Testing the Effectiveness of Door-to-Door Outreach on Recycling Behavior

2008

Final Report

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Testing the Effectiveness of Education to Increase Recycling

Statement of Objectives:

The purpose of this research project was to evaluate the effectiveness of a promising approach to increasing residential recycling participation in communities with different collection programs, participation rates, and demographics. The results will be used to assist Wisconsin municipalities in choosing effective methods for promoting residential recycling participation and in identifying productive opportunities for regional collaboration in this endeavor.

The research is aligned with the objectives of the Solid Waste Research Program in that it intended to engage residents in making greater use of municipal recycling as an alternative to solid waste disposal. The research sought to benefit public and private entities responsible for collection, storage, transportation and disposal of solid waste. The promotional method was tested in three southeastern Wisconsin communities. The results will be shared with other Responsible Units (RUs) via websites, list serves, newsletters and conferences. The research was conducted as a joint project involving governmental organizations, UW-Milwaukee and UW-Oshkosh.

Project Description:

The City of Milwaukee and two communities in Waukesha County, the Town of Waukesha and Village of Merton, Wisconsin share the goal of increasing participation in residential recycling. These communities also

1 The City of Wauwatosa, WI was included in the original proposal but was omitted due to several factors. The most significant include the City’s adoption of a new recycling system (single-stream) in November-December, 2007. The change made it more difficult to measure the effect of outreach alone. In addition, the City’s Recycling Coordinator took a new position out of state which left a void unfilled for several months. This limited our access to necessary data and delayed our ability to coordinate an outreach effort. These, coupled with the longer than expected time required for the Waukesha County outreach
have a history of collaboration as members of the Wisconsin Be SMART Coalition. The communities and county would like to expand their outreach efforts by testing a promising approach to promoting recycling.

The approach is the use of personal door-to-door visits by youth who belong to the identified communities and who give residents recycling instructions and information and ask that they increase their participation. Previous studies conducted in both Milwaukee and Iowa confirmed that the inclusion of youth in the outreach efforts is effective as communities are more receptive to change when proposed by youth. Based on a preliminary analysis of a 2006 program in Milwaukee, the study group experienced a 55 percent increase in the number of households setting out their recycling bin on a given collection day, compared to a 15.8 percent increase in the control group.

What remained unanswered after the 2006 Milwaukee study was: 1) the effectiveness of this type of outreach (youth going door-to-door) in neighborhoods with different socio-economic characteristics; 2) the extent to which results of such efforts vary depending on the current level of compliance and; 3) whether the amounts of recycled materials increased and were sustained over a given period of time.

Previous social-marketing efforts have not been guided by empirical research. The current study utilizes an approach that takes advantage of experts in research design, marketing efforts and recycling programs. The outcomes of this research endeavor can help communities make good decisions about the use of public funds and achieve greater waste diversion.

pushed back our effort in Wauwatosa. By the time we were able to pursue the project in Wauwatosa, our remaining funds lapsed back to the UW System Solid Waste Research Program.
with existing collection systems. The Be SMART Coalition seeks opportunities for collaboration to increase efficiency of waste reduction and recycling through regional initiatives. The research will help the Coalition evaluate the usefulness of a common program in communities with different characteristics and different existing levels of recycling participation.

**Research Design:**

The methods and results of the unpublished 2006 Milwaukee study were reviewed and used to plan the door-to-door promotion study in three southeastern Wisconsin communities. The effectiveness of the campaigns was measured largely in terms of the weight of material collected for recycling. The Milwaukee analysis also allowed for the evaluation of effects on recycling bin set-out rates and contamination rates. This approach enabled us to test for its impact on residents that already comply with recycling but may not be recycling all of the materials they could, through the programs serving their households.

Researchers worked directly with the participating Responsible Units in the city of Milwaukee and Waukesha County (the unit responsible for the Town of Waukesha and Village of Merton) on the assessment and assembly of support materials for the promoters to distribute, identifying study and control areas, and collecting recycling data needed for the study. A method for gathering baseline recycling data by route and considering variables such as seasonal variations was developed.

Youth groups were recruited and trained as door-to-door recycling promoters and visited residences in the City of Milwaukee and Village of Merton. When no respondent was home, they left behind a door hanger with information on materials that should be recycled and the benefits to the
community and the environment. In the Town of Waukesha, we also tested for the effect of a literature drop without personal contact.

Recycling data from the study areas were compared with baseline data and data from control areas where no door-to-door promoters made visits. The data comparisons were intended to indicate changes in recycling behaviors that can be attributed to the door-to-door promotion.

Conclusions and recommendations will be shared with all member communities of the Wisconsin Be SMART Coalition, as well as other statewide organizations and agencies concerned with solid waste management, including Wisconsin Counties Association, Associated Recyclers of Wisconsin (AROW), Solid Waste Association of North America (WI Chapter), American Public Works Association (WI Chapter), UW Extension Solid and Hazardous Waste Education Center (SHWEC), and Department of Natural Resources (DNR). Results will be posted on the Be SMART website with links provided to AROW, DNR and SHWEC and notices sent to recycling list serves in the state.

Community Demographics

As previously mentioned, the analysis was conducted on three southeastern Wisconsin communities with different demographic characteristics (see below). Clearly the City of Milwaukee is different from the other communities; it is much larger, has a smaller percentage of college-educated adults, lower per capita income and lower median household values. Both in Waukesha County, the Town of Waukesha and Village of Merton have more similarities than differences – at least compared to Milwaukee. Merton has a smaller population than Waukesha, and a slightly larger percentage of population age 19 or less.
### DEMOGRAPHIC CHARACTERISTICS

<table>
<thead>
<tr>
<th></th>
<th>Town of Waukesha</th>
<th>Village Merton</th>
<th>City of Milwaukee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>8,596</td>
<td>1,926</td>
<td>596,974</td>
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<tr>
<td>Median age</td>
<td>38.8</td>
<td>34.5</td>
<td>30.6</td>
</tr>
<tr>
<td>Pct. of pop. less 19 yrs. Of age</td>
<td>32.0%</td>
<td>38.5%</td>
<td>32.2%</td>
</tr>
<tr>
<td>Pct. of pop. age 65 or older</td>
<td>7.7%</td>
<td>4.0%</td>
<td>10.3%</td>
</tr>
<tr>
<td>Pct. population w/some college</td>
<td>41.2%</td>
<td>39.4%</td>
<td>26.4%</td>
</tr>
<tr>
<td>Per Capita income</td>
<td>$27,861</td>
<td>$24,927</td>
<td>$16,181</td>
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<tr>
<td>Median owner-occupied value</td>
<td>$184,200</td>
<td>$200,500</td>
<td>$80,400</td>
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<tr>
<td>Total housing units</td>
<td>2,929</td>
<td>619</td>
<td>249,215</td>
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</table>

Source: 2000 US Census

### Recycling Outreach Effort in Milwaukee

The City of Milwaukee collects recyclable materials from approximately 190,000 single-family through four-plex households. The majority receive cart collection service while approximately 15% receive bin collection service. The study and control groups chosen for this project were both cart-collected routes. Each cart has a divider which is used to separate paper and cardboard from other recyclable materials. In 2007, the City of Milwaukee collected on average 21.22 pounds of recycled material per household per month. Of the 34 city routes, the monthly average ranged from less than 10 pounds to over 40 pounds. For the outreach study, two recycling routes were selected; recycling route N8 was used as the control and recycling route N7 as the study area. Both routes had lower monthly tonnage averages than the citywide average (16.01 and 17.41) and were in close proximity to each other. Route N7 was of particular interest to one of Milwaukee’s Sanitation District Managers due to its problems with the occurrence of garbage contamination in the recycling carts.
Observation, outreach preparation, and the outreach itself were all carried out by interns participating in the City of Milwaukee’s Summer Youth Internship Program. Pre-outreach observations were conducted on both routes from July 2nd to July 12th, 2007. One intern rode along in each collection truck, noting the number of empty recycling carts and the number of contaminated recycling carts per block number.

Outreach to approximately 5,830 households in route N7 was conducted from July 16th to July 19th and also on July 25th, 2007. The interns completed a training session which included practicing a script that they would use when speaking to residents (see Appendix). The interns walked door-to-door and spoke with residents if they were home, and gave them a litter bag containing an informational flyer about Milwaukee’s recycling program as well as a recycled newspaper pencil. If the resident was not at home, the litter bag was left on the doorknob.

Post-outreach observations were conducted in 2007 from August 3rd through August 16th for route 8, and from August 6th through August 17th for route 7. Once again, the number of empty recycling carts and the number of contaminated recycling carts per block number were recorded. A portion of these observations were carried out by the drivers themselves after the intern program ended for the summer.

For the Milwaukee routes we, thus, had recycling tonnage data, usage rates and contamination rates. Analysis of the proportion of empty and contaminated carts before and after the outreach suggests the effort was effective. Comparing the control and study groups shows a 2.14 percentage point difference in the proportion of empty recycling carts before and after
the outreach. Similarly, comparing pre- and post-outreach data, the percentage of contaminated carts dropped by four percentage points more in the study route than in the control route.

### Analysis of Empty and Contaminated Carts, Milwaukee WI

<table>
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<tr>
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<th>Control Group: N8</th>
<th>Study Group: N7</th>
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<tr>
<td>Households in analysis area</td>
<td>1283</td>
<td>1818</td>
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<tr>
<td>Pre-outreach number of empty carts</td>
<td>219</td>
<td>237</td>
<td></td>
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<tr>
<td>Pre-outreach number of contaminated carts</td>
<td>110</td>
<td>246</td>
<td></td>
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<tr>
<td>Post-outreach number of empty carts</td>
<td>166</td>
<td>118</td>
<td></td>
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<tr>
<td>Post-outreach number of contaminated carts</td>
<td>70</td>
<td>115</td>
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<table>
<thead>
<tr>
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<th>Control Group: N8</th>
<th>Study Group: N7</th>
<th>Difference</th>
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</thead>
<tbody>
<tr>
<td>Change in percent of empty cart</td>
<td>- 4.13 percentage pts</td>
<td>-6.54 percentage pts</td>
<td>-2.14 percentage pts</td>
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<tr>
<td>Change in percent of contaminated carts</td>
<td>- 3.11 percentage pts</td>
<td>-7.2 percentage pts</td>
<td>-4.09 percentage pts</td>
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</table>

### Trends in Recycled Pounds per Household: Milwaukee

The graph below reflects monthly average pounds per household for our route of study. Of particular importance is the graph from August, 2007 to December, 2007. It shows an increase in tons recycled per household of 15.6 percent from July to October, 2007. The growth is similar to 2006 (13.4 percent) and 2005 (15.5 percent). In 2004, household tonnage dropped 7.1 percent between July and October. After October 2007, household recycling tonnage dropped in both November and December. From July to December, household recycling tonnage dropped 40 percent in
2007, compared to 6.9 percent in 2006 and 7.5 percent in 2005. In 2004, household tonnage increased 25.1 percent between July and December\(^2\).

![Milwaukee Route N7: 2004-2007](image)

**Recycling Outreach Efforts in the Village of Merton and Town of Waukesha**

Waukesha County is the responsible unit (responsibility for recycling lies with the county) for the Village of Merton and Town of Waukesha. The county uses bins for recycled materials that residents are required to place at curbside. Unlike the Milwaukee analysis, data were not available for

\(^2\)The fall of 2004 when the tonnage shot up corresponded to when the City notified residents of new accepted paper categories (junk mail, phonebooks, etc.). The end of 2007 dip corresponds with the 2\(^{nd}\) highest snowfall winter in Milwaukee history, which resulted in many days of lost collection as recycling collection workers were instead salting or plowing streets.
setout or contamination rates. However, a third route was added to test the effect of a literature drop. The County’s Solid Waste Coordinator recommended the two communities based on historical data availability. More specifically, the routes chosen have not changed since 2004 (first year of data) and collection totals were valid since the trucks did not stop at any other routes before being weighed at the transfer station. The Town of Waukesha has two collection routes: the Tuesday route has 1,400 households and was used for a literature drop. The control group in Waukesha has 1,600 households and recyclables are collected on Fridays. The Village of Merton has 900 households and was selected for door-to-door visitation.

Coordination of the outreach began with communications with the Merton Boys Scout Troop 47 leaders. We met with the troop members on October 1, 2007 at the Waukesha County Materials Recycling Facility which began with a tour of the facility and was followed by a training session (see Appendix for script). Each participant was required to have parental signature on a waiver. The initial door-to-door effort occurred October 6, 2007. We expected 10-15 troop members and were surprised when only five appeared. A second door-to-door campaign took place October 20, 2007 to complete the route. In all, 707 homes were visited with 265 personal contacts. For their effort, recycling patches and vouchers for ice cream were given as well as letter of appreciation on county letterhead (see attachment).

The graph below reflects average monthly recycled materials collected from 2004 to 2007. The door-to-door outreach occurred in October 2007 and the amount of materials collected dropped 8 percent. In previous years, the average change between October and November rose in 2004 (7.3 percent). The intention was to have the outreach conducted in July, 2007, but coordinating the effort took much longer than expected.
percent) and 2006 (2.2 percent), and decreased in 2005 (45 percent). Similar to the Milwaukee analysis, the Merton trend does not appear to have been affected by the outreach.

The Waukesha literature drop was coordinated with students from the Waukesha West High School Environment Club. On November 11, 2007 seven students using two school district vans canvassed approximately one-third of the route. The literature drop continued on November 19 and concluded November 20, 2007. Between November and December 2007, average monthly recycled material was up 4.1 percent. The growth was consistent with the previous three years: 3.4 percent in 2006, 8.4 percent in 2005 and 11.7 percent in 2004.
Regression Analysis:

A four year history of monthly recycled material weights were collected for both routes in Milwaukee, Merton and the two Town of Waukesha routes. Given the seasonal nature of recycled materials, regression models were run to control for monthly fluctuations, route differences and annual variations.

Milwaukee Findings:

Milwaukee provided monthly household recycling data. The analysis shows that by controlling for the month, route, and year the model explains 25 percent of the variation in household recycled materials (Adjusted R Square). Review of the t-scores and their associated significance levels finds
that the routes were not statistically different from each other, nor was there a difference across the years. There were significant differences by month. Compared to January, February produced an average of 2.9 fewer pounds of household recyclables, August produced 2.1 pounds per household more and December experienced 2.1 pounds less.

The variable called “Outreach Effort” is of central concern to this analysis. The variable was coded 0 for all months up to July 2007 and 1 for months July to December 2007. We are then able to measure the effect of the outreach effort controlling for differences in the routes, year and month. The findings reveal no statistically significant effect on pounds of recycled materials per household.
## Model Summary

<table>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>February</td>
<td>-2.910</td>
<td>1.144</td>
<td>-2.545</td>
<td>.013</td>
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<td>1.144</td>
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<tr>
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<td>-.217</td>
<td>.662</td>
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DV = monthly pounds of recyclables per household.
Waukesha and Merton Findings:

The dependent variable for this model is slightly different from Milwaukee in that we used average monthly recycled material. The independent variables include month, year, route (Merton, Tuesday pickup in Waukesha and Friday pickup in Waukesha). We also have variables to measure the effect of door-to-door outreach in Merton and the literature drop in Waukesha.

**Model Summary**

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
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<tr>
<td>Feb</td>
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<td>Dec</td>
<td>2.277</td>
<td>.348</td>
<td>6.541</td>
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Dependent Variable: average monthly recycled materials
The analysis shows that by controlling for the month, route, and year the model explains 25 percent of the variation in household recycled materials (Adjusted R Square). Review of the t-scores and their associated significance levels finds that the routes were not statistically different from each other, nor was there a difference across the years. There were significant differences by month. Compared to January, February produced an average of 2.9 fewer pounds of household recyclables, August produced 2.1 pounds per household more and December experienced 2.1 pounds less.

The variable called “Outreach Effort” is of central concern to this analysis. The variable was coded 0 for all months up to July 2007 and 1 for months July to December 2007. We are then able to measure the effect of the outreach effort controlling for differences in the routes, year and month. The findings reveal no statistically significant effect on pounds of recycled materials per household.

**Conclusions**

This study sought to empirically test the effects of door-to-door outreach by youth on recycling effort in communities of different composition, recycling rates and delivery methods. Three southeastern Wisconsin communities were identified; Milwaukee, Merton and Waukesha. Measured in terms of recycling output, the findings were consistent; the outreach had no measurable effect on weight of recyclables collected. Milwaukee data on empty and contaminated bins suggests that measured in these terms, the effort was effective. Pre- and post-analyses in Milwaukee shows that in the test route following the outreach, both empty and contaminated bins decreased. Both Waukesha County communities experienced an increase in resident requests for additional recycling bins.
These results indicate that door-to-door outreach may be a promising approach for reducing contamination and involving non-participating households in recycling. However, these improvements were not linked with a change in recycling output that could be distinguished from typical fluctuations.

Recommendations for future research include shifting the focus from who delivers the outreach to the message itself. Working with youth meant that the message needed to be simplified. Even after the training session we discovered, in the field, substantial deviation from the script. In a separate study conducted by the Wisconsin Be SMART Coalition, survey and focus group participants indicated that not knowing what materials are accepted in their communities’ recycling programs was a top barrier preventing them from recycling more. Scripts provided an explanation of accepted materials and a request that residents make a verbal commitment to recycle more, but the students and scouts often omitted these. We recommend a recycling message targeting specific local informational needs by people most capable of delivering that message.

For those considering outreach, we learned that working with high school interns employed by the municipality as was the case in Milwaukee, presented fewer logistical challenges than those encountered with volunteer and school groups. We experienced much less commitment from youth volunteers than initially promised. The Boy Scouts leaders in Merton promised a minimum of 15 volunteers. On the day the outreach occurred, only five volunteers reported. We then needed to schedule additional efforts. To the credit of the Boy Scouts leaders, they worked until the canvassing was complete. Working directly with a high school club for the literature drop meant working through a number of logistical issues that,
while understandable, led to delays. After the first day, it was decided that the effort would be more quickly completed without the students.
Project Participants

Principal Investigator
Craig Maher is Associate Professor in the Masters of Public Administration Program, University of Wisconsin, Oshkosh. Professor Maher has expertise in local government policy analysis, survey research design and research methodology. Previously, he was Associate Researcher at UW-Milwaukee’s Center for Urban Initiatives and Research. Completed projects include an analysis of local government monitoring efforts in Wisconsin, a study of Oshkosh’s Inspections Department, an evaluation of United Way in Waukesha County, and several surveys for Washington County on economic development and comprehensive planning.

Consultant to the Wisconsin Be SMART Coalition
C. Beimborn Consulting is an environmental education consulting firm dedicated to raising awareness for environmental concerns and actions that can be taken to alleviate environmental problems. The firm uses an understanding of learning processes to relate environmental subjects to diverse audiences. Clients include the Wisconsin Be SMART Coalition, UW-Milwaukee and numerous youth programs, environmental organizations, nature centers and science education initiatives.

Other Team members
Karen Fiedler has managed Waukesha County recycling and solid waste management programs for over 20 years. She oversees a county-owned Materials Recycling Facility and effective recycling programs for 25 municipalities. She has served as chairperson for the Wisconsin Be SMART Coalition, a group of municipalities and organizations that seek to reduce waste and prevent pollution through education and cooperation, since its inception in 1995.

Rick Meyers has managed the City of Milwaukee’s recycling programs and State recycling grants since December of 2005. He is part of a management team that oversees operations of the curbside recycling program, which provides collection service to 190,000 households. He establishes and maintains contracts or other agreements necessary to market recyclable materials, including the operation of the City-owned Materials Recovery Facility. He plans, supervises, and implements recycling projects and educational campaigns and programs to increase waste prevention, reuse, and recycling. Rick represents the City of Milwaukee in the Wisconsin Be SMART Coalition and is a board member of Keep Greater Milwaukee Beautiful.
Literature Review


Smith, W. 1999. Fostering Sustainable Behavior: An Introduction to Community-Based Social Marketing. WA

Recycling Outreach Script – Village of Merton

(The two scouts can alternate paragraphs if they choose)

Hi, I’m __________________ from Boy Scout Troop # 47 and this is ___________________________.
(The resident may or may not introduce him- or herself). Our troop is promoting recycling in the Village as a service project. In Waukesha County, we recycle nearly 24,000 tons of material each year from residents like yourself. This helps the environment, saves tax money and supports Wisconsin industries. We would like to help you find ways to recycle even more.

1. The blue recycling bins make recycling convenient, so the Village is offering free ones.
   - Do you have a recycling bin?
   - Do you need a second bin to hold all your recyclables?
   (If they need a bin, give them the information below*. If not, continue with the script)

2. Here’s what you can recycle in your recycling bin. All of these materials are collected – (remove the Recycling Guide from the envelope, point and say all the materials on the information sheet. Paper items are on one side and containers on the other side. Reminder- paper can be mixed together in the same PAPER bag or bundled together. Bottles and cans should be loose in the bin).
   These things should not go in the recycling bin (NO PLASTIC BAGS. Point and say a couple of the materials that should not be placed in recycling bins- dirty paper, plastic, scrap metal).

3. Now that you know what can be collected in the recycling bin, are there things you can recycle that you hadn’t already been recycling? (Allow the person to answer).
   Will you help by recycling the correct materials as much as you can? (Allow the person to answer. If they agree, say “Thank you!”).

4. Do you have any questions? (Answer questions if you know the answers; if not, say you don’t know and point out the website they can use to get more information, or they can call 262-896-8300.)

We brought this information for you to keep (give them the bag). Thank you for your time.

Good bye.

*You can get a free recycle bin!
Pick one up at the Village Hall, 28343 Sussex Road
Mon.- Thurs. 9 am- 5 pm Phone 262-538-0820
Village of Merton Recycling Outreach Training – 1/1/07

7:00 Introduce ourselves – Craig, Karen, Chris

7:05 Introduce the project - Chris
   Explanation of the experiment and its goals, use of controls

7:15 Recycling background – Karen

7:25 Scouts’ roles: Logistics – Craig and Mark Brault
   Explanation of the general task and how the day will be spent:
   meeting place, schedule, materials for all households, visit only
   households with 1 – 4 units (no big apartment buildings or
   businesses).

7:35 Scouts’ roles: Script and considerations - Chris
   Purpose of the script is to let people know that recycling makes a
   difference, the individual’s participation is important, it is not difficult
   or inconvenient to recycle correctly and to ask the residents to recycle
   as much as they can.
   Tell them the reasons for the way it is written, they may put it into
   their own words with that knowledge.
   Safety concerns – dogs, stay within sight of each other (also to know
   which house needs the next visit).
   Keeping count – tell the driver how many residents you spoke with
   after each block.

7:45 Practice the script - Scouts

7:55 Questions?
ACTIVITY OR FIELD TRIP WAIVER
Agreement for Assumption of Risk, Indemnification, Release, and Consent for Emergency Treatment

I, __________________________________________ (print name), age ______, desire to participate voluntarily in a door-to-door recycling education campaign (sponsored by) the University of Wisconsin – Oshkosh.

I UNDERSTAND THAT I AM BEING ASKED TO READ EACH OF THE FOLLOWING PARAGRAPHS CAREFULLY. I UNDERSTAND THAT IF I WISH TO DISCUSS ANY OF THE TERMS CONTAINED IN THIS AGREEMENT, I MAY CONTACT Prof. Craig S. Maher, AT TELEPHONE NUMBER 920-424-7304.

Assumption of Risks:
I understand that going door-to-door, by its very nature, carries with it certain inherent risks that cannot be eliminated regardless of the care taken to avoid injuries and/or illness. I acknowledge that I have been advised to have health and accident insurance in effect and that no such coverage is provided for me by UW-Oshkosh, the Board of Regents of the University of Wisconsin System, or the State of Wisconsin (collectively, the “Releasees”). I know, understand, and appreciate the risks that are inherent in the above-listed activity. I hereby assert that my participation is voluntary and that I knowingly assume all such risks.

*Signature: __________________________________________ Date:____________________

*Signature of Parent or Guardian
(If Participant is under 18): __________________________________Date:____________________

Hold Harmless, Indemnity and Release:
In consideration of my participation in these activities, I, for myself, spouse, heirs, personal representatives, estate or assigns, agree to defend, hold harmless, indemnify and release the Releasees and their officers, employees, agents, and volunteers from and against any and all claims, demands, actions, or causes of action of any sort on account of damage to personal property, personal injury, or death which may result from my participation in the above-listed activity. This release includes claims based on the negligence of the Releasees, and their officers, employees, agents, and volunteers, but expressly does not include claims based on their intentional misconduct or recklessness. I understand that by agreeing to this clause I am releasing claims and giving up substantial rights, including my right to sue.

Signature: __________________________________________ Date:____________________

Signature of Parent or Guardian
(If Participant is under 18): ____________________________Date:____________________

Consent for Emergency Treatment:
I authorize UW-OSHKOSH and its designated representatives to consent, on my behalf, to any emergency medical/hospital care or treatment to be rendered upon the advice of any licensed physician. I agree to be responsible for all necessary charges incurred by any hospitalization or treatment rendered pursuant to this authorization.

Signature: __________________________________________ Date:____________________

Signature of Parent or Guardian
(If Participant is under 18): ____________________________Date:____________________

* Signature of this form also permits us to take photographs and use those photographs for promotional purposes.
Testing the Effectiveness of *Education* to Increase Recycling

Craig Maher, UW-Oshkosh
Chris Beimborn, UW-Milwaukee
Partners
Recycling Responsible Units:
City of Milwaukee
Waukesha County
City of Wauwatosa

Researchers:
Craig Maher, UW-Oshkosh
Chris Beimborn, UW-Milwaukee

Funded by a University of Wisconsin System
Solid Waste Research Program Grant

Goal
To engage residents in making greater use of recycling and gather information to help other communities apply the strategy effectively.
**Background**

In summer 2006, City of Milwaukee Summer Youth Interns made door-to-door visits in a low recycling neighborhood. Participation rose 55%. It rose 15.8% in similar neighborhoods at that time.

**Questions**

- Would youth door-to-door outreach raise participation elsewhere? Does it have an impact where participation is already high?
- Does the outreach increase the amount recycled?
- Does it reduce contamination?
**Questions**

- Does the increase last?
- Does the personal contact matter?
- Who, other than interns, could do the outreach and what are the feasibility considerations?

**Implementation**

**Milwaukee**

- Summer 2007 outreach with City Interns.
- Before- and after measurement of recycling weights, participation and contamination in the test area and a control area.
- Comparison to previous year weights to control for seasonal patterns.
Implementation

Waukesha County

- Fall 2007 outreach with Scouts.
- Fall information drop with high school conservation club
- Before- and after measurement of recycling weights in the test areas and a control area.

Implementation

Wauwatosa

- The community is transitioning to a new residential recycling program.
- Youth outreach will take place in Spring, 2008
Study Groups

Village of Merton, WI
- Door to door outreach by scouts

Tuesday route for Town of Waukesha, WI
- Literature drop

Route N7 in the City of Milwaukee
- Door to door outreach by interns
Town of Waukesha, WI
Recycled Materials 2004-07

City Of Milwaukee, WI Route N7
Recycled Tons Per Household 2004-07
### The Good News... Milwaukee

#### UW Grant Recycling Outreach Project 2007 - Analysis

<table>
<thead>
<tr>
<th>Block numbers used for analysis</th>
<th>Control Group: N8</th>
<th>Study Group: N7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households in analysis area</td>
<td>73-128</td>
<td>174-232</td>
</tr>
<tr>
<td>Pre-outreach number of empty carts</td>
<td>219</td>
<td>237</td>
</tr>
<tr>
<td>Post-outreach number of empty carts</td>
<td>166</td>
<td>118</td>
</tr>
<tr>
<td>Pre-outreach number of contaminated carts</td>
<td>110</td>
<td>246</td>
</tr>
<tr>
<td>Post-outreach number of contaminated carts</td>
<td>70</td>
<td>115</td>
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<tr>
<td><strong>Decrease from Pre to Post, empty</strong></td>
<td><strong>24%</strong></td>
<td><strong>50%</strong></td>
</tr>
<tr>
<td><strong>Decrease from Pre to Post, contaminated</strong></td>
<td><strong>36%</strong></td>
<td><strong>53%</strong></td>
</tr>
</tbody>
</table>

### The Good News... Merton and Waukesha

The Village of Merton fielded many requests for recycling bins from residents.
Findings

Outreach had no statistically significant impact on tons of recycled materials collected in either the Milwaukee, Merton or Waukesha routes.

Recycled materials collected were up throughout 2007 in Waukesha and Merton.

Requests for bins increased in Merton.

The Milwaukee route experienced increased participation and a reduction in contaminated bins.

Insights for Recycling Managers

A recycling message targeting specific informational needs may matter more than the way the message is delivered.

Working with high school interns employed by the municipality presented fewer logistical challenges than those encountered with volunteer groups.

Door-to-door outreach seems effective for reducing contamination and identifying households that need recycling bins. Other strategies may be better for increasing total quantities recycled.