td>
<td>7%</td>
</tr>
<tr>
<td>Total</td>
<td>4,288</td>
<td>17%</td>
<td>1,284</td>
<td>5%</td>
</tr>
<tr>
<td>Region 3 - Lake Stevens/Stanwood</td>
<td>7,892</td>
<td>27%</td>
<td>932</td>
<td>5%</td>
</tr>
<tr>
<td></td>
<td>1,691</td>
<td>5%</td>
<td>825</td>
<td>2%</td>
</tr>
<tr>
<td>Total</td>
<td>9,583</td>
<td>15%</td>
<td>1,757</td>
<td>3%</td>
</tr>
</tbody>
</table>
APPENDIX F: Geodemographic Analysis for King County & Top Regions for Optimal Recruitment

King County Findings (con’t)

Four areas are identified as good matches for WM UTC and Spanish-speaking

<table>
<thead>
<tr>
<th>Region</th>
<th>Primary</th>
<th>Secondary</th>
<th>Total</th>
<th># of WM UTC Customers</th>
<th>UTC WM Customers % of Pop</th>
<th>Speak Spanish and English less than &quot;very well&quot;</th>
<th>English &lt; very well % of Pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1</td>
<td>564</td>
<td>2.3%</td>
<td>2,319</td>
<td>2,333</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region 2</td>
<td>1,914</td>
<td>9%</td>
<td>2,652</td>
<td>11%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region 3</td>
<td>2,781</td>
<td>24%</td>
<td>389</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Region 4</td>
<td>500</td>
<td>5%</td>
<td>588</td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX G: Overlay Analysis of CBOs and Retail Intercept locations within the Top Regions for Optimal Recruitment in Snohomish County

CBO Map

After group evaluation of CBOs - only ONE was selected as priority in Snohomish and it located in non-target area.
APPENDIX G: Overlay Analysis of CBOs and Retail Intercept locations within the Top Regions for Optimal Recruitment in Snohomish County

Snohomish County Results (Con’t)
There are many intercept locations that may work for recruitment
CBO Map

King County CBOs draw members from a wider area due to the different services they offer.
King County Findings (con’t)
There are select areas for intercepts in King Co, but most are located in non-target tertiary areas