

Best Practices in Multifamily (Apartment) Recycling

Report



Eureka Recycling
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EUREKA! RECYCLING

Eureka Recycling is a 501(c)(3) nonprofit recycler providing education, advocacy, collection and processing services to Saint Paul and the Twin Cities metro area. Eureka Recycling's mission is to reduce waste today through innovative resource management and reach a waste-free tomorrow by demonstrating that waste is preventable, not inevitable. Eureka Recycling (formerly the recycling department of the Saint Paul Neighborhood Energy Consortium) launched Saint Paul's multifamily program in 1986.



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1. Research, Data Gathering, and Analysis

Activities:

- Gather internal and external information about successful strategies in multifamily waste reduction including recycling projects and reports including information from other states' programs.
- Analyze recovery patterns and the tools used over the past 15 years from Saint Paul's Multifamily program. Research successful tools, methods and messages used in other communities. (Examples – financial incentives, mass media, norms appeals, etc.)
- Identify additional areas with the greatest potential for tonnage increases and additional barriers that exist.
- Complete a pre-survey of current tools, methods and messages applied in select dwellings in the target areas. (Washington County, Fridley, and Saint Paul.) The survey will be applied to the persons currently in the control of developing, implementing, and/or evaluating these materials and the objective will be to identify all of the existing material, ascertain any benefits and evaluate effectiveness.

Projected Outcome: Data driven conclusions that build off prior work to clearly identify feasible, cost-effective strategies to increase recovery rates at multifamily units

Evaluation of outcome: A focused list of tools, methods and messages to test through focus groups and field work. A compilation of pre-application tools, methods, and messages for comparison and analysis in evaluation.

National Survey and Study Review

In this research stage we became aware of the program designs and outreach strategies employed in recycling programs across the nation, and included an examination of our own program and the programs of our project partners, Washington County and the city of Fridley [see Program Descriptions, Appendix One]. We summarized existing studies and articles on multifamily recycling from Ann Arbor, New York City, and the EPA, as well as shorter articles from recycling publications [see Appendix One for summaries of studies and articles]. In addition, we sent surveys to 130 communities nationwide asking about the design of their multifamily program and their outreach efforts. Sixty-seven programs responded to the e-mail. In the end, we received 35 completed surveys and outreach materials from about 18 communities [see Multifamily Recycling Program Survey, Appendix One].

The results of the survey supported our assumption that multifamily recycling programs are far from uniform. While most programs collect the same materials, the way that they collect those materials varies. Some cities contract with one service provider; others require large buildings to contract on their own. The cut-off point (the number of units above which a building is considered multifamily) also varies from city to city. Some cities have detailed data on material collected from apartment buildings; others have no idea

what is being collected because a number of different haulers are contracting independently with building managers. As a result, we were unable to draw any objective conclusions about the effectiveness of the different programs based on hard data. Nevertheless, the 35 surveys we received, as well as the printed material some programs sent us, gave us an idea of the scope and variety of education and outreach tools used in multifamily recycling in North America.

What is multifamily?

Multifamily recycling is difficult to define. Not only are there many variations from program to program, but within programs themselves, customers and building size and type can vary greatly.

- **Size**—What qualifies as a multifamily building is defined differently from city to city. Sometimes it includes buildings with 5 or more units, sometimes 10 or more, etc. The commonality is that everyone has a cut off that determines what is and is not a multifamily building.
- **Type**—Multifamily buildings include an endless variety of housing structures, from high-rises to small apartment buildings to large clusters of small buildings.
- **Customers**—Multifamily recycling programs often include townhomes and condominiums, which means homeowners as well as renters are served. Also, recycling coordinators must contend with an added layer of customers, namely managers, caretakers, and/or owners with varying degrees of interest in recycling. Multifamily program can also include schools, public buildings and businesses, particularly in mixed-use commercial/residential areas. However, the majority of multifamily customers are renters.

The success of multifamily recycling is usually gauged in comparison to curbside recycling programs. However, multifamily recycling service is nothing like curbside recycling service, even though they both serve residential recyclers. The service is distinctly different from residential. In a sense, multifamily recycling is the equivalent of many, mini, unstaffed drop-off sites. This study looks at multifamily recycling programs across the country to establish baselines for multifamily recycling that are not based on curbside programs, but on the proven potential of other multifamily programs. In order to understand and improve multifamily recycling, we need to stop comparing our multifamily programs to our curbside programs.

Assumptions and Challenges

As we sifted through the information in studies, articles, and data from other programs, certain opinions and assumptions about the challenges of multifamily recycling emerged consistently. Program managers generally agree that issues of high resident turnover, limited storage space, and frequent language barriers impede the success of multifamily programs. In addition, cooperation with building management was frequently cited as a crucial factor in the success of a program.

Although our sources agreed on the challenges facing multifamily recycling, we found a range of attitudes about the potential for overcoming those challenges. A 1992 study in Ann Arbor attempted a rigorous statistically analyzed study of outreach methods, but its only conclusion was that while any outreach method is effective in medium-sized

buildings, nothing works for buildings with more than 100 units. On the other hand, *Resource Recycling* articles on programs in Broward County, Florida and Onondaga County, New York were more optimistic. They declared that multifamily recycling can be successful as long as steps are taken to develop a well-designed program, win the cooperation of management, and thoroughly educate tenants about the benefits and methods of recycling. Reports from New York City's program were also interesting. Since a large percentage of NYC residents live in multifamily housing, the city does not have the option of neglecting multifamily recycling in favor of curbside. The city has developed an extensive public education program involving market research, extensive advertising, and the use of consistent messages and images.

Data Analysis

This study looks at five areas specific to multifamily recycling programs that pose unique challenges for recycling coordinators: Program design, management involvement, building logistics, contamination, and outreach strategies. In these five areas we have been able to distill some general characteristics and trends that are established in most multifamily programs. The final stages of our research will focus on answering questions that will identify the most effective ways to address challenges associated with these trends.

Program Design

Most programs have an open hauling system, whereby buildings managers contract with the hauler of their choice. Certainly, it is easier to educate residents in programs that are under one contract. Very little has been done to craft uniform education efforts that address buildings with different service. Similarly, data tracking has proven difficult when information must be tracked by and gathered from many different haulers. Recycling coordinators are struggling to find effective ways to hold multiple haulers to uniform standards of customer service and reporting.

This study will determine:

- What contractual language with haulers is necessary to aid in effectiveness.
- What program managers can do to get the desired level of service from haulers.
- What kind of data program managers need to track to make their programs more successful.
- Which “generic” recycling messages effectively cross program specifics.
- What level of administration and education is needed to sustain a successful program.

Building Logistics (Size, Structure and Layout)

Every multifamily recycling program is faced with a wide array of buildings sizes and types that pose unique sets of challenges that must be addressed by recycling coordinators. Recycling coordinators find this time-consuming and intimidating and they lack specific guidelines to help them set-up containers that make for effective programs. They also do not always have influence over how recycling is set up in buildings. This is often defaulted to the hauler who is providing the service; therefore,

containers are placed with the hauler's and perhaps the building manager's convenience in mind, not necessarily for the convenience of the residents who are using the service. Most recycling programs use carts that are not distinguishable from garbage containers. The majority of programs have made efforts to provide signage to identify containers for recycling—some have standard labels, others allow haulers to use their own.

This study will determine:

- What the universal truths are about multifamily recycling set-ups and what are the characteristics of successful multifamily setups.
- What the best set-ups are for different building types and layouts.
- How to determine and accommodate “convenience” for management, haulers and residents.
- What signage/labels for trash and recycling containers are most effective.

Management Involvement

Recycling is usually a low priority for building owners/managers because is added work (although there are cases where managers are advocates of recycling.) This is exacerbated by the fact that there are often no real or perceived financial incentives to offer building owners/managers to provide recycling. Most recycling coordinators communicate with managers when there are problems at buildings. There is very little pro-active communication with building owners/managers, because it takes extra time and tenacity to get people to return calls. Management is often not anxious to return calls when recycling coordinators are asking buildings to take on added responsibility (and sometimes financial cost) to add recycling to their building. Turnover of management is also a problem for program managers to track and deal with.

This study will determine:

- How important management involvement is for the success of a recycling program.
- Are there advantages to having paid or unpaid volunteers or on-site or off-site coordinators involved.
- What outreach can be done effectively without management cooperation.
- What outreach tools are easy to use and useful for different types of management.
- Can additional services, like the Free Market, inspire management participation?

Contamination

Garbage is a problem in multifamily recycling containers. Like drop-off sites, and unlike curbside programs, it is often impossible to determine who has caused the contamination since usage is communal and anonymous. There is a sense that materials from multifamily programs are of poor quality compared to curbside, but there does not seem to be a baseline understanding of what levels of contamination are expected and/or average for multifamily programs. Recycling coordinators who do not get good reports from haulers are not sure what problems exist. Also with contamination, there is a sense that once a cart is contaminated, it encourages and accumulates more contamination, so it is important to keep carts clear of unwanted material.

This study will determine:

- How to effectively label and position recycling and trash containers to reduce contamination.
- How recycling monitors can be recruited and used to keep recycling carts clear of contamination. What are other effective methods?
- How to identify and address the source of contamination to prevent it.

Assumptions about Outreach

The most universal outreach taking place now is direct mail, usually annually, for programs that are under one contract. The majority of open hauling programs communicate with residents through direct mail. Also, all programs provide container labels of some kind. One issue that receives a lot of attention is turnover since it is difficult to keep up with outreach efforts when residents move. Outreach is expensive and recycling coordinators do not have the time or financial resources to do multiple activities, multiple times. This contradicts with the notion that education has to be constant. Many programs provide management with education resources upon request. Twenty four of the thirty five programs surveyed attempted to involve management in outreach efforts, but many found it difficult to get their involvement.

This study will determine:

- What kind of outreach tools have the longest life and most effectiveness.
- How to acquire and sustain management involvement. What are effective talking points, incentives, and motivations for building managers.
- How recycling coordinators can track turn-over and keep all residents informed.

Translations

Recycling coordinators have often argued that demographics can be correlated with recycling participation. Many of the surveys collected from recycling coordinators indicated that a perceived barrier is communicating with residents who do not speak English or speak English in a limited capacity. Only a handful of programs offer information in multiple languages, and these are usually simple translations of the current English brochure, not bilingual pieces. Many program managers say that they think they should provide translations but do not, and there is little or no attempt being made to create pieces that make cultural sense to these groups. Once materials are created, it is difficult to distribute the materials to the right audience without the help of management.

A portion of this study involves developing materials in Spanish, Somali and Hmong that effectively convey a recycling message to these traditionally untargeted groups. To aid us in the development of these materials, we also contacted non-recycling organizations about their outreach specifically to non-English speaking communities. We talked to fifteen organizations and received materials from seven, and found again an absence of material developed with culturally sensitive messaging.

This study will determine:

- How important is it to craft different messages that take culture into account when translating materials.

- What are the most efficient and effective ways to distribute translated/culturally specific material to ensure that it reaches the target audience.

Building Selection

The most consistent characteristic of multifamily programs is that they are incredibly diverse across all categories. For this reason, we were diligent during the building selection process to ensure that the group we are studying represents as many variables as possible [see Appendix Two].

An effort was made to find large, small, and medium sized buildings within which to test methods and materials. In addition, buildings with relatively homogenous populations and buildings with diverse populations have been included in the study group. Several buildings were selected based on the demographics of the residents to provide an opportunity to determine which methods are most effective when communicating with non-English speakers. The group also includes properties that have cooperative managers, reluctant managers, and managers that have demonstrated marginal interest in maintaining the recycling program, as well as different management types – from caretakers to large management companies.

During the selection process, we ranked buildings with high, medium, and low rankings according to their current performance (calculated by tonnage of material recycled per unit per month) and their potential for increase. Frequency of contamination was also considered a measure of performance ranking. We took care to ensure all rankings were represented in our selection, as well as buildings that were both increasing in performance and decreasing in performance at the time of selection.

Outreach Strategies

After examining the data we derived from the studies and surveys, we were able to generate a list of dozens of outreach strategies that have been tried for multifamily recycling, categorizing them according to the communities they target, the communication medium they use, and the particular challenges they expect to address [see Appendix Three]. Most of the outreach strategies, whether used nationwide or in our own program, are based in common sense. Many programs had an outreach strategy that balanced the production of printed material with in-person outreach, outreach to management, outreach at events and outreach through community organizations. As expected, there are myriad variations just in the area of printed material, from posters to door hangers to refrigerator magnets, illustrated with anything from photographs to colorful cartoon characters. One strategy that stood out was the use of a pledge card in order to get residents to develop a personal commitment to recycling. In compiling the list of outreach strategies, we cast our net wide to incorporate the creativity of other communities [see Appendix Three]. What seemed to be most important was not the choice of one outreach strategy over another, but the questions of whether an organization is able to devote time and resources to a consistent outreach messages. Those programs that took the time to implement a balanced and consistent set of outreach strategies reported more success.

Applying Outreach

When we looked at our program in the light of our research, we found that we track multifamily recycling much more closely than most programs. Because of the way our program is designed, we have a large amount of data on amounts recycled at individual buildings. This data is useful in pinpointing where and what kind of outreach strategies are needed. Washington County and the city of Fridley have less centralized recycling programs and therefore do not collect detailed data. We also found that we have used a variety of outreach strategies in the history of our program, but some cities are using strategies that have not been tried recently in Saint Paul, Fridley or Washington County, such as the use of pledge cards or the practice of providing a recycling kit to residents.

As a result of our research, our toolkit will be a distillation of best-practices informed not only by our field testing, but by the experience of various organizations nationwide. This study tests the messages needed to get better participation and the methods needed to deliver a lasting impact:

Messages to increase participation:

- How to recycle vs. Why to recycle
- Do translations work?
- What to recycle vs. What NOT to recycle
- How to create peer pressure and community buy-in
- Who messages should come from —city? hauler? management? other organizations?
- Who messages should be directed to—resident? management?

How do we deliver messages for a lasting impact?:

- What kind of mail is most affective? How do you get it to the right people?
- Is door-to-door useful? Who has time? At what cost?
- Are effective labels the silver bullet?
- Are action steps like recycling kits and commitment cards effective?
- How important is positive feedback? Will it increase and sustain participation?

2. Focus Groups & Outreach

Activities:

- Test preliminary tools, methods and messages of communication using targeted focus groups comprised of demographically representative individuals from each of the select areas.
- Train staff and volunteers in application of preliminary tools, methods and messages for multifamily waste reduction including recycling.

Projected Outcome: Completed analysis and evaluation of preliminary tools, methods and messages. Strategic actions for expanding recovery rates in multifamily units finalized. Volunteers and staff are trained in the delivery of the preliminary tools, methods and messages.

Evaluation of outcome: Focus group participant, staff and volunteer feedback.

In phase two we compiled feedback from recycling coordinators who have had experience with multifamily recycling and apartment residents to test these educated assumptions about outreach in multifamily programs and recycling behavior and attitudes. In this phase, we also tested assumptions that language and cultural barriers are a particular challenge for multifamily recycling. We focused on the Somali, Hmong, and Latino communities, which are the most populous groups of non-native English speakers in Minnesota, to see if culturally specific outreach could improve multifamily recycling rates.

Focus Groups

Initially, Eureka Recycling intended to set up three focus groups of Somali, Hmong, and Latino residents to get feedback on recycling messages and outreach methods to target those groups. We assumed that the best way to get this information would be to partner with community organizations that already serve those communities. Another assumption was that we would have better attendance and results if people were invited by a trusted organization or a familiar member of their cultural community to participate.

Eureka Recycling staff met with community leaders in the Hmong, Latino, and Somali communities to determine the best organizations to approach about partnerships, as well as advice on how to proceed with our grant work. These meetings included:

- **Chai Yang**, Hmong community organizers for Saint Paul's District 2 neighborhood, the largest Hmong populated neighborhood in the city.
- **Alejandra Castillo**, former recycling outreach intern for Saint Paul's District 7 neighborhood, the second largest Hmong populated neighborhood in the city.
- **Pakou Hang**, outreach organizer for Senator Paul Wellstone's campaign and training school, the Jane Adams schools for Democracy, and Planned Parenthood, specializes in Hmong outreach.
- **Heather Cox**, ESL program coordinator for Hmong American Partnership.
- **Doug Copeland**, executive director of R.E.D.A., the economic development agency that serves Saint Paul's Latino business district - District del Sol.

- **Rainbow Hirsch**, community organizer for Saint Paul’s West Side neighborhood (Saint Paul’s well-known Latino neighborhood).
- **Teresa Ortiz**, organizer for the Resource Center of the Americas
- **Stacy Yanish**, ESL and program coordinator for the Resource Center of the Americas.
- **Abukar Ali**, president of African Support Services, recipient of waste reduction grant for outreach to Skyline Towers, Saint Paul’s largest Somali populated housing building.
- **Halima Tbrahim**, county social worker and African Support Services volunteer who oversaw waste reduction grant.

We then identified community organizations that serve the Somali, Hmong, or Latino populations to set up focus groups. We found that organizations were willing to provide a space to host a focus group, but recruiting people to attend proved difficult. We determined that it would be more effective to directly approach people for feedback by conducting short individual interviews. [For a summary of the interview process, see Appendix Four] For Spanish speakers, staff members went to a neighborhood that is a center for the Latino community and approached people on the streets. For members of the Hmong and Somali communities, we utilized the skills and connections of our interns from those communities. With their connections to the Spanish, Hmong, and Somali community, not to mention their language skills, the interns were able to interview people from within each community using email, home visits, phone calls, and on-the-street encounters. Interviews allowed us to get feedback from people who do not have the time, the comfort level, or the English skills to participate in a focus group. Fifty five interviews were conducted in English, Somali, Spanish, and Hmong—or some combination [see Appendix Four].

In the end, it proved very useful to conduct interviews in native languages. Many members of these communities speak fluent English, but not all. Conducting interviews in multiple languages may have provided comfort, but more significantly, it yielded more accurate answers and it allowed interviewees to elaborate on issues that were important to them. Members of the Somali, Latino and Hmong communities are very interested and willing to talk about recycling. Talking about recycling was a language barrier, not a cultural barrier.

A goal of the focus groups was to learn whether different cultural groups have distinctive behaviors and attitudes related to recycling. Any differences we found would guide us in designing culturally specific outreach and adjusting our communication strategies to make them most effective. We had questions about how important it is for us to translate printed materials, whether written materials or alternative media are the best way to communicate with specific groups, whether there are culturally specific motivations for recycling, and whether the messages we use for the general population could be tweaked to improve recycling in specific groups.

Examining Cultural and Language Barriers

We found that the motivations to recycle are fairly similar across cultural groups. People from all three groups who knew about the recycling program cited reducing garbage,

resource conservation, and saving money as reasons to recycle. Barriers to recycling were also similar to what we hear from the general population: confusion about recycling logistics, sorting rules, and what materials are recyclable. Overall, the more individuals within a cultural group were established in the community, the higher the understanding of recycling as an activity. Conversely, the less established a population was (communities of new immigrants) the less recycling was understood. In speaking with community organizers in all of these communities, they noted that the concept of trash collection, let alone recycling, is a new concept for many immigrants. As a community becomes more established, recycling is first embraced as an activity that “good” citizens do to follow the cultural “rules.” Later a deeper understanding of the costs saving and environmental benefits of recycling is realized.

Participation varied even more than attitude along the same lines. The Latino group’s comments suggested a slightly higher level of participation than the Hmong and Somali communities. In the long-established Latino neighborhoods in Saint Paul, people generally understood recycling to be a cost saving activity that benefits the environment. Their main concerns were similar to those in “mainstream” communities: When is my collection day? What is recyclable? A possible explanation is that the Hmong and Somali communities are composed of more recent immigrants who have less knowledge of community protocols and fewer English language skills than the Latino community in West St. Paul is more established. For all these communities, the usual barriers to recycling mentioned above are exacerbated by the language barrier.

Hmong community members also showed a good base understanding of recycling. In this community, recycling was seen as an activity carried out by good residents and they often learned about recycling behavior from neighbors. Some Hmong community members were already committed recyclers- although those who spoke limited English expressed confusion over recycling schedules and had difficulty staying informed about drop-off locations. Others were less familiar with the purposes and practices of recycling.

Also, because the Latino and Hmong communities in Saint Paul are well-established, we discovered a vast networks of community leaders, organizations and youth who are interested in and able to spread the word about recycling. We gained an invaluable understanding of what we needed to do in order to effectively utilize these existing networks. These tasks include: translate materials well, make contact with community networks, provide training opportunities, understand what different communities know and don’t know about recycling. With the groundwork in place, we hope that continued outreach over time will lead to exponential increases in participation. For the Latino and Hmong communities, recycling is an activity that is already embraced and practiced. In order to increase participation, Eureka Recycling learned to provide simple tools that enable these communities to better educate themselves about recycling.

Most members of the Somali and Latino communities stated that it is important to have materials translated into their languages. In the Hmong community, many people do not read Hmong since it was traditionally a spoken, not written, language, and those who read Hmong can usually also read English. As with all communities, but particularly in the Hmong community, the impact of peer learning is much greater than the impact of a well

translated brochure. However, having this information readily available in Hmong allows for word-of-mouth to travel faster, and more accurately.

The interviews conducted by the interns revealed that most bi-lingual communities prefer materials to include both English and their commonly spoken language, rather than a single language. This allows all members of a household, regardless of their English language and reading level, to use the brochure and to practice their English skills. This is also always people to see what information was trying to be translated in case a different dialect or meaning was used.

For residents who are newer, like recent immigrants, recycling was less understood and more messages about “why to recycle” or “how recycling is different from trash” are needed. In these communities, being able to convey recycling information face-to-face in Hmong or Somali made a big difference. The newer the groups to recycling, the more they preferred pictures over illustrations. Once the practice becomes commonplace, illustrations are preferred. (Illustrations are also preferred by “mainstream” audiences). In this case, the Latino community, and to a lesser extent the Hmong community, expressed a preference for illustrations. The Somali preferred specific pictures.

Many people from all three groups said they learned about the recycling program from friends or family. There was a slightly higher incidence in the Somali and Hmong groups of people who said they learned about it from a flyer or newspaper. Almost all agreed that mail is a good way to communicate about the recycling program. However, the Hmong group stood out for suggesting other modes of communication as well. Many Hmong interviewees said that a local Hmong radio show would be a good venue for recycling information. Several also suggested the Internet. Responses from all three groups indicated that having pictures of people from those groups would help catch someone’s eye but it was not crucial.

Apartment Residents Group

The focus group of apartment residents was a two-hour session with a small group of four people. We supplemented the results of the focus group by interviewing a few people on the phone [see Apartment Residents Focus Group, Appendix Five]. Many of the assumptions we had about apartment residents were corroborated: storage is a problem in small apartments; management support is important; contamination and low participation are problems. We also learned that hauling materials is as much of an issue as storage: in buildings without trash chutes residents are less likely to make the trip to the recycling bins, but in a building where the lid on the trash dumpster is hard to lift residents are more likely to put trash in the recycling. Cold weather is another deterrent when the bins are outside. We also heard frequent reference to elderly or disabled residents who have a hard time recycling.

Another unique characteristic of apartment buildings is that the group living situation provides an opportunity for someone with a strong commitment to recycling to devote a lot of time to the recycling program. We found more than one instance of someone who has made it their duty to not only recycle in their own households, but to remove contaminated materials that others have put in the carts, collect recycling from elderly or

disabled residents, and confront neighbors who are recycling improperly. People seemed to do this more out of a sense of duty and doing the right thing rather than pride in their building.

Public housing residents mentioned resident council meetings as the best venue to communicate with residents. Most residents felt like mail could be effective too. They also said that posters were good but they tend to get torn down or overlooked. Resident council meetings can be a good way to get in contact with involved residents, but it is just one strategy that would need to be supplemented by others since not all residents feel connected to the council. In one case, our interns discovered that the Hmong residents did not trust the council and were not involved, so anything that came from the council was met with skepticism. Resident council meetings cannot be the only avenue but it may be the best one to reach some recycling advocates.

Experts

We conducted a focus group of “experts”, past and present recycling coordinators who have conducted multifamily outreach in the metro area. The session focused more directly on what types of outreach worked and did not work and what were coordinators’ biggest obstacles to doing outreach. They reviewed the plan for the materials we wish to test and offered their feedback.

Confirmed Assumptions:

- Importance of managers can not be emphasized enough. With an involved building manager, recycling works – with an uninvolved manager, recycling is less successful.
- Sustainability of outreach – It is important to focus on outreach that can be easily maintained or that is self-sustaining. There is a lot of turnover in residents, managers, and owners so outreach has to happen over and over again.
- In years past, garbage was much more expensive and it gave much more of an economic incentive for recycling. Now recycling is often a low priority for apartments, and fees/taxes/cost of trash are not an incentive for renters. Therefore, focusing on the financial picture is not effective.

Advice from Experts:

- Recognize and focus on the different cultural motivations for recycling: for example, it is not always for environmental reasons, but because it is part of “being a good American”. Use different examples of materials for different cultural groups (culturally specific products/packaging, etc.).
- Develop relationships with drivers doing the multifamily routes. Do ride alongs with multifamily drivers. Use driver input/insight to inform outreach and identify problems. Use comments, notes, and knowledge from drivers to help target outreach, identify problems, etc.
- Broaden your idea of who can help. Establish relationships with volunteer residents to keep motivated with clear roles for these volunteers. Relationships often involve minimal time, but help acknowledge efforts of these volunteers/residents. Focus

on buildings whose residents call in about recycling. Use residents who call in as volunteers or recycling “eyes & ears”, similar to block club leader roles.

- Recognize differences in audiences that are not always cultural (condominium owners vs. renters).
- Monitor success of outreach as it occurs. Do not waste outreach efforts (knowing range of success, identifying success, etc.).
- Explore money as an incentive for recycling.
- You have to have trash and recycling receptacles side-by-side.
- In education, focus on what not to do. People want to know the “no’s” up front. Make it clearer about differences between trash and recycling.
- To lower contamination and do training for new building, try issuing individual recycling bins, put numbers on the bins to correspond with unit numbers or floor numbers. Use them temporarily to get the advantage of “tagging” education. When working with specific buildings, give individual recycling bins to apartments and pick up the recycling unit by unit. Small amounts of money in the form of grants can be great motivator to groups.

Outreach

An outreach team was assembled for baseline application of education with the multifamily grant. The outreach team consisted of an outreach specialist who was responsible for coordinating the team and five outreach interns who were the primary staff delivering the outreach materials and methods to residents.

Recruitment of Outreach Team

Recruitment of the outreach team began at a well recognized youth organization called YouthCARE, a non-profit organization located in the metro-area that focuses on programs serving inner-city youth. Eureka Recycling was also given numerous applications from qualified youth from area community councils that have large Hmong and Spanish populations.

Outreach Team Selection

One of the main criteria used to select the team was based on finding interns who reflect the growing and already prevalent cultural diversity in Saint Paul. We also heavily weighed leadership skills which included public speaking and effective communication skills, as well as experience volunteering or participating in community-building events. The interns all had some experiencing presenting information to residents door to door. Five of the six members of the outreach team had the ability to speak and write either Hmong or Somali. The interns also demonstrated great enthusiasm and a commitment to community based work. The youth interns are all students at metropolitan area high schools.

Training

A five day orientation and training was put together for the interns [see Outreach Intern Training and Orientation, Appendix Five]. The first two days were devoted to learning

about the history of Eureka Recycling, its mission, and the structure of the organization. The next two days following the orientation were devoted to educating the interns on the basics of recycling, such as what materials could be recycled and the different categories they are sorted into. The last day of training was designated a “field trip” day. The activities included a visit to the recycling facility as well as a visit to the recycling drop-off station, and the opportunity to observe a truck pickup curb-side recycling. The interns also stopped by a multi-family unit and checked out the recycling bins located by the dumpster. This last day provided them with a chance to observe first hand what had been discussed the previous four days of training. The following week the recycling interns developed their presentations and practiced their presentations utilizing Eureka Recycling staff as their test audience [see Recycling Presentation Script, Appendix Five].

Additional trainings were scheduled as needed and as issues and questions arose from the interns. The interns received two trainings with more in depth discussions on plastics, particularly the complications involved in educating others about it. A door-to-door training was given to offer a more in depth look at specific talking points at the door. During this training, interns participated in numerous role-playing skits of various door-to-door scenarios to better prepare for the unexpected. A separate training given by a police officer provided team with general safety tips for door-to-door outreach as well as basic education on crime prevention and self-defense.

Presentations

The following four weeks were devoted to scheduling presentations at various multifamily dwellings and community classrooms. The interns volunteered to present at the various places scheduled and distributed flyers at appropriate community sites to alert residents of our presentations. Before each presentation, a brief meeting would be held to explain the day’s events. During each meeting, as much information as possible would be given on the demographics of the area where the presentation would be held. Many situations came up that had to be dealt with immediately, such as unexpected translation needs and a low turn out of presentation attendees. Most highlights, concerns, and issues, however, were discussed during a half hour debrief time following each presentation where issues could be discussed openly and after some thought. The presentations that were held at community rooms and cafeterias in multifamily buildings were promoted both as recycling presentations and ice cream socials. Ice cream was distributed to residents after each presentation and residents had an opportunity to request education materials or ask questions in a less formal setting.

Eureka Recycling presented information and began to build relevant relationships with severally culturally diverse and/or culturally specific organizations. Here is a brief list of places where we have conducted outreach:

- **Mount Airy High Rise:** This 153-unit building houses individuals and families from many communities, and it is operated by the Public Housing Authority. Residents speak many languages including: English, Hmong, Vietnamese, Somali, and Chinese.
- **The West Side Boy’s and Girl’s Club:** This organization is a youth recreation and education center that serves Saint Paul’s West Side, which has a high

- percentage of Latino residents. School age children have supervised access to computers, games, recreation equipment, and a variety of education programs.
- **The Hmong American Partnership:** Hmong American Partnership has programs for people from all backgrounds. Their outreach efforts were designed to cooperate with the ESL classes offered by The Hmong American Partnership.
 - **Humboldt Apartments:** Humboldt Apartments is a senior community on Saint Paul's West Side. Three buildings house 202 living units; all operated by Amherst Wilder Foundation (a local non profit).
 - **Valley High Rise:** This 161-unit high rise is located on University Avenue in Saint Paul's Frogtown neighborhood and is operated by the Public Housing Authority. Residents are from a variety of backgrounds including a number of Hmong and Latino families.

Results of the Presentations

Presentations that were given in buildings serviced by the multifamily recycling program presented the best opportunity for measuring recycling participation before and after the presentations. In each of the four buildings participating in the multifamily program the weight of recyclables collected increased by between 31% and 187% in the three months following the presentations (as compared to the three months prior to the presentations). By contrast, these same buildings increased between 6% and 12% in comparisons with the same months of 2002 to cross check for seasonal differences. Some of the greatest gains were seen in the amount of mixed paper collected. At one property the three months after the presentation saw a 515% increase over the three months prior to the presentation. Each property showed at least a 27% increase in the amount of mixed paper collected.

At the multifamily properties residents that attended the presentations generally indicated that they were already participating in the recycling program. Many of these residents requested information for distribution to their neighbors or display in common areas. Many also indicated that they had a better understanding of what materials (particularly the broad range of papers) that could be recycled.

Door-to-Door Outreach

After many of the presentations were completed, door-to-door outreach began. The interns paired up in groups of two, each with a clipboard and a set of brochures. A meeting place and time would be designated, and each pair would get assigned to an area. After each outreach effort, a debriefing would follow where interns could openly discuss their experience at each apartment building.

Feedback from the Interns

After preparing their presentations, the interns provided the initial feedback on Eureka Recycling's current translations and multicultural materials. For example, the interns suggested that the posters follow a more easy to understand order, rather than starting with a complicated and often misunderstood category like "mixed paper." In the communities we talked to, if people were familiar with recycling it was with newspapers and metals cans. These are now at the top of our posters and brochures.

Translations

Through this process we discovered that Eureka Recycling's current translations were not as accurate as they should be. For example, words meaning glass (like windows) were used to describe glass bottles and jars. Furthermore, as immigrant communities become more stable, certain language dialects become more prominent and widely used. Appropriate professional translators were identified, contacted, and hired to translate materials. Our redeveloped translated materials will also reflect culturally appropriate changes that have been identified through the outreach process.

3. Outreach Material & Waste Reduction Tool Development

Activities:

- Develop focus group tested – preliminary tools, methods, and messages designed to decrease barriers to participation and increase waste reduction including recycling at multifamily units, in pilot application.
- Make necessary upgrades to expand online exchange opportunities for use with minimal staff requirements. The upgrades include database enhancement, site accessibility, and modifications that allow both users and managers easier operation of the site. In addition, managers can easily assemble reports on active use of the site.

Projected Outcome: Effective and accessible “physical” components of tool-kit complete. Residential exchange upgrades complete for application in participating locations.

Evaluation of Outcome: Communication tools are developed and ready for print. Residential exchange operating at necessary level for services.

Based on research, experience, and the initial application of a basic level of information to all the buildings participating in this study, Eureka Recycling developed several strategies to lower contamination and increase participation in multifamily buildings. The descriptions below outline the messages that will be communicated, and the methods by which the messages will be distributed.

Messages

“Here’s how to recycle and it’s easy”

Proactively getting people information about recycling specifics and recycling as a habit/behavior is important, particularly in multifamily where turnover is high and it is more difficult to learn passively (unlike curbside where people can see what their neighbors are doing and can be corrected by the hauler directly.) The message **“Here’s how to recycle and it’s easy”** focuses on the convenience of recycling. This message can be coupled with the specifics of any recycling program to give residents a complete orientation to recycling. This orientation message helps people understand the logistics of how to do it and where to take it. Coupled with tools like door to door pickup, this message also helps residents who need the system to be easily accessible, like elderly residents. Also, you can use this message with a tool kit or additional service (e.g. individual collection outside each door) to educate residents about specific issues and to get recycling habits started.

“This is where you recycle”

Eureka Recycling has learned that it is important to distinguish recycling carts from garbage containers so that people clearly understand that **“This is where you recycle.”** Logistically, where you put the recycling carts (next to garbage) also makes a difference. In terms of education, additional signage at the carts helps people understand their purpose. This can include signage for individual carts and signage for the general recycling area to distinguish it from the trash. Because color coding carts is often not an option for recycling coordinator (due to cost and non-ownership of the carts), part of our study will include providing the right quantity and quality and of signage to make the area stand out.

“Recycling is not trash!”

Since contamination and quality of materials is always an issue with multifamily recycling, we decided to use a direct **“Recycling is not trash!”** message to approach this issue head on. This message defines recycling for audiences who are not familiar with recycling as a habit or a concept in general. Sometimes this message is simple: no trash. Other times it is fleshed out to identify reusable discards and distinguish them from garbage. This is a message that focuses on what is not recyclable rather than what is recyclable.

“This building recycles”

Many of the materials we developed also include the use of the message that **“This building recycles.”** This message will help us determine if we can create a community, peer pressure, and building culture about recycling. This also is a general message to get the word out about recycling and can be used generically to cross program specifics. It should help people who are learning the rules of a particular building, such as new immigrants and new tenants.

Commitment Cards

People need to make a commitment to recycle, particularly in multifamily buildings where there is very little peer pressure to do so. Based on social marketing research, commitment cards tend to elevate people’s willingness to do an activity.

We will test how the delivery of the **Commitment Card** impacts its effectiveness. The idea for this rose out of the presentations from our interns. Even though only a handful of people showed up at presentations, the pre-event door-to-door outreach may have been the source of the real results. People verbally told our interns that they recycled. Perhaps just telling another person you are going to recycle helps to reinforce the habit and encourages people to continue to recycle.

“Recycling is good for the environment”

Although this is often where people want to begin, the message that **“Recycling is good for the environment”** is a distinctly deeper message that should really only be used with people who understand recycling. Those who are very familiar with recycling and are in the habit of recycling respond to this message, so we have incorporated this into our materials that will be directed at those who are already recycling. It is not necessarily a good message to motivate people to begin, but it may be useful in helping people continue to make the right choices at the right moment. Positive reinforcement and “hoopla” is important because it tells people that the extra effort is worth it and recycling

really does matter. We are going to use this message to congratulate people for their efforts to see if reinforcement begets more recycling.

Methods

There are many ways to get information into the hands of the people who need it. Some are expensive and time-consuming, some are quick and cheap. Determining what method to use to deliver the message is the key to determining how effective that message will be. We will test the following methods:

Direct Outreach to Residents

We know that the frequency of direct outreach makes a big difference in the effectiveness of direct outreach. The challenge is to make direct outreach sustainable and constant without a tremendous work load for the manager.

We will test distributing basic information door-to-door, through the mail, and left as door hanger. We will also test the effectiveness of presenting basic recycling information at a building meeting or social event. At some properties we plan to distribute “recycling kits” that provide containers for collecting materials in individual apartments and to aid in sorting, storing, and carrying materials to the collection bins. This is an effort to simplify and encourage the set up a recycling system in the resident’s home.

Finally, we will test the value of participation cards, or “commitment cards” that residents sign agreeing to recycle. Some cards will have the added incentive of being placed in a drawing for 100 dollars off their rent.

Working with Others: Having Others Distribute Information to Residents

We will be distributing the materials and information to building caretakers and recycling coordinators, asking them to take actions to distribute the materials to the residents.

We will provide managers with the materials as well, and offer suggestions on how to include language around recycling in their leases, distribute move-in kits, and give tours that include the recycling area. We hope to determine how critical it is to have management involvement, and if recycling participation can increase when caretakers or recycling coordinators are handling the outreach.

Creating Hoopla About Recycling and Giving Feedback

We will examine how beneficial it is to provide positive feedback. For example, we will put a poster in the lobby of a building that experience small increases, to see if it helps to sustain the increase in tonnage. We will incorporate positive feedback messages in many other places as well, such as flashy signage on carts, banners over carts acknowledging improvements, and congratulatory certificates and letters to managers about success. We will also provide managers and recycling coordinators with reliable statistics about the impacts of recycling so they can craft their own announcements about the impact their building is making. If it is a building that has utilized commitment cards, we might try a public poster or certificate that displays that people have agreed to participate in the recycling program at the building.

Free Market Upgrades

The Twin Cities Free Market database was completely redesigned to support a significantly larger number of simultaneous users. The original system could support up to 40 simultaneous users, whereas the new system has the capacity to support literally thousands of users. This increase in capacity has allowed Eureka Recycling to offer all metro-area counties the opportunity to participate in the Twin Cities Free Market residential materials exchange program.

In addition, the website was redesigned to allow participants to set up and maintain individual password-protected user accounts. With the additions of these accounts Twin Cities Free Market users are now able to place, edit, and remove Free Market listings independently at their convenience.

The Twin Cities Free Market now incorporates a customized report-writing program that allows program managers and municipal sponsors to generate and receive detailed information on quantity and type of materials exchanged, and levels of user-ship. This information can be refined to provide information at several levels of municipal geography, including county, city, and zip code. Program administrators are now better able to tailor this information to identify regions with significant needs or an abundance of materials, and to measure the effect of outreach efforts.

Currently on average 11,000 visitors make 47,000 visits to the Twin Cities Free Market website each month. In 2003 more than 6900 items were exchanged diverting nearly 490 tons of useable materials from being thrown in the trash.

In September 2003 Eureka Recycling conducted a focus group to gather information that will help shape the Twin Cities Free Market outreach plan for 2004 and beyond. As a part of that plan Eureka Recycling is developing a promotional campaign that focuses on communicating the benefits of Free Market participation for apartment dwellers and property managers alike. Apartment dwellers are often able to benefit both from giving and getting free usable household items on the Twin Cities Free Market. Property managers can eliminate disposal costs associated with discarded usable items by promoting the Twin Cities Free Market to their residents.

4. Field Study

Activities:

- Select field study area and gather per-application data
- Apply tools, methods and messages to field study area.
- Gather post-application data from field study area
- Analyze and evaluate data from field study area for final toolkit and workshop content.

Projected Outcome: Complete a field study in select Washington County, Fridley and Saint Paul multifamily housing complexes to collect technical and operational data prior to and post application of the multifamily waste reduction model. Data based analysis of the effectiveness of recycling programs pre-and post-application of Eureka Recycling's waste reduction including recycling strategies. Empirical data on the impacts of the tool-kit on residents' behavior change. Applied application of tools, methods and messages in the targeted area.

Evaluation of Outcome: Total waste generation will be measured before and after enacting the waste reduction strategy tool-kit. This will include recycling, reuse and refuse generation.

Collecting the Data

Saint Paul has been collecting tonnage, contact history and other information on each building in the multifamily program since it began in 1988. For the purposes of this study, this data was used to classify buildings by performance and contamination and to determine how individual buildings responded to the field testing of our outreach methods. It has also allowed for comparisons between recent participation activities and historical tendencies.

The methods used to collect data in Saint Paul were adapted to collect data in Washington County. Forest Lake Sanitation serviced Kilkenny Apartments (City of Forest Lake) and collected data about the volume of material collected during the study.

The City of Fridley was unable to compel haulers at the participating properties to collect information that could be utilized for analysis. City of Fridley staff attempted to collect similar information but it was too burdensome and difficult to coordinate with collection schedules. There is no quantitative data from City of Fridley properties suitable for analysis. However whenever possible the City of Fridley staff collected historical and qualitative information for analysis so that changes at those properties could be evaluated.

In Saint Paul, drivers record the volume of materials collected at each building every time they service a property's recycling. Those volume estimates are entered into a database and converted to known weights of full 95 gallon carts of materials to determine the estimated weight of the material. For example, a full 95 gallon container of newspaper, typically

weighs 152 pounds. If a driver records one full container of newspaper the database enters 152 pounds into a database form. If a driver records $\frac{3}{4}$ of a cart of newspaper the database enters 114 pounds of material. The weight estimations based on driver volume reports are considered unconfirmed. After all of the unconfirmed weights from a given route are entered into the database a proportion is created. That proportion is then applied to the actual amount of material brought in on the trucks, based on known composition weights. The weights are permanently adjusted to reflect the actual proportion of the estimated weights and entered into the database as confirmed weights.

An example of how this calculation works is below.

The driver provides the following information on their daily report sheet:

Acct #	Property	News	Mail	Board	Cans	Br/Grn	Clear
8888	8 Sprewell St	1			1		
9999	21 Garnett Ave	1			$\frac{1}{2}$		

The volumes on the sheet are entered into the database which automatically converts them to unconfirmed weights based on the type of material, the reported volume and known weights of full carts (see unconfirmed weights below).

Multifamily Data Entry				
AccountID	Date	Material	Unconfirmed	Confirmed
8888	6/10/2004	Cans	39	37
8888	6/10/2004	News	152	148
9999	6/10/2004	Cans	19.5	19
9999	6/10/2004	News	152	148

Based on these estimated weights, proportions are assigned to each material. For example, these two accounts have an equal proportion of the actual newspaper collected on this load. The proportions are then compared to the actual amount of material collected to provide the confirmed weight. In this example, if 295 pounds of paper were actually collected along with 56 pounds of containers (cans and glass) the data form would divide the paper weight (295 pounds) and the container weight (56 pounds) based on the proportions (see confirmed weights above).

The confirmed weights would then be committed to the database. This information shows the type and quantity of material collected at each property for every collection day, month and year.

Drivers also record information about problems they encounter while on route. This information is tracked in the same database. Drivers indicate when they are unable to access an account, when an account has too little material to merit emptying and when an account has an issue with trash.

Description of Data

Property Information

This report includes pertinent information about each property where we collected data. This includes information about the property classification, the collection schedule, the outreach messages and methods applied, outreach contact and response rates, problems encountered during collections and historical performance information. Each building has a two-page description on which the following tables and graphs are used to describe property performance information. (For individual property information, see Outreach 2 pages 39-85.)

Tonnage Data:

Each property has a tonnage data table (see page 27) that shows the following information:

- **Monthly Tonnage:** The sum of all the confirmed collection weights.
- **Pounds Per Unit Per Month:** The average pounds recycled per unit at the property in the given month. This figure allows comparisons between properties of different sizes.
- **Reports of Trash:** The number of collections where recycling was not collected because of trash in the recycling containers.
- **Scheduled Collection Days:** The number of collection days in a given month. This number can substantially affect tonnage. For example, the table on page 4 shows that the highest amount of material was collected in October; however, October had five Wednesdays meaning five weeks of collections were made. Although six fewer pounds were collected in August that material was collected over a four week span because August had four Wednesdays.
- **Notes/Other Problems:** Other issues that were encountered by the driver at that property. For example, in March, containers that are stored inside the building were not rolled out for collection. Our driver went to the property on five collection days in March but only serviced the account four times because the container was not rolled outside for one of the collection days.

In addition to providing information about the amount of materials collected at each property, this table can be one of the best sources of information to analyze contamination. If a property has only two collection days in a month (i.e. biweekly service) and every month one of them is impacted by a report of trash then there is a clear indication of contamination. Incidents of trash also have a strong tendency to correspond with lower tonnage. Quite simply, tonnage is low or lower in months where there are contamination issues and carts cannot be serviced.

Tonnage Data

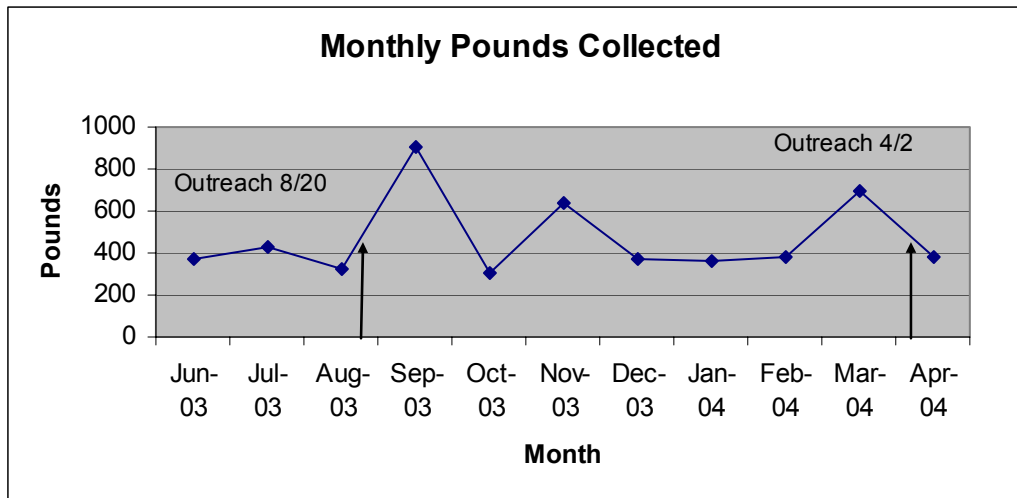
Month	Monthly tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May 04	1491	49.7	0	4	
Apr 04	902	30.07	0	4	
Mar 04	1159	38.63	0	5	1 Not out
Feb 04	1354	45.13	0	4	
Jan 04	1298	43.27	0	4	
Dec 03	1333	44.43	0	5	
Nov 03	1277	42.57	0	4	
Oct 03	1628	54.27	0	5	
Sep 03	1120	37.33	0	4	
Aug 03	1622	54.07	0	4	
Jul 03	1032	34.40	0	5	
Jun 03	1302	43.40	0	4	

Average Pounds Per Collection Day Graph:

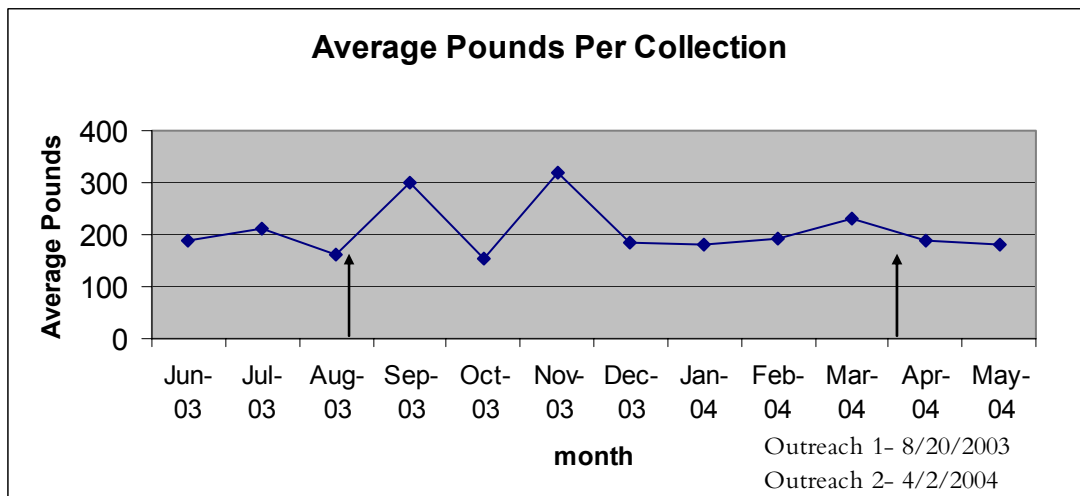
The data from the tonnage table is represented in graph form directly underneath the data table for each property. The graphs show the average pounds of material per collection. This graph more accurately represents performance from month to month than a graph that does not account for variations in collection days per month. This is especially true of accounts with biweekly collection. This table shows the amount of material collected each month and how many collection days were in that month:

Month	Pounds Collected	Scheduled Collection Days
May 04	363	2
April 04	380	2
March 04	696	3
February 04	383	2
January 04	359	2
December 03	373	2
November 03	639	2
October 03	309	2
September 03	904	3
August 03	322	2
July 03	425	2
June 03	376	2

This graph shows the Monthly Pounds Collected:



This graph shows the Average Pounds Per Collection:



This property had two collections in every month except for September and March which had three collections each. The first graph suggests that those months were dramatically better than the other months. The second graph accounts for this variation by showing the average pounds per collection in each month, regardless of how many collection days existed. It give a more accurate picture of tends by month.

Two of the properties had schedule changes during the examined time period. The schedule changes reduced collection from biweekly service to monthly service. The two properties were: 1115 York / 1116 Sims and 1074 York. It is important to pay attention to number of collection days for each of these properties when evaluating the graphs. In some months the properties performed at similar participation levels to months in which they had while on biweekly service. In this circumstance the graphs can be somewhat

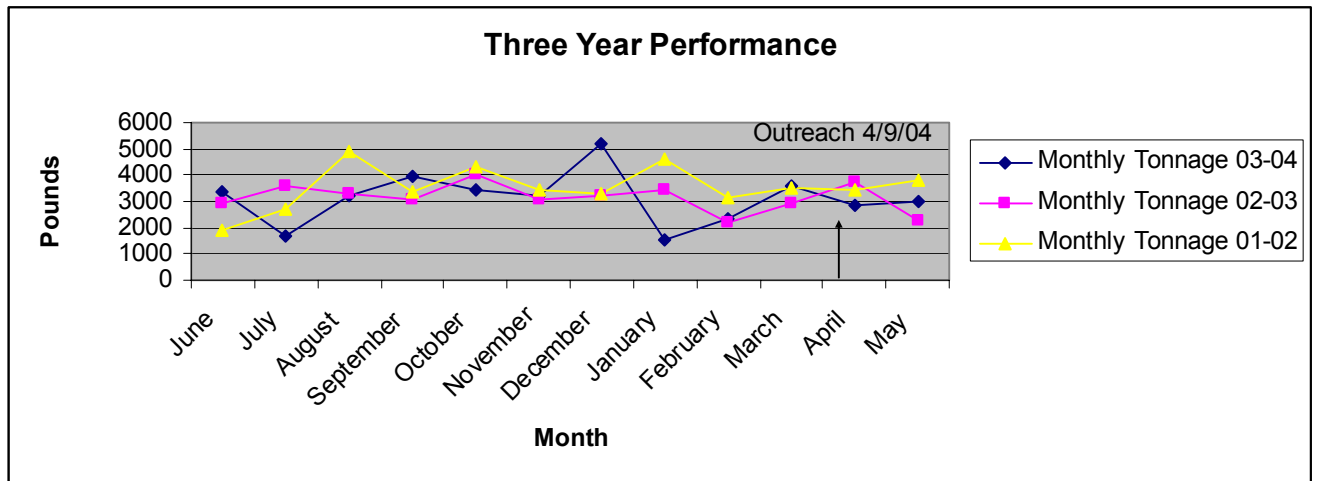
misleading if not examined carefully and compared to the data tables. This is noted on their individual property information pages.

Three Year Performance (Table and Graph):

The information for each property shows the three year history of each property. A second table appears on each data sheet that indicates how many pounds were collected in a given month of a given year.

Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	3022	2238	3811
April	2888	3710	3424
March	3577	2925	3512
February	2316	2160	3178
January	1539	3439	4621
December	5181	3201	3317
November	3253	3080	3409
October	3435	4003	4322
September	3937	3108	3383
August	3250	3327	4893
July	1677	3581	2704
June	3367	2959	1898

The graph shows how each month of this year compares to the same months in years past.



The Three Year Performance graphs shows how properties historically behave from month to month and indicates performance trends and levels for individual buildings. This information can assist in determining how much performance changes should be attributed to outreach and how much performance is linked to seasonal variations.

This graph also indicates if a property has been performing consistently in recent years. A property may be in the high performance/participation category but could also be in a consistent decline. A property may be medium or low performer but could be getting better from year to year.

It is important to note that the Three Year Performance graphs do not account for collection days in the given months. As was demonstrated above, month to month performance graphs that do not account for collection days tend to show more substantial up or down swings in some months.

Notes:

The Notes section includes historical and qualitative analysis for each property and describes circumstances that may be pertinent to performance evaluations.

Terminology

Contamination:

Contamination is a common problem at many multifamily accounts. Contamination comes in several forms at multifamily properties. There can be non-recyclable items such as egg cartons, plastic tubs or wet strength boxboard mixed in with recyclables; these items are presumably placed in with recyclables because residents believe they will be recycled if placed in the containers.

A second common issue surrounding contamination involves trash placed in the recycling containers. This happens when residents are unclear on the intended purpose of the recycling container, when the recycling containers are indistinguishable from the garage containers on the property, and when residents use the recycling containers for garbage disposal. This also happens because recycling containers are often accessible to the passing public.

The amount of trash is closely related to participation. Drivers are instructed not to collect recycling carts with trash. Contamination can be a direct cause of low participation because when containers are not dumped recyclables are not collected. Many of the accounts classified as low performers have issues with contamination.

It is important to note that although the presence of contamination nearly always corresponds with low participation, the absence of trash does not necessarily mean that a property participates at a higher level.

Circumstances in which drivers were unable to dump containers because of trash are reported in the “Reports of Trash” column under “Tonnage Data” (see page 27). These reports correlate with low participation. Seven properties had at least one report of trash for the examined time period. Four of those properties performed very poorly in those months averaging less than 2 pounds per unit in months where contamination was reported. Only one of the properties performed above the low performance/participation level (10.4 pounds per unit per month) in a month where contamination was reported.

That property, 1940 Marshall, recycled 11.3 pounds per unit for the one month it had an issue with trash. Trash was reported in one of five containers for the collection day that was impacted by trash; all four of the remaining containers were high enough quality of material to be dumped.

Properties were classified as having either infrequent, occasional or frequent issues with contamination. This quantitative measure was based largely on the percentage of collections that were impeded by contamination.

Outreach 1:

This outreach was performed in the summer of 2003 and applied to all the buildings in Saint Paul that were willing to participate. All but one of these buildings allowed the outreach staff to knock on doors and distribute basic information about the recycling program at that building. This outreach was the same at each of the properties, which allowed for comparisons based on building size and performance level (see page 33).

Outreach 2:

This outreach was performed in the spring of 2004 and was method and message specific. Properties were clustered into smaller groups so that different tools to promote recycling could be applied and measured (see page 39). Further analysis will be done after the grant report is submitted to examine how long these tools show a sustained impact.

Outreach Method:

The outreach method refers to the manner in which outreach was distributed during Outreach 2. Outreach was distributed via mail, door hangers that were left on doorknobs, door-to-door education where outreach staff spoke with residents, events, signage and through property management.

Outreach Message:

The outreach message refers to the type of information being communicated to the residents during Outreach 2. The message is the specific issue or idea that is being promoted to encourage behavior change.

Performance or Participation:

Both of these terms refer to how much material was collected at a property, i.e. tonnage. In categorizing each property's performance the building size was taken into consideration. Since the total gross tonnage from a 500 unit property is likely to be more than the gross tonnage at a 12 unit building, each building was evaluated based on the pounds of recyclables generated for an individual unit within the building or property (pounds per unit per month) instead of gross tonnage. This allows for some comparisons between large and small buildings. Performance is also closely related to contamination. References to increase participation or improved performance indicate that more recyclables were collected at that property in the referenced time span. The multifamily properties in the City of Saint Paul's program were divided into thirds: the bottom third were considered low performers (averaging less than 10.4 pounds per unit per month), the middle third were called medium performers (averaging more than 10.4 and less than 20.3 pounds per unit per month) and the top third were considered high performers (averaging

more than 20.4 pounds per unit per month) when the properties were selected for the study.

Property:

A building or group of buildings with shared recycling service and shared property management. There may or may not be multiple recycling sites on each property.

Size:

Properties were characterized by property size not the individual buildings within a property. The properties in the City of Saint Paul's program were divided into thirds: the largest third of the properties were called large (33 or more units), the middle third were medium (15 to 32 units), and the smallest third were considered small (14 or fewer units).

Outreach One

During Outreach 1 (see Focus Groups and Outreach section on page 11 for details) our trained outreach staff went door to door encouraging residents to participate in the recycling program at their building. Brochures were distributed to each unit on the property. In appropriate circumstances, the outreach staff left translations of brochures with residents who had difficulty understanding English. Members of the outreach team were fluent in Hmong and Somali.

Some properties would not allow the outreach team access to their properties. In those instances no outreach was performed at those properties (1150 Cushing Circle, the Burlington and 168 Sixth Street). Another property, 745 Grand, was unwilling to allow the outreach staff to distribute information door to door but did allow staff to pass out information in the lobby. The properties in Saint Paul had received the following outreach in the two years prior to the study: a mailing sent directly to residents with instructions on “how to” recycle, an annual letter to the management explaining the environmental benefits for recycling and additional information upon request.

Outreach 1 was applied to properties in Saint Paul during August and September 2003. Outreach 1 was not applied in Washington County or the City of Fridley. Responses to Outreach 1 were measured to determine how properties of different sizes and performance levels respond to outreach.

In general, outreach created a spike in participation immediately after it was applied. References to substantial, moderate or minimal increases in participation indicate the size of the spike. An increase was considered sustained if the months after outreach saw better participation than the months prior to the outreach. Sustained does not mean that a building continued to perform at its peak level.

Response to Outreach Based on Building Performance

Properties chosen for this study were categorized as low, medium or high performance/participation properties. This categorization was based on the pounds of recyclables generated each month for an individual unit within the building or property (a group of building), rather than gross tonnage, to allow for some comparisons between large and small buildings.

The Outreach 1 portion of the study provides a good baseline to analyze property’s response to outreach and determine what type of building has the greatest potential for improvement. In Outreach 1 all properties received the same outreach. (Outreach 2 provides data relevant to analysis different outreach messages and methods, see page 39.)

Response of Low Performance/Participation Properties

Based on historical data, seven of the properties were classified as low performance/participation. These properties all had low participation which often

coexisted with high contamination. All of these properties were in bottom third of the City of Saint Paul’s program in terms of pounds per unit per month. Apartments units in each of these properties averaged less than 10.4 pounds of recycling per month when they were selected for the study.

Low performance/participation properties

Property Name	Property Size	Performance	Outreach 1 received	Data	Contamination Level
195 Edmund	Large	Low	Yes	Yes	Frequent
1247 St Anthony	Large	Low	Yes	Yes	Frequent
1115 York and 1116 Sims	Medium	Low	Yes	Yes	Frequent
175 Charles	Large	Low	Yes	Yes	Frequent
586 Central	Large	Low	Yes	Yes	Occasional
469 Ada Street	Large	Low	Yes	Yes	Infrequent
1074 York	Medium	Low	Yes	Yes	Occasional

All seven properties saw an increase in participation after Outreach 1 was applied. 175 Charles and 469 Ada Street saw the most substantial increases. These properties performed at higher levels for a four to five month time period after the outreach. The largest increases immediately followed the outreach but there were some sustained improvements at each property in the months after outreach was applied.

The increases at the low performance/participation properties were relatively small increases in terms of pounds of recyclables collected. The low starting point allows for large percentage increases with small increases in pounds recycled. With the exception of 469 Ada Street all of these buildings did not perform at medium performance levels (above 10.4 pounds per unit) for any month after outreach was applied.

The outreach also reduced the problems with contamination at the low performance/participation properties. Only one of the properties in this group had reported contamination issues in the four months after outreach was applied.

Response of Medium Performance/Participation Properties

Four properties were classified as medium performers. The properties were in middle third of the City of Saint Paul’s multifamily program in terms of pounds per unit per month. Each property averaged more than 10.4 pounds per unit per month and less than 20.3 pounds per unit per month when they were selected for the recycling study. None of the medium performers had frequent issues with contamination.

Medium performance/participation properties

Property Name	Property Size	Performance	Outreach 1 received	Data	Contamination Level
1150 Cushing Circle	Large	Medium	No	Yes	Occasional
1940 Marshall	Medium	Medium	Yes	Yes	Infrequent
714/720 Stryker	Medium	Medium	Yes	Yes	Infrequent
76 Wyoming	Small	Medium	Yes	Yes	Infrequent

Three of the properties received Outreach 1 in the summer of 2003. 1150 Cushing Circle was unwilling to allow outreach staff to access the building and did not receive any outreach until Outreach 2 was applied.

The three medium performance/participation properties saw increased participation that was sustained for between three and six months. Two of the three performed at high levels (above 20.3 pounds per unit) for at least one of the months after outreach was applied. These properties had infrequent contamination issues prior to application of outreach. There were no contamination issues at any of the properties for at least four months after outreach was applied.

Response of High Performance/Participation Properties

Four properties were classified as high performance/participation properties. Each of the high performance/participation properties averaged above 20.4 pounds per unit per month at the time they were selected for this study. One third of the buildings in Saint Paul averaged 20.4 pounds per unit per month or higher at the time the properties were selected.

High performance/participation properties

Property Name	Property Size	Performance	Outreach 1 received	Data	Contamination Level
1820 Larpenteur	Medium	High	Yes	Yes	Occasional
745 Grand	Medium	High	Yes	Yes	Infrequent
168 Sixth Street	Large	High	No	Yes	Infrequent
605 Portland	Small	High	Yes	Yes	Infrequent

Three of the high performance/participation properties participated in the Outreach 1. Outreach staff was able to go door to door with recycling information at 605 Portland and 1820 Larpenteur. They were allowed to stand in the lobby and distribute information at 745 Grand but not allowed to go door to door. The management company that operates 168 Sixth Street was unwilling to allow outreach staff access to the building.

745 Grand did not improve after outreach was applied. Recycling rates have been consistently high at this property for the last three years.

The two properties that allowed the outreach staff to go door to door both saw increases in participation. One of the increases was consistent with seasonal behavior in the past; the other showed that the outreach had a clear positive impact. Both of the properties that showed improvement briefly sustained the improved rates following application of the outreach.

Response to Outreach Based on Building Size

Many recycling coordinators have indicated that they feel the size of a building or property is closely related to its recycling performance. While identifying low, medium or high performance properties requires extensive information of a property's tonnage, building size is comparatively easy to determine. With limited resources what size of property is likely to improve the most? At larger properties there are more people in one area to receive recycling messages. But, smaller buildings are often believed to have fewer barriers to convenient recycling participation and are easier to communicate with because there are fewer people. We included small, medium and large properties to determine which properties have the greatest potential for improvement.

Building size was determined based on the number of units sharing recycling containers. In some cases, such as the property at 1115 York and 1116 Sims, two buildings share one recycling set up. That singular property (with two buildings) was considered medium sized although each individual building would be considered small if they were unassociated.

Only properties that received Outreach 1 were included in performance and property size evaluations. Outreach 1 applied the same type of outreach to all of the properties regardless of size or performance level.

Response of Small-Sized Properties

Three small buildings, which were properties with 14 or fewer units, were selected for this study. One third of the apartment buildings on the multifamily program in Saint Paul have 14 or fewer units.

Small-sized properties

Property Name	Property Size	Performance	Outreach 1 received	Data	Contamination Level
605 Portland	Small	High	Yes	Yes	Infrequent
Norton	Small	Unknown	No	No	Frequent
76 Wyoming	Small	Medium	Yes	Yes	Infrequent

The two small properties in Saint Paul showed improvement in participation levels after outreach was applied. The improvements were sustained for at least four months after the initial spike. One of the properties exceeds or matches historic seasonal participation levels; the other closely mirrors historic seasonal levels. (Neither of these small properties were classified as low performers.) Norton, a property in the City of Fridley, did not receive Outreach 1.

Response of Medium-Sized Properties

Six medium properties, which were properties with 15 and 32 units, were selected for this study. One third of the properties in Saint Paul have between 15 and 32 units.

Medium-sized properties

Property Name	Property Size	Performance	Outreach 1 received	Data	Contamination Level
1820 Larpenteur	Medium	High	Yes	Yes	Occasional
745 Grand	Medium	High	Yes	Yes	Infrequent
1115 York and 1116 Sims	Medium	Low	Yes	Yes	Frequent
1074 York	Medium	Low	Yes	Yes	Occasional
1940 Marshall	Medium	Medium	Yes	Yes	Infrequent
714/720 Stryker	Medium	Medium	Yes	Yes	Infrequent
Oak Hill	Medium	Unknown	No	No	Infrequent

Five of the six properties allowed the outreach team to go door to door to distribute recycling information for Outreach 1. 745 Grand Avenue only allowed the outreach team to pass out information in the lobby. This property was the only property to see no substantial change in participation levels.

The remaining five properties all had some increase in participation. The low performance/participation properties saw small, but definite gains. The medium and high performance/participation properties in this group all saw substantial gains that sustained for four to six months.

Response of Large-Sized Properties

Nine large properties, which were properties with more than 32 units, were selected for this study. In Saint Paul one third of the properties have more than 32 units.

Large-sized properties

Property Name	Property Size	Performance	Outreach 1 received	Data	Contamination Level
168 Sixth Street	Large	High	No	Yes	Infrequent
195 Edmund	Large	Low	Yes	Yes	Frequent
1247 St Anthony	Large	Low	Yes	Yes	Frequent
175 Charles	Large	Low	Yes	Yes	Frequent
586 Central	Large	Low	Yes	Yes	Occasional
469 Ada Street	Large	Low	Yes	Yes	Occasional
1150 Cushing Circle	Large	Medium	No	Yes	Occasional
Springbrook	Large	Unknown	No	No	Occasional
Kilkenny Ct	Large	Unknown	No	Yes	Occasional

Only the low performance/participation properties were willing to allow door to door outreach at their properties. Those five properties all saw gains in participation immediately following application of Outreach 1. The property with the highest

performance/participation level among this group prior to outreach, 469 Ada Street, saw the most substantial and most sustained performance. The remaining properties saw increases that were sustained for a minimal time but were not indicative of substantial tonnage increases. There was less contamination following implementation of Outreach 1 at the large properties.

Conclusions for Outreach 1

Conclusions about Outreach and Performance

All performance levels responded positively to outreach. The medium performance/participation properties had the most significant gains. These gains were sustained for up to six months. Contamination was reduced significantly at low performers but those properties continued to perform poorly (although better than they had been) at less than 10.4 pounds per unit per month. High performance/participation properties were also responsive but there are indications that they were already performing at or near their peak level. The participation gains in high performance/participation properties lasted for shorter periods of time than those at medium performance/participation properties. High performers have a tendency to have literature already posted encouraging recycling and a developed recycling infrastructure. When outreach is delivered to high performing properties the building will maintain already impressive recycling levels rather than show substantial improvement.

Conclusions about Outreach and Property Size

Properties of all sizes also responded favorably to outreach. The large properties had the least significant gains, but these properties were also low performers. Large properties appear to be more likely to fall into the low performance category and are not optimally positioned for substantial increases when outreach is applied.

Medium-sized properties responded well if they were high or medium performance/participation properties and appear to have the greatest potential. The improvements at medium properties appear to be substantial and sustained.

Small properties also responded well, but the examined properties were already performing at medium or high levels.

Outreach Two

Selecting the Field Study Area

We developed four outreach campaigns from the messages and methods tested in focus groups (see Outreach Material and Waste Reduction Tool Development section on page 20 for details). The nineteen properties were divided into four categories to test the four methods [see Outreach Plan, Appendix One]. Because buildings in multifamily programs are so incredibly diverse across all categories, it was not our goal to create strict control groups for each campaign, but rather, we selected properties that were likely to be good recipients for a specific message based on conclusion from focus groups and individual feedback. Then, we included other properties outside our criteria for the message to test our assumptions about the messages. This gave us some variance of properties size (small, medium or large), level of performance (high, medium and low), frequency of contamination and location (Saint Paul, Fridley and Washington County) within each outreach campaign.

No Garbage Campaign

Designed specifically to deal with contamination problems, all five properties in this campaign reported frequent contamination. All but one of the nineteen properties in our study that reported frequent contamination were also low performing properties; contamination and performance are often linked (see Terminology/Contamination on page 30). This campaign included four low performing properties (both large and medium-sized) and one medium performing property (that was medium-sized).

Commitment Cards

Five properties were selected to receive the commitment card campaign designed to address the anonymous nature of multifamily recycling. Based on community-based social marketing, commitment cards inspire residents to feel a greater sense of ownership and obligation by requiring them to officially sign a document saying that they will recycle. No small properties were selected for the commitment cards campaign. Based on our research, the need for a sense of community and peer pressure is not needed as much in small properties. Two low performing properties, both large, and two medium performing properties, one large and one medium, were selected. One high performing property of medium size was also selected. In addition to size and performance, properties were selected based on management involvement. One building, where management was not willing to allow our outreach team to go door to door, received direct mail. Properties with cooperative management were chosen for door to door delivery of the materials.

Kits and Labels

Five properties were selected to receive the recycling kits campaign, which included labels for the recycling carts and recycling kits for residents to keep in their apartments. The purpose was to give residents a method for storing, sorting, and transporting their recyclables that would make recycling easier. Three large

properties, all low performing, and two medium-sized properties, one high and one medium performing, were selected for this campaign. No small properties were chosen since our research showed that it is less inconvenience to take recyclables to the carts in small buildings than it is in larger buildings.

Environmental Message

In our previous research, we determined that an environmental message campaign was appropriate for residents that already recycle. This positive reinforcement tells people that the extra effort is worth it and recycling really does matter. Focus groups have shown that the more people recycle, the more they want to know about the environmental benefits of recycling. Recycling advocates want information to counter the persistent myths that the net environmental impact of recycling is not worth the effort. We selected two high performing properties (one large and one small) to test this message. We also included a small medium performer. We also included a medium-sized, low performing property with frequent contamination problems to test if our assumption about the proper audience for this message was correct.

Delivery

In addition to the four messages, we placed similar properties in each campaign so that we could compare delivery methods. For example, the commitment cards were delivered by mail, door to door outreach, through an event, and by management. Additionally, in three medium-sized properties, one manager was asked to deliver commitment cards, another the kit and labels, and another the “No Garbage” campaign.

Outreach Team

The outreach team began the second phase of outreach to apply and test these outreach methods and messages on March 5, 2004, and continued with instillations of signs and materials, mailings, and door to door outreach during weekday evenings and weekend days through April 16, 2004. The schedule was based on the pickup schedules at each property, the availability of our outreach team, when we were allowed access into properties and the amount of time we anticipated each application to take.

The outreach team consisted of an intern from Macalester College and 5 young women who had worked for Eureka Recycling during the first phase of outreach for this project in the summer of 2003. The women have excellent outreach skills, are familiar with this project, and four of them are fluent in a second language. The team, which was supervised and directed by two Eureka Recycling staff members, delivered door to door outreach, assembled kits, sent mailings and installed outreach materials like signs and posters.

The outreach was planned strategically based on the information about the properties. As we obtained additional information, our outreach methods and materials were modified for two buildings:

- At Kilkenny Court in Washington County, we modified our method of distribution for the Commitment Cards from door to door to an event. Through a conversation with a staff person at the building, we discovered that rent for many residents at this property is subsidized, and that the discount on rent as the incentive would be a sensitive subject among residents. We were also told that the senior residents responded very well to events, but not very well to door to door outreach. So, we changed the incentive from \$100 dollars off one winner's rent, to four \$25 gift certificates to the local grocery store, and modified the materials accordingly. The Washington County staff, the building management and the hauler hosted the event. There was a presentation about the recycling program at the building, a chance to sign Commitment Cards, drawings for the gift certificates and a group signing of a banner that is now above the recycling carts.
- At 469 Ada Street, many of the residents require assisted living and are considered at-risk adults. We had planned to go door to door to distribute Commitment Cards, however the management was concerned for the safety of our staff and the residents. The building does have an invested resident, so we switched this building in our plan with a similar building (175 Charles) that was supposed to receive Recycling Kits. The resident distributed the recycling kits in the building. During our conversation with the resident he suggested an additional modification for the materials because there are many disabled residents in this building. We developed and included a note with all the kits which explained that if they were unable to get their recyclable down to the carts, they could contact the resident to take the materials down for them.

Responses Based on Outreach Messages

Properties were divided into select groups that received one specific **message**, delivered with many **methods**. The analysis of each message is based entirely upon the response of properties following the application of Outreach 2. Further analysis will be done after the final report is submitted to determine what impact this outreach had over an extended period of time.

Response to “No Garbage” Message

“No Garbage” signage was placed at each of the properties and “No Garbage” labels were put on the recycling carts. Four of the five properties were believed to house a significant population for whom English was not the native language of many of the residents.

“No Garbage” properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
195 Edmund	Large	Low	Yes	No Garbage	Eureka Install	Yes	Frequent
1247 St Anthony	Large	Low	Yes	No Garbage	Eureka Install	Yes	Frequent
1115 York/ 1116 Sims	Medium	Low	Yes	No Garbage	Eureka Install	Yes	Frequent
Norton	Small	Unknown	No	No Garbage	Eureka Install	No	Frequent
Oak Hill	Medium	Unknown	No	No Garbage	Eureka Install + Mail	No	Infrequent

The properties all showed improvements in contamination levels. The only property that had any instances of trash preventing collection after outreach was applied was 195 Edmund. Even so, the containers were free of trash for four out of five collections at 195 Edmund after outreach was applied. Although the participation levels were still well into the low performance level, these properties also saw increases in participation after the “No Garbage” message was applied. This can be attributed to the fact that more recycling could be collected since the containers were free of trash and could actually be serviced.

Qualitative measurements indicate that the two properties in Fridley responded favorably to the “No Garbage” message.

195 Edmund Ave

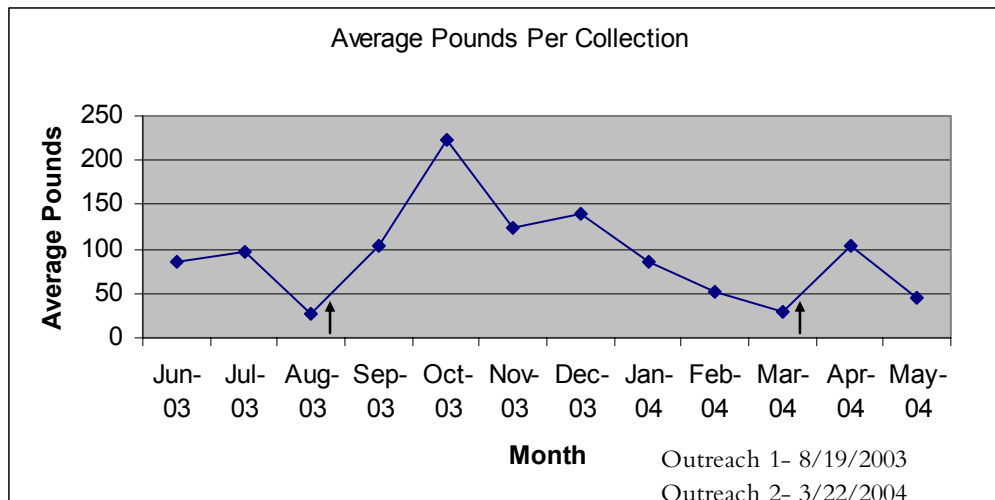
Service Schedule: Biweekly
 Participation: Low
 Size: Large
 Units: 107
 Buildings: 1
 Contamination: Frequent

Outreach Message: **No Garbage**
 Materials: Door hangers, posters, aluminum sign, stickers
 Method: Eureka Install

Dates of Outreach:
 8/19/2003- door knocking
 (44 of 107 contacted)
 3/22/2004- door hangers, posters,
 aluminum sign, stickers

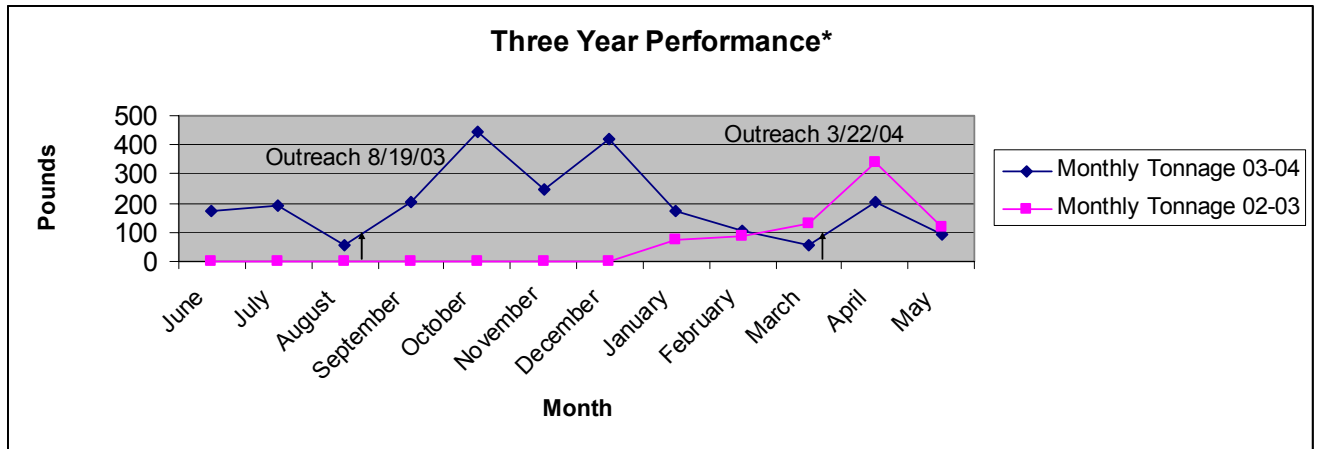
Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	92	0.86	0	2	1 Not Enough
Apr-04	205	1.92	1	2	
Mar-04	57	0.53	0	2	1 Not Enough
Feb-04	102	0.95	0	2	1 Snow
Jan-04	173	1.62	1	2	
Dec-03	419	3.92	0	3	1 Snow
Nov-03	248	2.32	0	2	1 Not enough
Oct-03	446	4.17	0	2	
Sep-03	205	1.92	0	2	
Aug-03	56	0.52	1	2	
Jul-03	193	1.80	1	2	
Jun-03	170	1.59	1	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	92	118	
April	205	339	0
March	57	131	0
February	102	85	0
January	173	74	0
December	419	0	0
November	248	0	0
October	446	0	0
September	205	0	0
August	56	0	0
July	193	0	0
June	170	0	0

This account was cancelled from 1998 until January of 2003*



Notes:

This account had a number of contamination issues when the study began. Outreach 1 was applied on August 19, 2003, and reduced contamination and improved participation. All four months after Outreach 1 was applied were among the highest participation levels in the short history of this building’s recycling program. The increases appear both substantial and sustained.

Outreach 2 was applied on March 22, 2004 and was correlated with an increase in participation. The participation increase could be partially associated with seasonal fluctuation. Contamination was an issue impacting one of five collections after outreach 2 was applied.

1247 St. Anthony Blvd – Skyline Towers

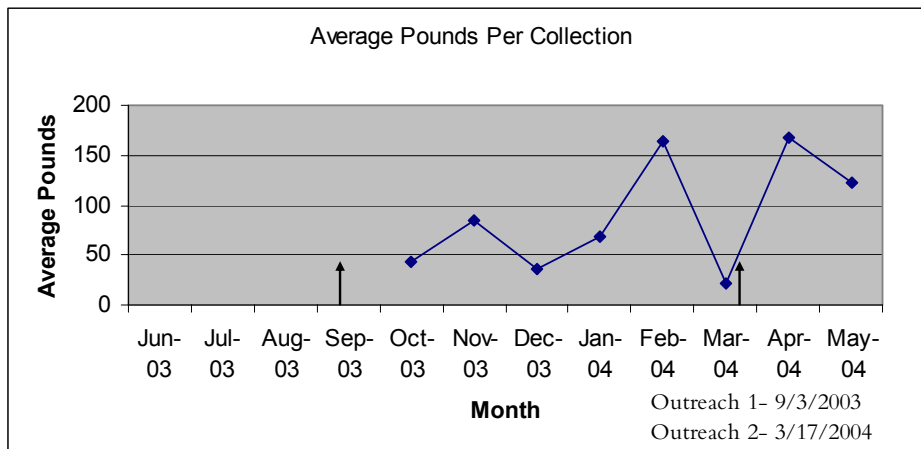
Service Schedule: Biweekly
 Participation: Low
 Size: Large
 Units: 506
 Buildings: 1
 Contamination: Frequent

Outreach Message: **No Garbage**
 Materials: Sign and stickers
 Method: Contractor, Eureka Install

Dates of Outreach:
 9/3/2003- door knocking
 (240 of 506 contacted)
 3/17/2003- sign install

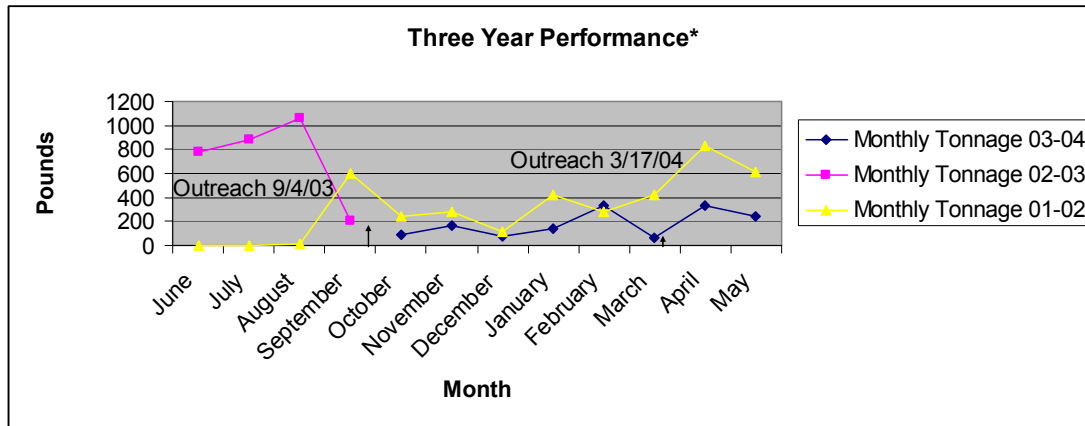
Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	245	0.48	0	2	
Apr-04	334	0.66	0	2	1 Access Locked
Mar-04	64	0.13	2	3	
Feb-04	329	0.65	1	2	
Jan-04	138	0.27	1	2	
Dec-03	71	0.14	1	2	
Nov-03	170	0.34	1	2	1 Oversized OCC
Oct-03	87	0.17	1	2	
Sep-03		0.00	0	0	
Aug-03		0.00	0	0	
Jul-03		0.00	0	0	
Jun-03		0.00	0	0	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May-04	245		608
Apr-04	334		830
Mar-04	64		415
Feb-04	329		284
Jan-04	138		426
Dec-03	71		114
Nov-03	170		284
Oct-03	87		247
Sep-03		202	595
Aug-03		1056	16
Jul-03		886	0
Jun-03		783	0

*Account was cancelled between December 1997 and August 2001. It was cancelled again October 2002 and was reintroduced October 2003.



Notes:

This account had serious contamination issues throughout its history. It is the largest residential building in the city of Saint Paul, a 24 story high rise with 506 units. Approximately 70% of the residents are Somali; the remaining 30% of the residents are primarily East African, Vietnamese or native English speakers. Outreach 1 was applied in September 2003. The recycling carts were delivered after Outreach 1 was applied. The outreach staff distributed translated information to residents and was able to communicate with residents in Somali when applicable. Contamination was still a large issue despite the outreach. The property continued to perform at low levels with frequent contamination.

Outreach 2 was applied March 17, 2004. When the “No Garbage” sign was placed at the recycling area, management agreed to empty the carts of trash. Following this there were two consecutive months without reports of trash. Participation was still low; but both of those months were among the better performing months since the reintroduction of the recycling at the property.

1115 York and 1116 Sims

Service Schedule:

5/1/2003-12/31/2003: Biweekly

1/1/2004- present: Monthly

Participation: Low

Size: Medium

Units: 22

Buildings: 2

Contamination: Frequent

Outreach Message: No Garbage

Materials: Door hangers, posters, aluminum sign, stickers

Method: Eureka Install

Dates of Outreach:

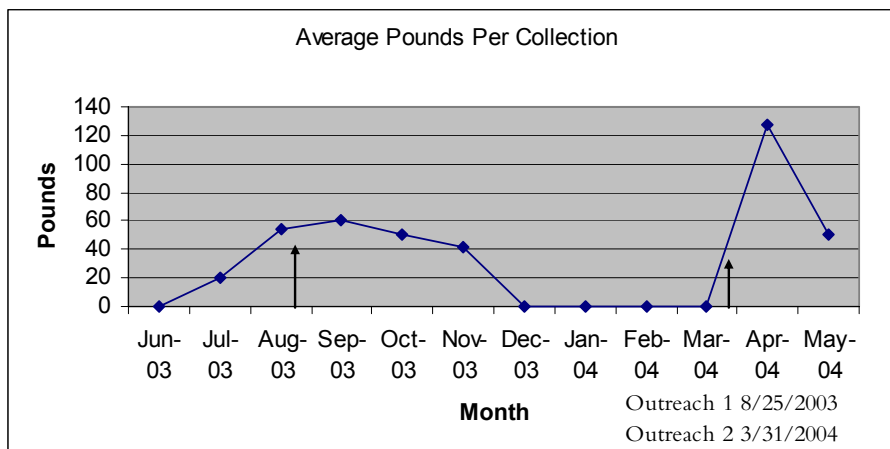
8/25/2003- door knocking

(14 of 22 contacted)

3/31/2004- door hangers, posters, aluminum sign, sticker

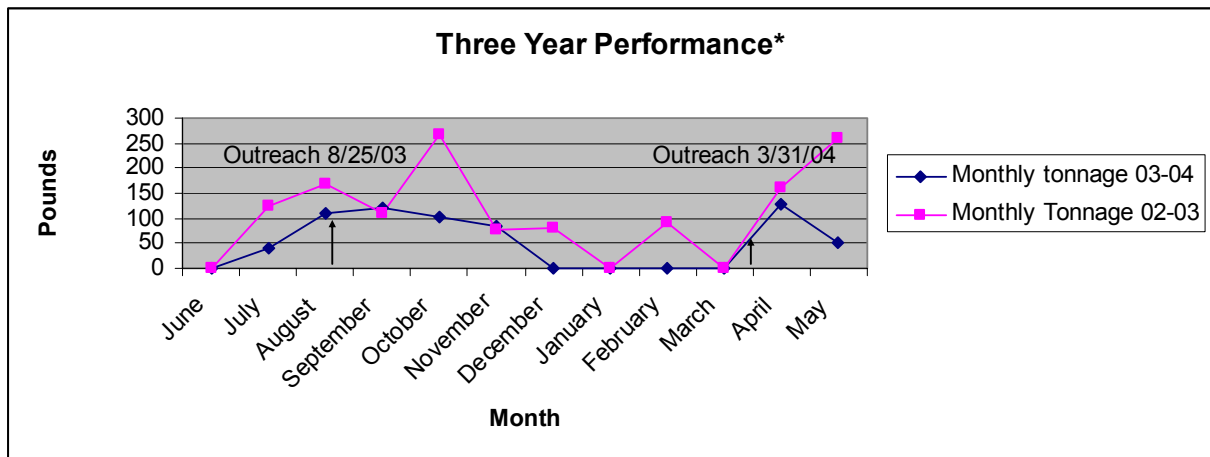
Tonnage Data:

Month	Monthly tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	50	2.27	0	1	
Apr-04	127	5.77	0	1	
Mar-04	0	0.00	0	1	1 Not enough
Feb-04	0	0.00	0	1	1 Not enough
Jan-04	0	0.00	1	1	
Dec-03	0	0.00	0	2	1 Not enough
Nov-03	83	3.77	0	2	1 Not enough
Oct-03	102	4.64	0	2	1 Not enough
Sep-03	121	5.50	0	2	1 Not enough
Aug-03	109	4.95	0	2	1 Not enough
Jul-03	40	1.82	1	2	Plastic
Jun-03	0	0.00	1	2	1 Not enough



Month	Monthly tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	50	260	0
Apr	127	161	0
Mar	0	0	0
Feb	0	90	0
Jan	0	0	0
Dec	0	79	0
Nov	83	77	0
Oct	102	266	0
Sep	121	111	0
Aug	109	170	0
Jul	40	123	0
Jun	0	0	0

- Account was established in June of 2002.



Notes:

Historically, this account had issues with contamination. Management did outreach to the residents in April of 2003. The residents are largely native Hmong speakers. During the study, the collection schedule was changed from biweekly to monthly service after consistent report of low volumes of materials. This requires close attention to number of collection days when analyzing the data. The graphs can be somewhat misleading if not examined carefully and compared to the data tables. In some months the properties performed at similar participation levels to months in which they had while on biweekly service.

Outreach 1 resulted in a minimal increase in participation that was not sustained for very long. The outreach did however reduce contamination. Outreach 2 was applied on March 31, 2004. The graphs appear to indicate an increase in participation following Outreach 2 however some of the gains are not associated with the outreach. No material was dumped in the four months prior to the April collection. Although it is a positive sign that there was enough material in the cart after the outreach it is likely that at least some of that material was in the container in the earlier months.

1284 Norton Avenue

Service Schedule: Twice a Week
Participation: Unknown
Size: Small
Units: 7
Buildings: 1
Contamination: Frequent

Outreach Message: **No Garbage**
Materials: Posters, door hangers
Method: Eureka Installed
Dates of Outreach: 3/20/04

Notes:

Historically, Norton Avenue Apartments has had low participation and problems with contamination. The owner of this property has not been supportive of recycling and there is no on-site caretaker. The two 90-gallon carts—one for containers and one mixed paper—are serviced every other week.

After applying the outreach, there was less contamination at this building based on the observation of the City of Fridley staff.

Oak Hill Apartments – 5460 7th Street

Service Schedule: Weekly
Participation: Unknown
Size: Medium
Units: 34
Buildings: 1
Contamination: Infrequent

Outreach Message: **No Garbage**
Materials: Posters, aluminum signs, stickers
Method: Eureka Installed
Dates of Outreach: 3/20/04

Notes:

This property has a supportive owner and an on-site caretaker who is willing to help improve recycling. Some tenants are recent immigrants from Somalia, Africa and Mexico.

This property has a two-sort recycling service. For a number of years this complex had a single sort recycling system. However, the hauler, BFI, reported to the City that they almost always dumped the containers as trash due to high levels of contamination. After years of problems and prodding by the City, the current owner finally changed to a two-sort system. Since that time, there are only some contamination problems and much higher participation. The “No Garbage” campaign resulted in significantly less contamination according to the observations of the City of Fridley staff.

More on Buildings with Frequent Contamination

Properties were classified as having infrequent, occasional or frequent issues with contamination. The contamination classification was determined by the percentage of collections that were impeded by contamination.

Frequent contamination properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
175 Charles	Large	Low	Yes	Commitment Cards	Door to Door	Yes	Frequent
195 Edmund	Large	Low	Yes	No Garbage	Eureka Install	Yes	Frequent
1247 St Anthony	Large	Low	Yes	No Garbage	Eureka Install	Yes	Frequent
1115 York and 1116 Sims	Medium	Low	Yes	No Garbage	Eureka Install	Yes	Frequent
Norton	Small	Unknown	No	No Garbage	Eureka Install	No	Frequent

When contamination is an issue, properties almost always are low performing properties. In this study, all of the frequent contamination properties fell into the low performing group.

There were some gains in participation at properties that had issues with frequent contamination. Some of the contamination issues were reduced after Outreach 1 was applied; however, Outreach 2 provides a better measure of how outreach impacts frequently contaminated properties.

The results suggest that trash can be cleaned up at properties that have contamination issues provided the message includes information about contamination or messages that distinguish the recycling containers from the garbage containers. The sole property in this category to not receive a “No Garbage” message actually saw increased issues with contamination after outreach was applied. In that circumstance residents pledged to recycle but the outreach did not address the need to keep garbage out of the recycling containers.

Response to Commitment Cards

Five properties received commitment cards. The cards asked residents to pledge to recycle. As an incentive to participate, residents were entered into a drawing with a prize (either \$100 towards rent or \$25 towards groceries). The cards were distributed by mail, door to door, at an event and through property management.

Commitment Card Properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination	Response Rate
175 Charles	Large	Low	Yes	Commitment Cards	Door to Door	Yes	Frequent	23.30%
1940 Marshall	Medium	Medium	Yes	Commitment Cards	Management*	Yes	Infrequent	0%
1820 Larpenteur	Medium	High	Yes	Commitment Cards	Door to Door	Yes	Occasional	34.00%
Kilkenny Ct	Large	Unknown	No	Commitment Cards	Event	Yes	Occasional	38.00%
1150 Cushing Circle	Large	Medium	No	Commitment Cards	Mail	Yes	Occasional	9.70%

At one of the properties, 1940 Marshall, the volunteer resident appears to have not distributed the commitment cards. No commitment cards were returned from that property and participation was unchanged. The cards were not effective at the low performing 175 Charles. Issues with contamination derailed any potential momentum the outreach may have generated. Three of the properties saw participation improvement after the commitment cards were distributed.

The responses correlate with the return rates of the commitment cards, which varied depending on the delivery method. The properties that saw the highest return rates saw the most significant gains. At Kilkenny Court, where the cards were distributed in combination with an event and a new banner over the recycling containers, the response was the most positive.

175 Charles

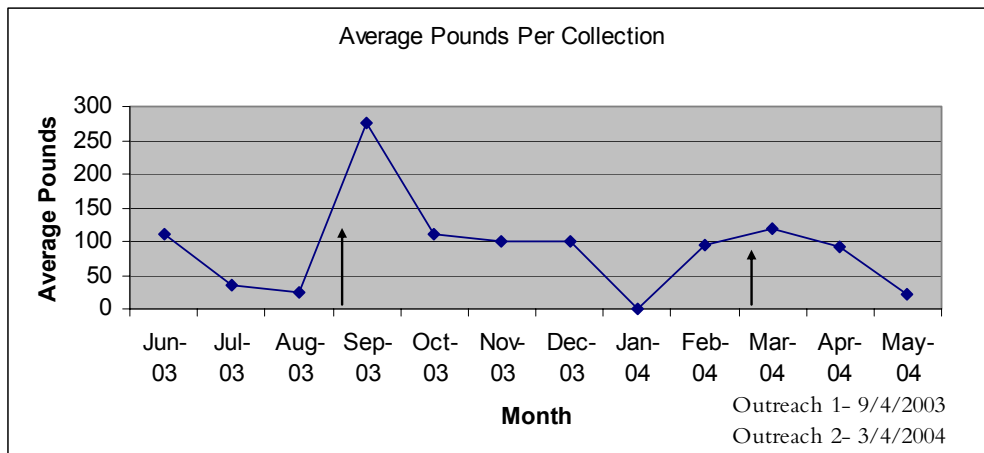
Service Schedule: Biweekly
 Participation: Low
 Size: Large
 Units: 139
 Buildings: 1
 Contamination: Frequent

Outreach Message: **Commitment Cards**
 Materials: Mailer/leave behind door hanger
 Method: door to door

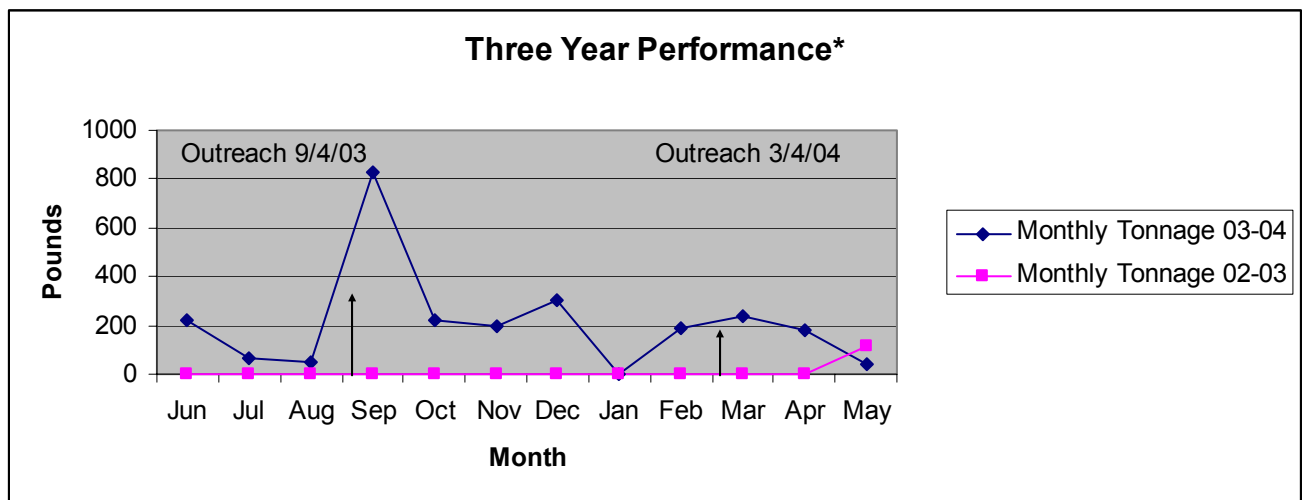
Dates of Outreach:
 9/4/2003- Door knocking
 (37 out of 139 contacted)
 3/18/2004- Commitment Cards distributed door to door
 (69 of 133 contacted)
 31 of 133 cards returned (23.3% participation in commitment program)

Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/Other problems
May-04	44	0.32	1	2	1 Blocked
Apr-04	183	1.32	2	2	
Mar-04	239	1.72	0	2	
Feb-04	189	1.36	0	2	2 Stops effected by snow
Jan-04	0	0.00	0	2	1 Not enough, 1 Blocked
Dec-03	303	2.18	0	3	1 Snow
Nov-03	200	1.44	0	2	
Oct-03	223	1.60	0	2	
Sep-03	830	5.97	0	3	
Aug-03	48	0.35	1	2	
Jul-03	68	0.49	1	2	
Jun-03	221	1.59	2	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	44	118	0
April	183	0	0
March	239	0	0
February	189	0	0
January	0	0	0
December	303	0	0
November	200	0	0
October	223	0	0
September	830	0	0
August	48	0	0
July	68	0	0
June	221	0	0



Notes:

This program was established May 2002. All 2002 collections were impacted by contamination. No materials were collected for the first year containers were set up due to contamination. There were no collections until May 2003.

There was a substantial response to Outreach 1, applied on September 4, 2003, both in terms of increased participation and reduced contamination. The property continued to perform at a low level despite the increase. One of two recycling cart locations was removed in early September 2003

Outreach 2 was applied on March 3, 2004. The commitment cards did result in small increases in participation which coincided with a return of contamination problems. March tonnage was the second highest month in terms of participation when adjusted for collection days.

1940 Marshall-Autumn Manor

Schedule: Biweekly
 Participation: Medium
 Size: Medium
 Units: 33
 Buildings: 1
 Contamination: Infrequent

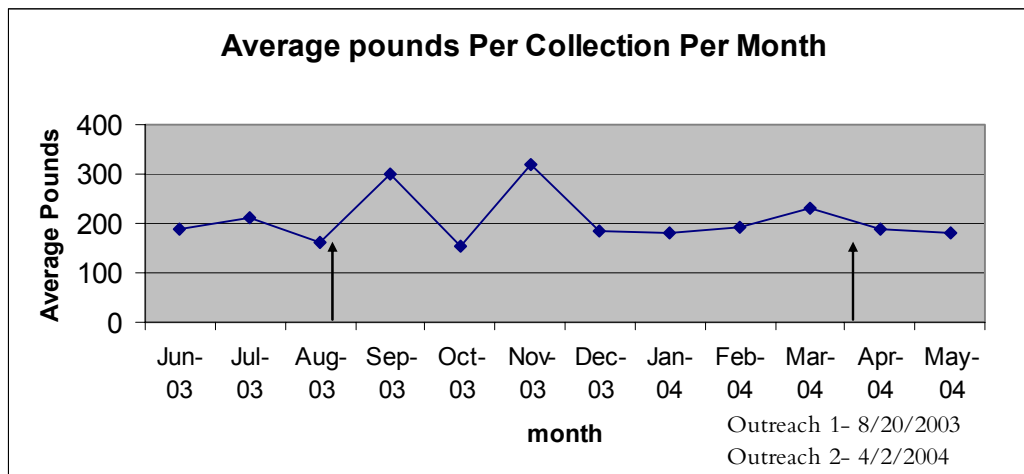
Outreach Message: **Commitment Cards**

Materials: Door hangers
 Method: Management

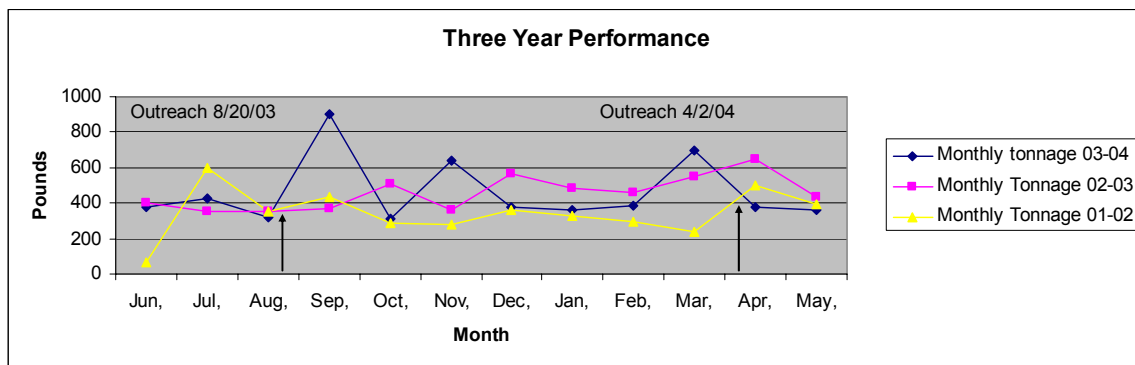
Dates of Outreach:
 8/21/2004 – door knocking
 (9 of 30 contacted)
 4/2/2004- Commitment Cards
 management distribution
 (0% participation in commitment
 program)

Tonnage Data:

Month	Monthly tonnage 03-04	Pounds per Unit per Month	Reports of Trash	Scheduled Collection Days	Notes/Other Problems
May-04	363	4.36	0	2	
Apr-04	380	11.52	0	2	
Mar-04	696	21.09	0	3	
Feb-04	383	11.61	0	2	
Jan-04	359	10.88	0	2	
Dec-03	373	11.30	1	2	
Nov-03	639	19.36	0	2	
Oct-03	309	9.36	0	2	
Sep-03	904	27.39	0	3	
Aug-03	322	9.76	0	2	
Jul-03	425	12.88	0	2	
Jun-03	376	11.39	0	2	



Month	Monthly tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	363	433	392
April	380	650	499
March	696	549	241
February	383	455	296
January	359	483	325
December	373	566	358
November	639	363	282
October	309	508	288
September	904	372	434
August	322	356	353
July	425	353	595
June	376	401	69



Notes:

Outreach 1 was applied on August 20, 2003 resulting in the highest participation levels in three years in September 2003. These gains were sustained for three to four months.

Outreach 2 was not applied. An interested resident was asked and agreed to distribute commitment cards in early April 2004. No commitment cards were ever returned and participation appears consistent with seasonal behavior in past years.

1820 Larpenteur

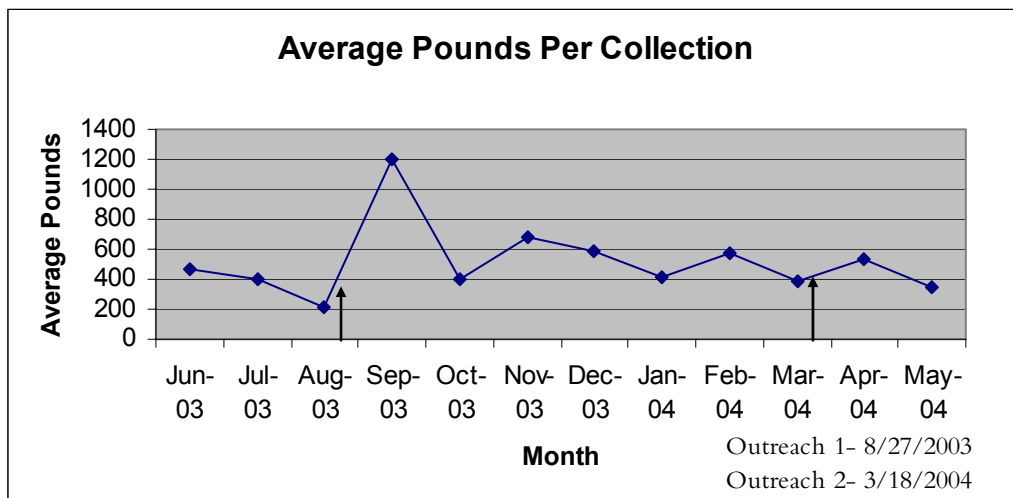
Service Schedule: Biweekly
 Participation: High
 Size: Medium
 Units: 32 (townhomes)
 Buildings: 2
 Contamination: Occasional

Outreach Message: **Commitment Cards**
 Materials: Mailer/ leave behind door hanger
 Method: Door to door

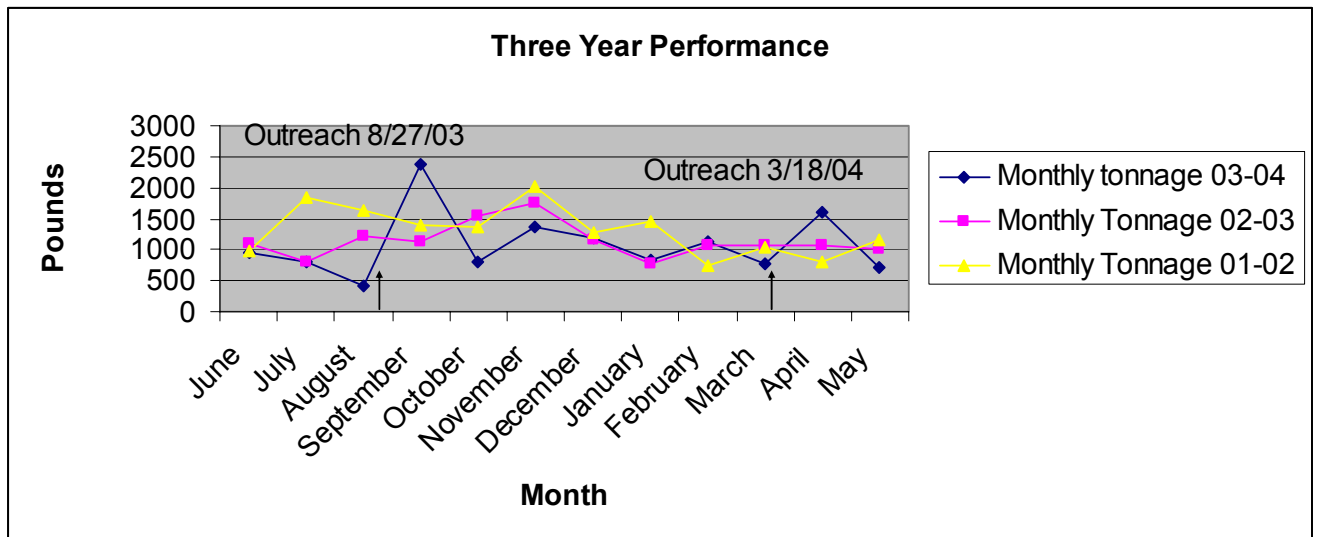
Dates of Outreach:
 8/27/2003 – door knocking
 (18 of 32 contacted)
 3/18/2004 – commitment cards distributed door to door
 (16 of 32 contacted)
 11 of 32 cards returned (34.4% participation in commitment program)

Tonnage Data:

Month	Monthly tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	706	22.06	0	2	
Apr-04	1611	50.34	0	3	
Mar-04	775	24.22	0	2	Oversized OCC
Feb-04	1140	35.63	0	2	
Jan-04	821	25.66	0	2	
Dec-03	1185	37.03	0	2	1 Blocked
Nov-03	1373	42.91	0	2	
Oct-03	812	25.38	0	2	
Sep-03	2391	74.72	0	2	
Aug-03	419	13.09	0	2	
Jul-03	788	24.63	0	2	
Jun-03	936	29.25	1	2	Plastic



Month	Monthly tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	706	1022	1146
Apr	1611	1064	794
Mar	775	1069	1044
Feb	1140	1063	735
Jan	821	777	1470
Dec	1185	1170	1266
Nov	1373	1764	2024
Oct	812	1534	1365
Sep	2391	1119	1393
Aug	419	1210	1632
Jul	788	809	1846
Jun	936	1093	969



Notes:

This is a group of townhomes that houses primarily senior citizens.

Outreach 1 was applied on August 27, 2003, resulting in substantial increases. Tonnage was at a three year high. The gains drop off slightly after the initial spike but increases were sustained for six months after Outreach 1 was applied.

Outreach 2 was applied on March 18, 2004, resulting in a moderate improvement in participation. Tonnage clearly increased in April but when adjusted for seasonal variation and additional scheduled collection days the gains are slightly muted.

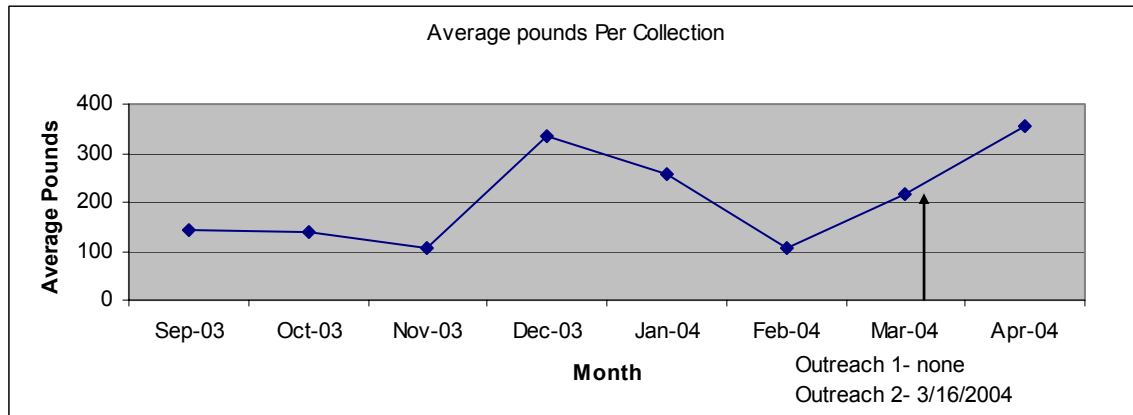
1440 4th Street SE - Kilkenny Court

Schedule: Biweekly
 Building Size: Large
 Units: 92
 Buildings: 1
 Performance: Unknown
 Contamination: Occasional

Outreach Message: **Commitment Cards**
 Materials: Mailer/leave behind hanger
 Method: Event, building management
 Outreach Dates:
 3/16/04- Commitment Cards, Event, Signage
 35 of 92 cards returned (38% participation in commitment program)

Tonnage Data:

Month	Monthly tonnage	total tonnage	Pounds Per Unit Per Month	% of total Tonnage	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
Apr-04	1060	3673	11.52	28.86	0	3	
Mar-04	432	3673	4.70	11.76	0	2	
Feb-04	216	3673	2.35	5.88	0	2	1 not enough
Jan-04	514	3673	5.59	13.99	0	2	
Dec-03	668	3673	7.26	18.19	0	2	
Nov-03	215	3673	2.34	5.85	0	2	1 not enough
Oct-03	280	3673	3.04	7.62	0	2	1 not enough
Sep-03	288	3673	3.13	7.84	0	2	1 not enough



Notes:

This property is in Washington County (City of Forest Lake) and part of an open hauling system, serviced by Forest Lake Sanitation. Kilkenny Court was originally believed to house mostly senior citizens. The rent for many residents is subsidized. The management at Kilkenny Court is actively involved in the recycling program at the building.

Based on information about the demographics, management and hauler at this property, the original Outreach 2 plan was changed to better fit the needs of this property (see page 41). Outreach 2 was an event on March 16, 2004, that resulted in increases that outpaced traditional seasonal participation increases. The amount of material collected in April 2004 (adjusted to average pounds per collection) was the most substantial for the time period in which data was collected for purposes of this study, suggesting strong participation increases.

1150 Cushing Circle – The Burlington

Service Schedule:
 Weekly (carts)
 Biweekly (cardboard dumpster)
 Performance: Medium
 Size: Large
 Units: 427
 Buildings: 4
 Contamination: Occasional

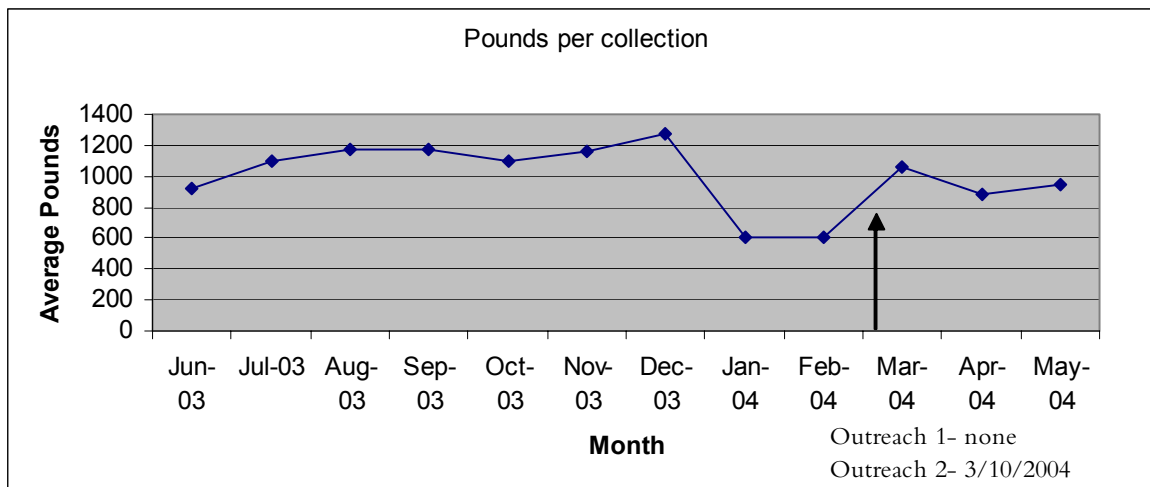
Outreach Message: **Commitment Cards**
 Materials: Self mailer
 Method: Mail

Dates of Outreach:
 No summer outreach
 3/10/2004- commitment cards

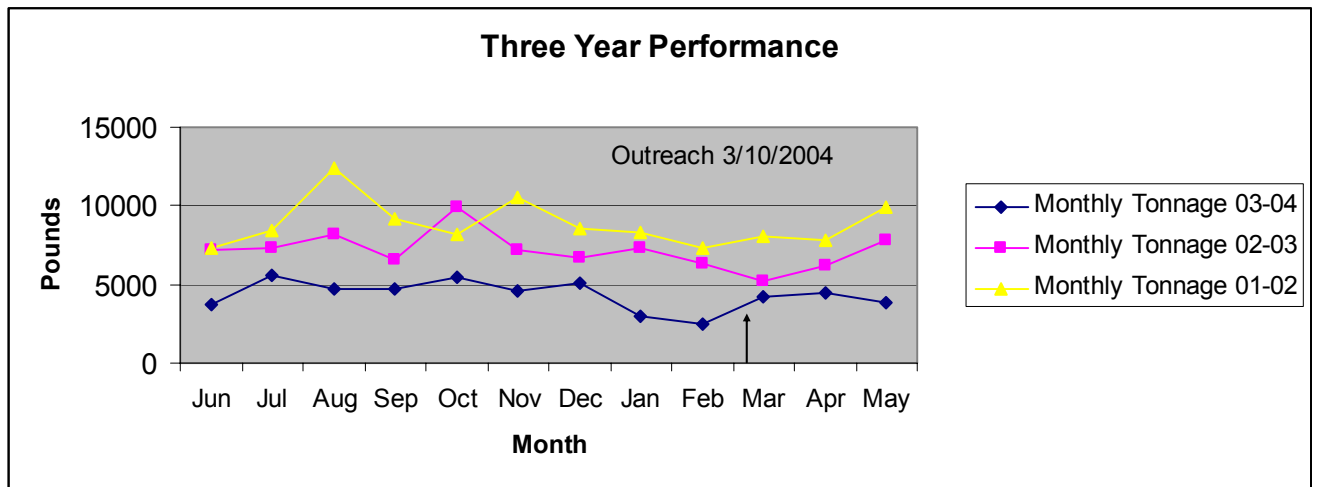
36 of 372 returned (9.7% participation in commitment program)
 55 returned with vacant indication

Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days (carts)	Scheduled Collection Days (Dumpster)	Notes/ Other Problems
May-04	3801	8.90	0	4	2	1 Not Enough
Apr-04	4415	10.34	0	5	3	1 Not Enough
Mar-04	4233	9.91	0	4	2	
Feb-04	2432	5.70	0	4	2	1 Not Out
Jan-04	3007	7.04	0	5	2	
Dec-03	5092	11.93	0	4	2	
Nov-03	4633	10.85	0	4	2	
Oct-03	5472	12.81	0	5	2	
Sep-03	4682	10.96	0	4	2	
Aug-03	4682	10.96	0	4	2	
Jul-03	5517	12.92	0	5	2	
Jun-03	3693	8.65	0	4	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	3801	7819	9970
April	4415	6216	7843
March	4233	5246	8086
February	2432	6287	7335
January	3007	7258	8295
December	5092	6659	8508
November	4633	7203	10564
October	5472	9940	8213
September	4682	6627	9181
August	4682	8158	12452
July	5517	7267	8445
June	3693	7248	7267



Notes:

The Burlington has seen a steady decline in tonnage since 2000. Management was unwilling to allow outreach staff access to the building to apply Outreach 1.

The commitment cards for Outreach 2 were mailed on March 10, 2004. There was a moderate increase in participation after Outreach 2 was applied. Some of the increases are likely related to seasonal variation but March, April and May were clearly better months than January and February. March tonnage has historically been comparable to January and February, but in 2004 there was a moderate increase.

Response to Recycling Kits and Cart Labels

Five properties received recycling kits and new labels for the carts. There were two styles of kits distributed. The first style of kits was Kraft paper bags with labels; the second style was permanent plastic containers with labels. Only one property, 714/720 Stryker Avenue, received the plastic style. In circumstances where the kits were distributed by management, we provided as many kits as there were occupied units, but it is unknown how many kits were distributed. At properties where kits were distributed door to door, outreach staff left kits for residents who were not home hanging on the doorknob.

Recycling Kits and Cart Labels

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination	Kits Distributed
714/720 Stryker	Medium	Medium	Yes	How To/ Kits	Door to Door	Yes	Infrequent	5 of 21 in person
745 Grand	Medium	High	Yes	How To/ Kits	Management	Yes	Infrequent	Unknown (given to management)
586 Central	Large	Low	Yes	How To/ Kits	Door to Door	Yes	Occasional	32 of 73 in person
Springbrook	Large	Unknown	No	How To/ Kits	Door to Door	No	Occasional	212
469 Ada Street	Large	Low	Yes	How To/ Kits	Management	Yes	Occasional	Unknown (Given to resident.)

All four properties in Saint Paul showed participation improvements following the distribution of kits. With the paper bag kits, the improvement was less immediate than at the property that received the plastic kits. Initially it appeared the plastic kits corresponded with more substantial increases in participation. However, two months after the kits had been distributed the paper kits appeared to be equally effective. The data suggests that the temporary kits encouraged residents to store materials in their apartments for longer periods of time (until the bag was full); whereas the plastic kits (which were smaller) were used more immediately to haul recyclables to the carts.

There is no quantitative data from Springbrook (in Fridley); however, we learned a valuable lesson about outreach at this property. While we distributed recycling kits door to door, resident repeatedly told the outreach staff that they didn't think there was recycling at the building. We discovered that the hauler at that building has a history of not leaving enough carts, leaving poorly labeled carts, or not leaving any carts at all. So even if participation increased, residents had a hard time finding anywhere to put their recyclables once they brought them outside. Springbrook needed attention to ensure that clear recycling areas were consistently in place more than it needed outreach.

714/720 Stryker

714/ 720 Stryker Ave
 Participation: Medium
 Size: Medium
 Units: 21
 Buildings: 2
 Contamination: Infrequent

Materials: Special containers and cart labels
 Method: Management and Eureka Intern

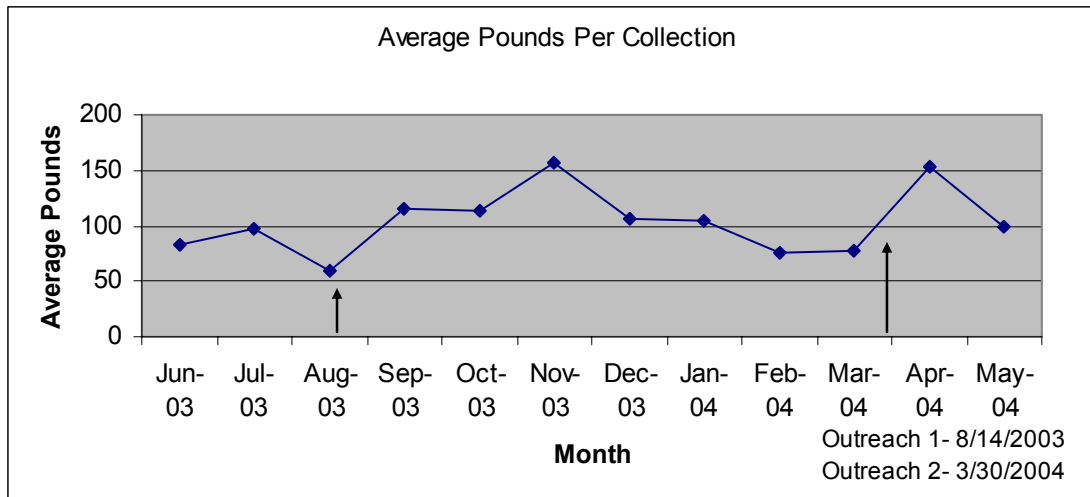
Dates of Outreach:

8/14/2003- door knocking
 (9 of 21 contacted)
 3/31/2004- special containers and cart labels
 5 kits distributed

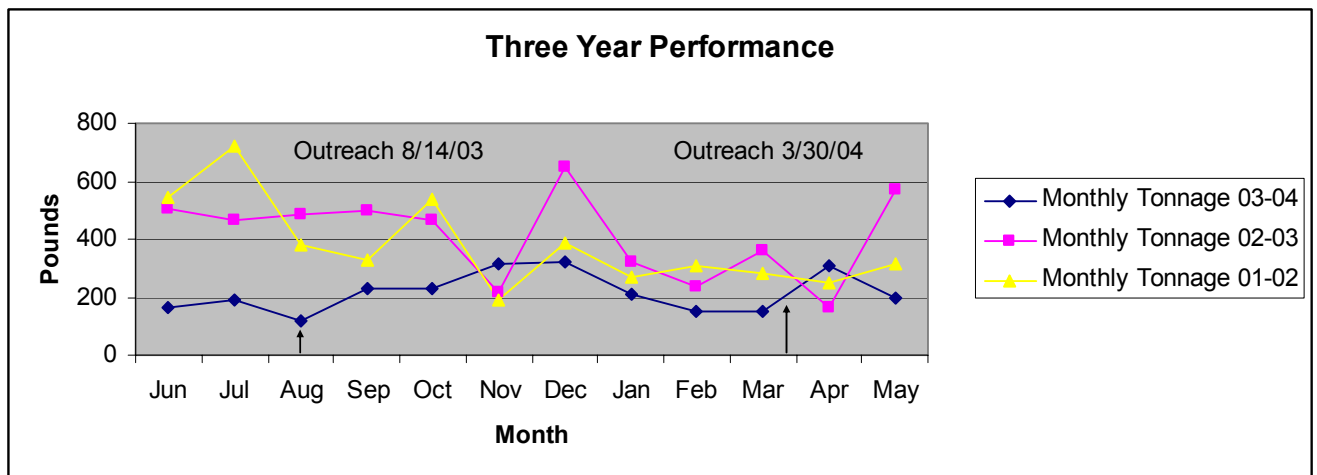
Outreach Message: **Kits**

Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/Other Problems
May-04	199	9.05	0	2	
Apr-04	307	13.95	0	2	1 Oversized OCC
Mar-04	154	7.00	0	2	
Feb-04	150	6.82	0	2	
Jan-04	209	9.50	0	2	
Dec-03	319	14.50	0	3	
Nov-03	314	14.27	0	2	
Oct-03	227	10.32	0	2	
Sep-03	232	10.55	0	2	
Aug-03	120	5.45	0	2	
Jul-03	193	8.77	0	2	
Jun-03	164	7.45	0	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	199	571	318
Apr	307	165	248
Mar	154	363	285
Feb	150	233	308
Jan	209	323	267
Dec	319	648	387
Nov	314	214	189
Oct	227	465	538
Sep	232	496	325
Aug	120	487	379
Jul	193	464	724
Jun	164	504	541



Notes:

These two buildings share a recycling set up. A resident, who had been dedicated to promoting the recycling program at the building, moved in early 2004. There are several Spanish speaking families living in these apartments.

Outreach 1 was applied August 14, 2004. There was a substantial and sustained increase in participation after Outreach 1 was applied. Increased participation sustained for five months.

Outreach 2 was applied on March 30, 2003. These kits, the smaller plastic kits, had an immediate impact. Participation increased in April but dropped slightly in May. April 2004 saw higher participation levels than April of the two previous years.

745 Grand

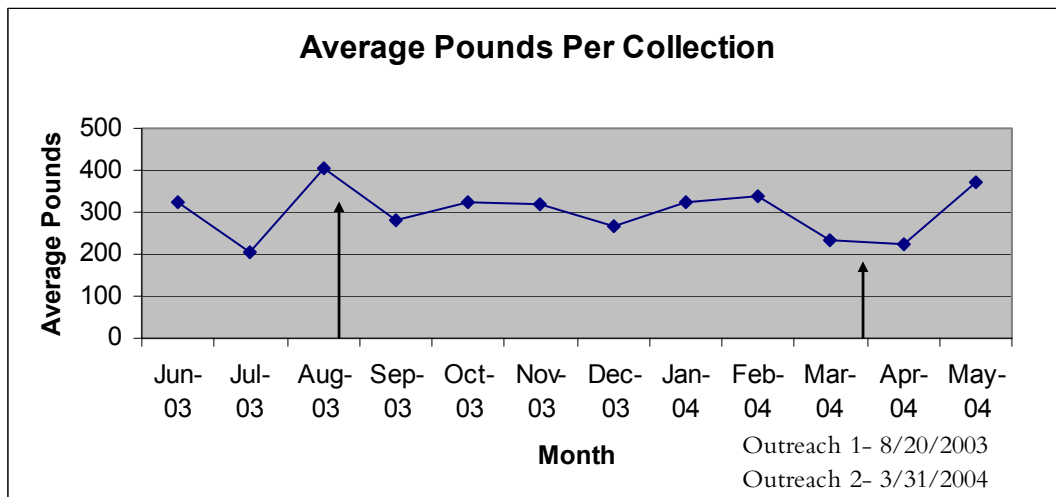
Service Schedule: Weekly
 Participation: High
 Size: Medium
 Units: 30
 Contamination: Infrequent

Outreach Message: **Kits**
 Materials: Kits and cart labels
 Method: Management

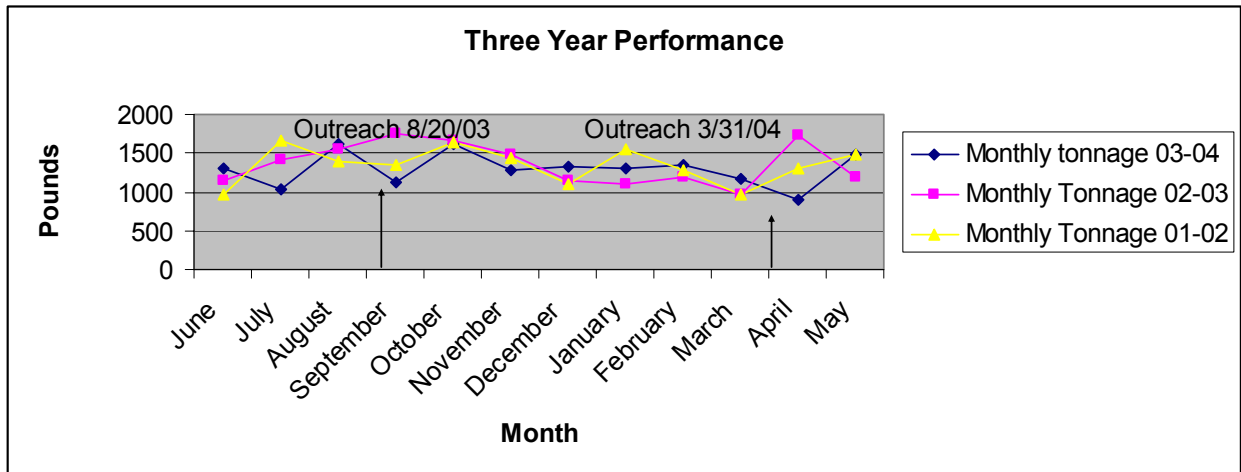
Dates of Outreach:
 8/20/2003- lobby event
 3/31/2003- kits and cart labels

Tonnage Data:

Month	Monthly tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	1491	49.7	0	4	
Apr-04	902	30.07	0	4	
Mar-04	1159	38.63	0	5	1 Not out
Feb-04	1354	45.13	0	4	
Jan-04	1298	43.27	0	4	
Dec-03	1333	44.43	0	5	
Nov-03	1277	42.57	0	4	
Oct-03	1628	54.27	0	5	
Sep-03	1120	37.33	0	4	
Aug-03	1622	54.07	0	4	
Jul-03	1032	34.40	0	5	
Jun-03	1302	43.40	0	4	



Month	Monthly tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	1491	1196	1478
Apr	902	1724	1314
Mar	1159	964	971
Feb	1354	1187	1284
Jan	1298	1103	1547
Dec	1333	1136	1100
Nov	1277	1481	1449
Oct	1628	1661	1632
Sep	1120	1756	1349
Aug	1622	1541	1399
Jul	1032	1416	1670
Jun	1302	1156	966



Notes:

This building is a condo association. The recycling contact is a resident who is interested in the recycling program. The resident did not allow the outreach team access to the building to distribute information door to door during Outreach 1. She did allow the outreach team to sit in the lobby with lemonade and distribute recycling information. The lobby event that was substituted for door to door during Outreach 1 had no effect on participation.

Outreach 2 was applied on March 31, 2004. The kits were distributed by the resident recycling contact. She placed the kits in the lobby for interested residents to take. Participation improved moderately approximately one month after the kits were distributed. May 2004 was one of the stronger months in terms of participation in the past year.

586 Central Ave West

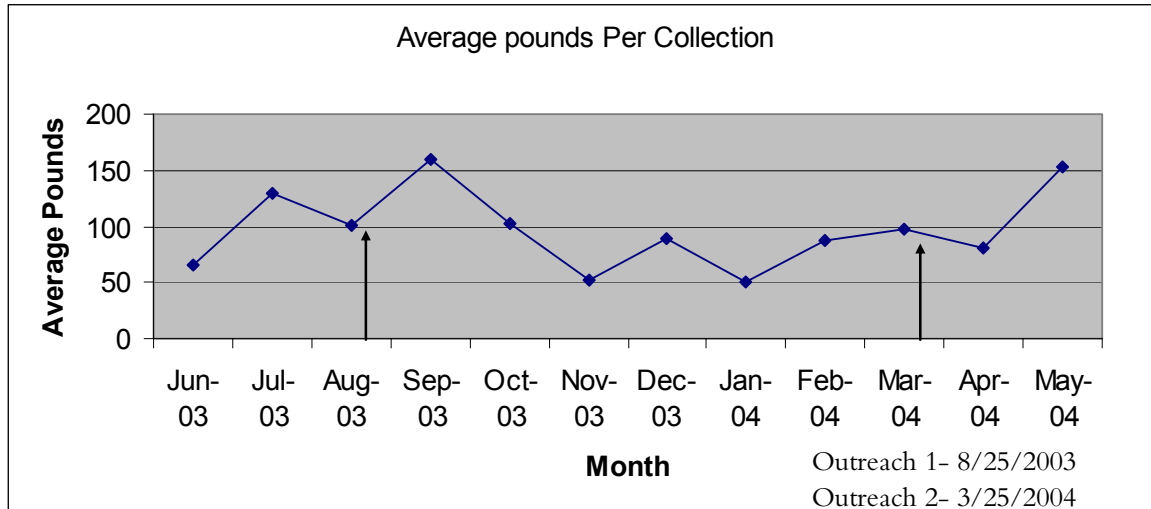
Service Schedule: Biweekly
 Participation: Low
 Size: Large
 Units: 73
 Buildings: 1
 Contamination: Occasional

Outreach Message: **Kits**
 Materials: Kits and cart labels
 Method: Door to door

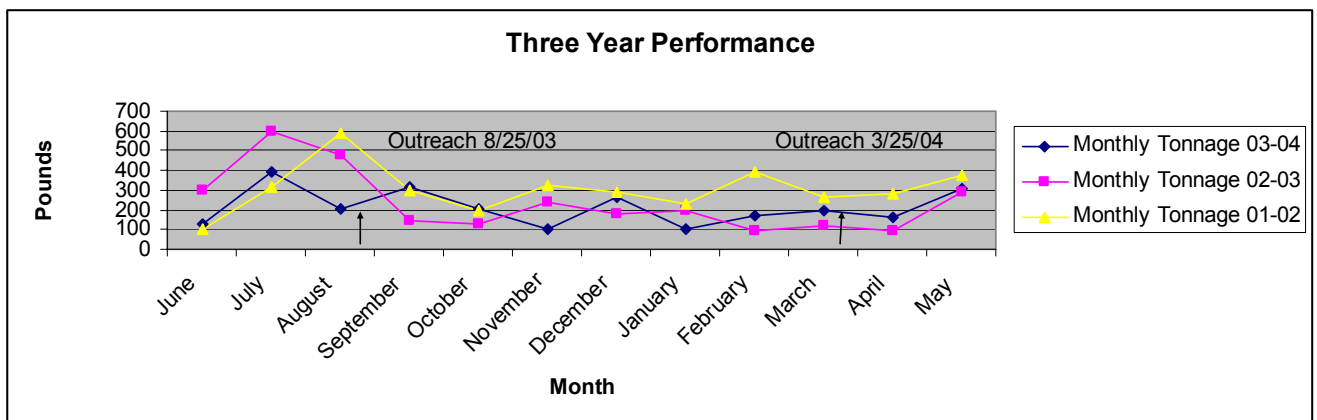
Dates of Outreach:
 8/25/2003- door knocking
 (30 of 73 contacted)
 3/25/2004- kits and cart labels

Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	305	4.18	0	2	
Apr-04	161	2.21	0	2	1 Oversized OCC
Mar-04	194	2.66	0	2	
Feb-04	174	2.38	0	2	
Jan-04	102	1.40	0	2	1 Not enough
Dec-03	267	3.66	0	3	
Nov-03	105	1.44	0	2	1 Not enough
Oct-03	204	2.79	0	2	
Sep-03	318	4.36	0	2	
Aug-03	203	2.78	0	2	
Jul-03	390	5.34	0	3	
Jun-03	131	1.79	0	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	305	286	379
Apr	161	91	284
Mar	194	117	263
Feb	174	91	396
Jan	102	200	227
Dec	267	182	291
Nov	105	238	327
Oct	204	126	199
Sep	318	141	295
Aug	203	474	589
Jul	390	595	319
Jun	131	295	106



Notes:

This property has a strange layout, making the carts difficult to find. While applying Outreach 1, the outreach staff noted that many residents were unaware there were recycling containers on the property.

Application of Outreach 1 on August 25, 2003, corresponded with a substantial increase in participation. The building saw an increase in material collected despite a history of declining between August and September.

Application of Outreach 2 on March 25, 2004, also saw a positive response. Participation did not increase immediately after the kits were distributed but did see substantial gains in May.

Springbrook

Service Schedule: Biweekly
Participation: Unknown
Size: Large
Units: 360
Buildings: 8
Contamination: Occasional

Outreach Message: **Kits**
Materials: Kits
Method: Door to door

Dates of Outreach:
3/13/2004 - door knocking
3/20/2004 - door knocking
3/27-2004 - door knocking

Springbrook Apartments is the largest apartment complex in Fridley with 360 units. Managers change frequently at Springbrook Apartments. The City has experienced recycling code compliance problems with this complex in the past, but they have been cooperative when forced to correct problems. Recycling services have not been consistently available here. For example, management recently dropped the service completely for six months before a tenant finally notified the City of the code violation.

There are nine different buildings of 36-42 units each in the complex. There is a trash/recycling area for each of the nine buildings. There are various sized dumpsters at each location, but each location has one 98-gallon cart for mixed containers and one 98-gallon cart for mixed paper. Recycling is serviced weekly.

469 Ada Street – Dunedin High Rise

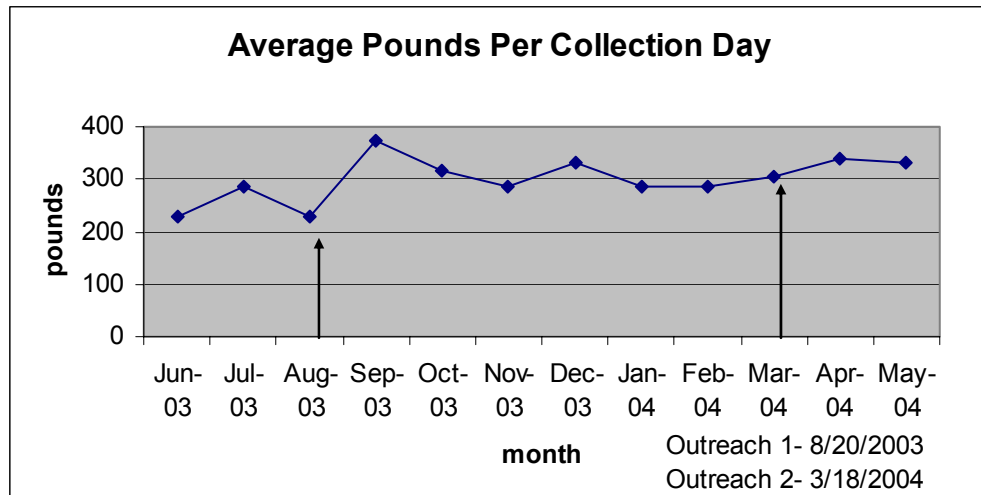
Service Schedule: Weekly
 Participation: Low
 Size: Large
 Units: 144
 Buildings: 1
 Contamination: Infrequent

Outreach Message: **Kits**
 Materials: Kits and Cart Labels
 Method: Resident Recycling
 Coordinator

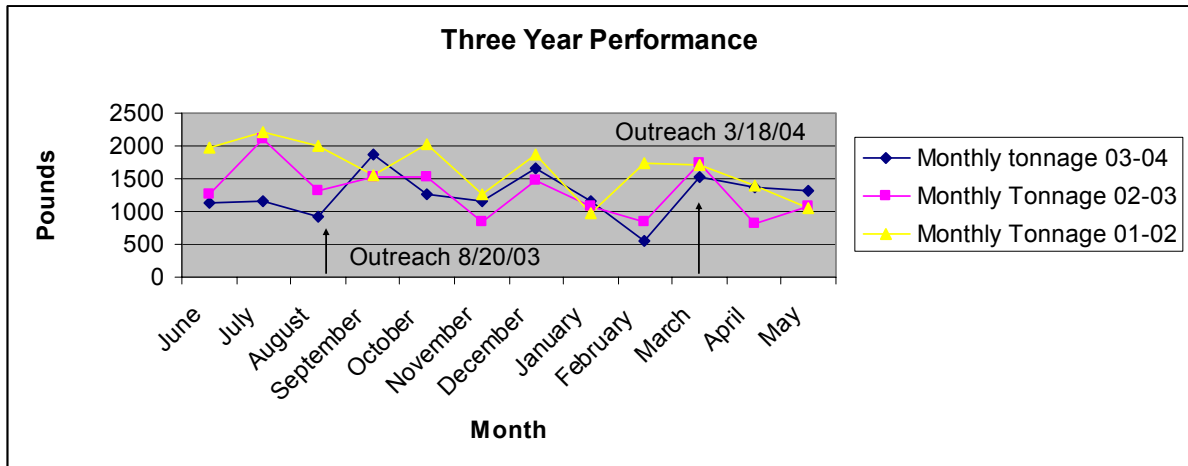
Dates of Outreach:
 8/20/2003- Door knocking
 (57 of 135 contacted)
 3/18/2004- Kits and Cart Labels

Tonnage Data:

Month	Monthly tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	1325	9.20	0	4	
Apr-04	1359	9.44	0	4	
Mar-04	1516	10.53	0	5	
Feb-04	557	3.87	0	4	
Jan-04	1150	7.99	0	4	
Dec-03	1650	11.46	0	5	
Nov-03	1155	8.02	0	4	
Oct-03	1269	8.81	0	4	
Sep-03	1861	12.92	0	5	
Aug-03	908	6.31	0	4	
Jul-03	1150	7.99	0	4	
Jun-03	1139	7.91	0	5	



Month	Monthly tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	1325	1085	1040
April	1359	811	1384
March	1516	1747	1698
February	557	852	1730
January	1150	1067	973
December	1650	1472	1876
November	1155	833	1266
October	1269	1514	2030
September	1861	1520	1544
August	908	1325	2002
July	1150	2111	2204
June	1139	1264	1961



Notes:

Dunedin High Rise is operated by the Public Housing Authority (PHA). The PHA runs a program that pays resident councils quarterly based on volume of recyclables collected. The resident council uses those funds to finance a resident recycling coordinator. At Dunedin the resident recycling coordinator assists many of the residents in participating in the recycling program. Dunedin is a high-rise building with the recycling containers on the first floor.

Outreach 1 was conducted on August 20, 2003. The property saw a sustained and substantial increase in participation.

Outreach 2 began on March 18, 2004. Management would not allow door to door outreach because many residents are considered at-risk adults, and policy had changed. For the safety of the residents and our staff, we changed our planned method from door to door and the resident recycling coordinator distributed the kits to residents. Participation was improved in both months after outreach was applied.

Response to Environmental Message/ Posters

Four properties were selected to receive the Environmental Message. The Environmental Message was communicated to residents through posters that were sent to management who were asked to display them.

Environmental Message properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
168 Sixth Street	Large	High	No	Environmental Message	Poster	Yes	Infrequent
605 Portland	Small	High	Yes	Environmental Message	Poster	Yes	Infrequent
76 Wyoming	Small	Medium	Yes	Environmental Message	Poster	Yes	Infrequent
1074 York	Medium	Low	Yes	Environmental Message	Poster	Yes	Occasional

Each of the four properties increased in participation when the outreach was applied. No property showed dramatic gains. Some of the increases are consistent with seasonal levels or could be partially attributed to having materials collected in April 2004 that were in the containers in March 2004, as in the case of 1074 York where materials were not dumped because the driver reported “Not Enough.” 1074 York also had contamination issues in the two months after the poster was distributed. The poster appears to have some positive impact but does not appear to have had as dramatic effect as some of the other types of outreach.

168 Sixth Street

Service Schedule: Weekly
 Participation: High
 Size: Large
 Units: 104
 Buildings: 1
 Contamination: Infrequent

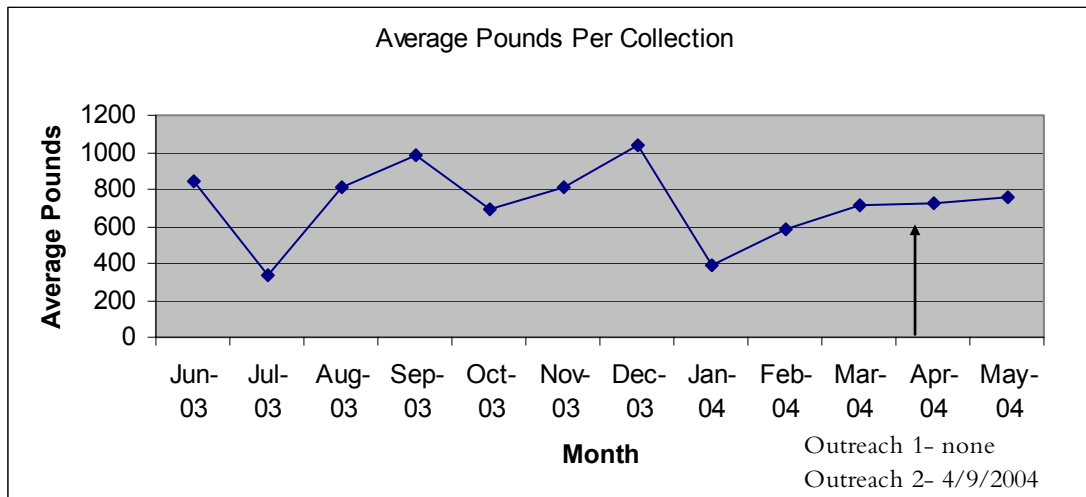
Outreach Message: **Environmental Message**

Materials: Poster
 Method: Management

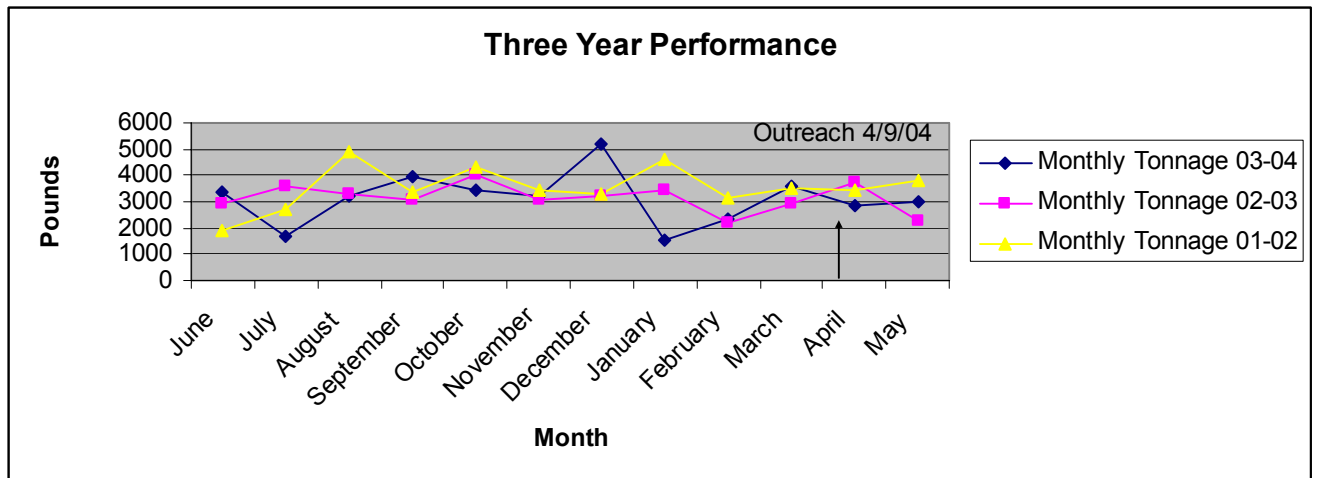
Dates of Outreach:
 No door knocking
 4/9/2004- poster

Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	3022	29.06	0	4	
Apr-04	2888	27.77	0	4	
Mar-04	3577	34.39	0	5	
Feb-04	2316	22.27	0	4	
Jan-04	1539	14.80	0	4	
Dec-03	5181	49.82	0	5	
Nov-03	3253	31.28	0	4	
Oct-03	3435	33.03	0	5	
Sep-03	3937	37.86	0	4	
Aug-03	3250	31.25	0	4	
Jul-03	1677	16.13	0	5	
Jun-03	3367	32.38	0	4	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	3022	2238	3811
April	2888	3710	3424
March	3577	2925	3512
February	2316	2160	3178
January	1539	3439	4621
December	5181	3201	3317
November	3253	3080	3409
October	3435	4003	4322
September	3937	3108	3383
August	3250	3327	4893
July	1677	3581	2704
June	3367	2959	1898



Notes:

This property has consistently performed at a very high level. This is a building of condominiums where the resident association has hired a management company to coordinate all activities on the property. The management company would not allow outreach staff access to apply Outreach 1.

The management company was willing to post the environmental message poster as part of Outreach 2. The participation rates seem unchanged at this property after the poster was put up.

605 Portland

Service Schedule: Biweekly
 Participation: High
 Size: Small
 Units: 10
 Buildings: 1
 Contamination: Infrequent

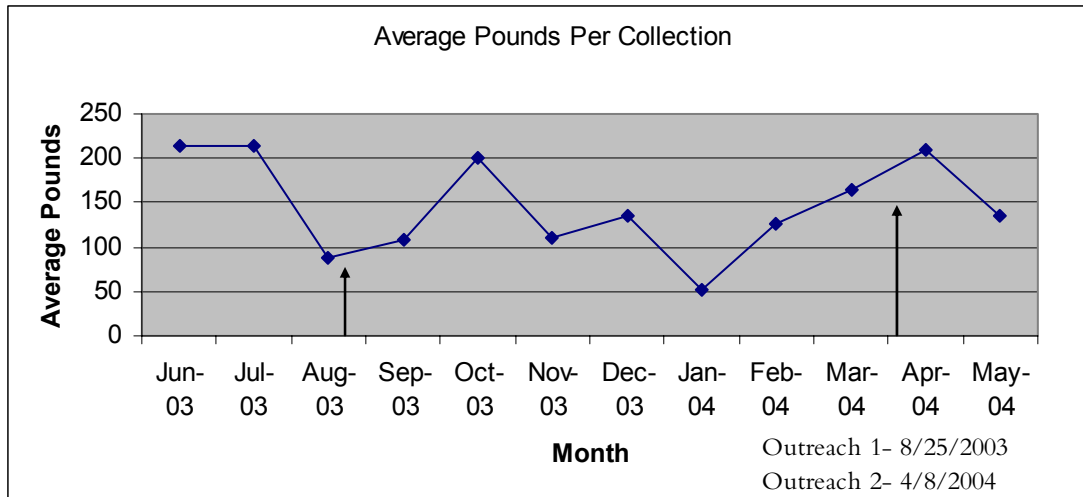
Outreach Message: **Environmental Message**

Materials: Poster
 Method: Management

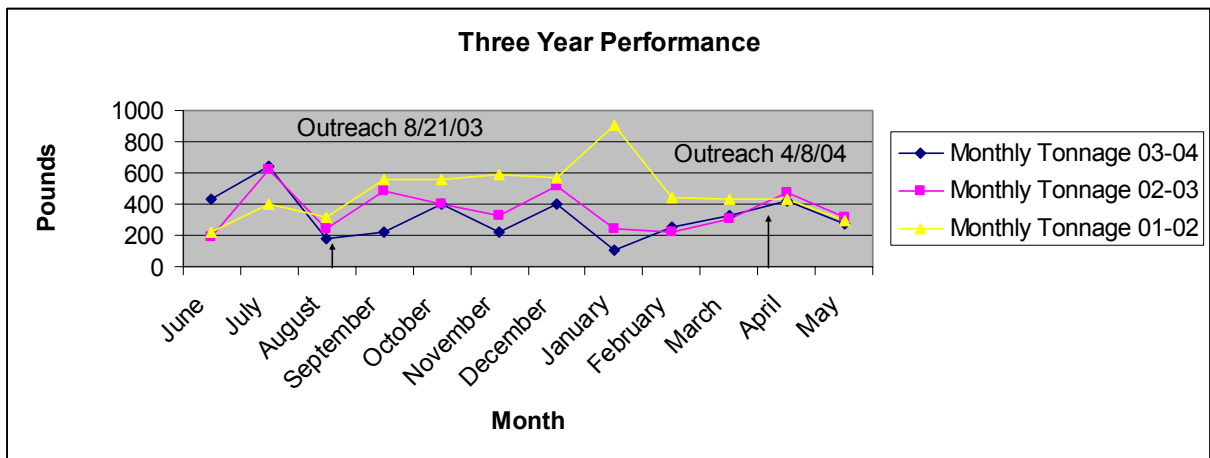
Dates of Outreach:
 8/21/2003
 (5 of 10 contacted)
 4/8/2004- Poster

Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	270	27	0	2	
Apr-04	417	41.7	0	2	
Mar-04	331	33.1	0	2	
Feb-04	251	25.1	0	2	
Jan-04	102	10.2	0	2	1 Not enough
Dec-03	403	40.3	0	3	1 Not enough
Nov-03	220	22	0	2	
Oct-03	399	39.9	0	2	
Sep-03	217	21.7	0	2	
Aug-03	174	17.4	0	2	
Jul-03	640	64	0	3	
Jun-03	429	42.9	0	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	270	311	300
April	417	477	436
March	331	308	429
February	251	218	438
January	102	239	908
December	403	513	570
November	220	326	585
October	399	396	563
September	217	484	559
August	174	245	320
July	640	626	399
June	429	188	217



Notes:

Outreach 1 was applied on August 21, 2003. There were moderate increases in participation immediately after outreach was applied. The increases were not sustained and could be related to seasonal variation.

Outreach 2 also correlated with moderate increases in participation. Between February and May, this property performed very similarly to the same time period in 2003.

76 Wyoming Street E

Service Schedule: Biweekly
 Participation: Medium
 Size: Small
 Units: 12
 Buildings: 1
 Contamination: Infrequent

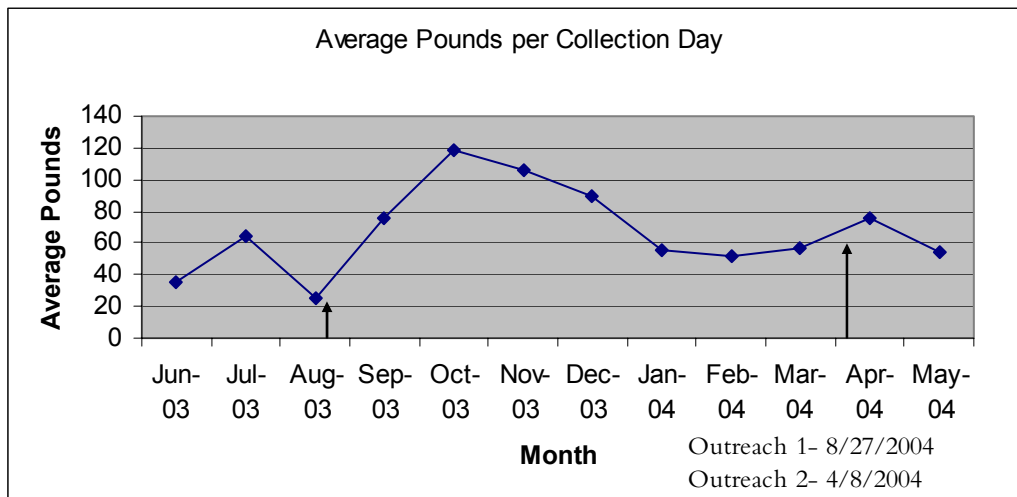
Outreach Message: **Environmental Message**

Materials: Poster
 Method: Management

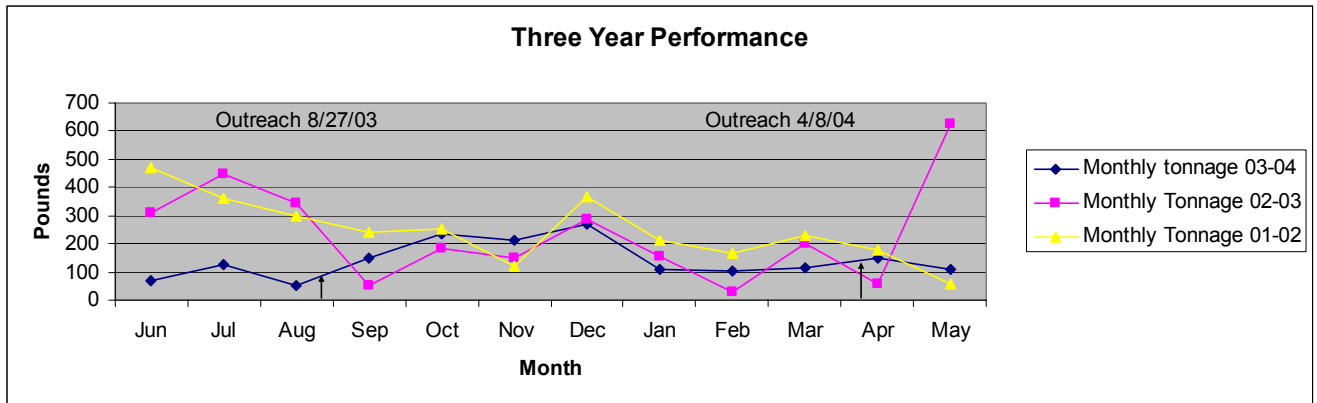
Dates of Outreach:
 8/27/2003- door knocking
 (5 of 12 contacted)
 4/8/2003- poster

Tonnage Data:

Month	Monthly tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	109	9.08	0	2	1 oversized occ
Apr-04	151	12.58	0	2	
Mar-04	114	9.50	1	2	window glass
Feb-04	104	8.67	0	2	1 blocked
Jan-04	110	9.17	0	2	1 not enough
Dec-03	267	22.25	0	3	
Nov-03	213	17.75	0	2	
Oct-03	237	19.75	0	2	
Sep-03	152	12.67	0	2	
Aug-03	50	4.17	0	2	
Jul-03	129	10.75	0	2	
Jun-03	70	5.83	0	2	



Month	Monthly tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	109	627	59
April	151	55	179
March	114	200	231
February	104	30	168
January	110	154	211
December	267	288	367
November	213	151	119
October	237	186	253
September	152	53	243
August	50	343	301
July	129	449	362
June	70	311	470



Notes:

Outreach 1 was applied on August 27, 2003. The outreach team initially attempted to do outreach on August 20, 2003, but the resident caretaker denied the outreach team access to the building. The resident caretaker did agree to distribute recycling information to the other tenants. The property owner had not communicated to the caretaker that she had given the outreach team permission to enter the building. Participation after Outreach 1 increased at above seasonal levels. Eventually, participation returned to what it had two years ago, but the increases in participation appears to have sustained for four months.

Outreach 2 was applied on April 8, 2004, resulting in improved participation. The improvement was minimal but coincided with reduced contamination.

1074 York Avenue

Service Schedule:
 5/1/2003- 12/31/2003: Biweekly
 1/1/2004- present: monthly
 Participation: Low
 Size: Medium
 Units: 32
 Buildings: 1
 Contamination: Occasional

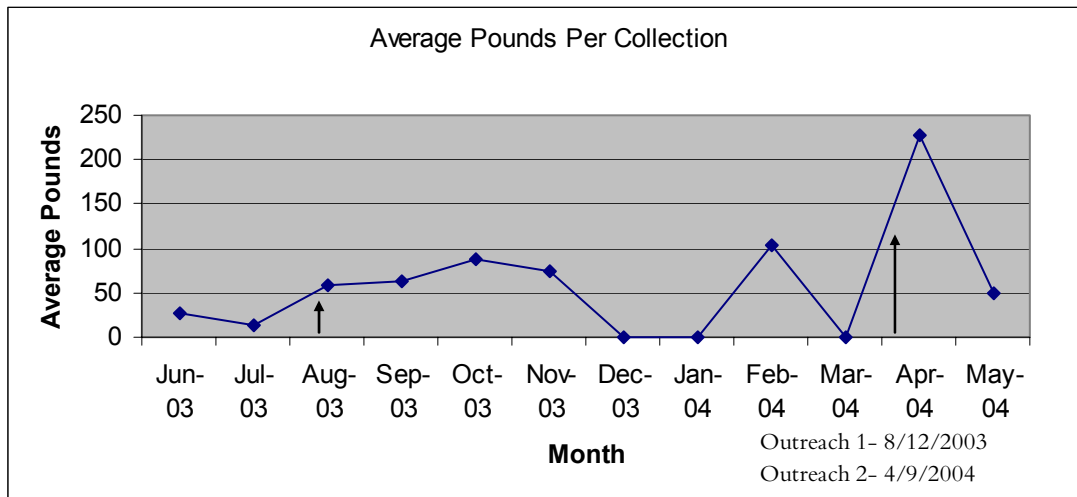
Outreach Message: **Environmental Message**

Materials: Poster
 Method: Management

Dates of Outreach:
 8/12/2004- door knocking
 (16 of 31 contacted)
 4/9/2004- Poster

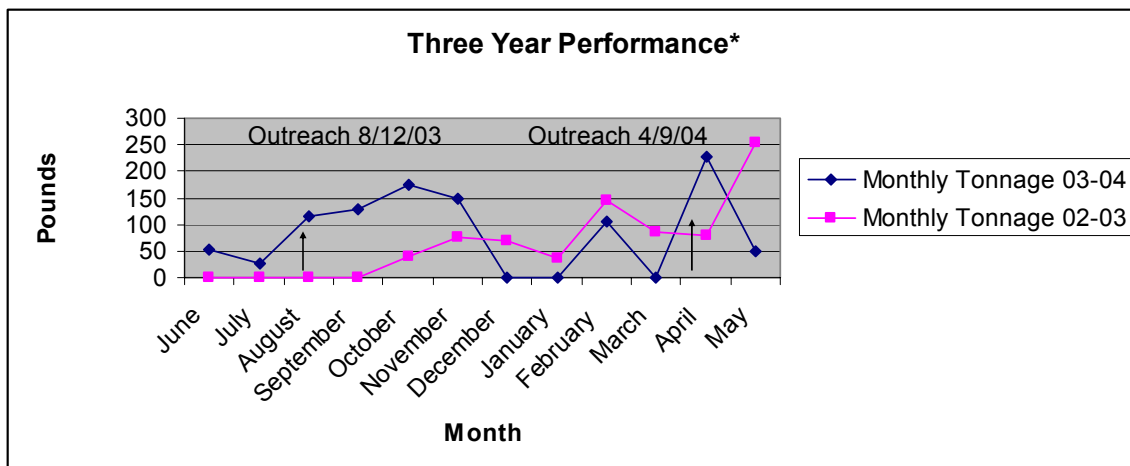
Tonnage Data:

Month	Monthly Tonnage 03-04	Pounds Per Unit Per Month	Reports of Trash	Scheduled Collection Days	Notes/ Other Problems
May-04	50	1.56	1	1	
Apr-04	228	7.13	1	1	
Mar-04	0	0.00	0	1	1 Not enough
Feb-04	104	3.25	0	1	
Jan-04	0	0.00	0	1	1 Not enough
Dec-03	0	0.00	0	2	2 Not enough
Nov-03	147	4.59	0	2	
Oct-03	174	5.44	0	2	
Sep-03	128	4.00	0	2	1 Not enough
Aug-03	116	3.63	0	2	1 Not enough
Jul-03	27	0.84	0	2	1 Not enough
Jun-03	52	1.63	2	2	



Month	Monthly Tonnage 03-04	Monthly Tonnage 02-03	Monthly Tonnage 01-02
May	50	253	0
April	228	80	0
March	0	85	0
February	104	144	0
January	0	35	0
December	0	70	0
November	147	77	0
October	174	39	0
September	128	0	0
August	116	0	0
July	27	0	0
June	52	0	0

*This account was established in October of 2002.



Notes:

Outreach 1 was applied on August 12, 2003. Participation increased moderately after the application of Outreach 1 and sustained for about four months. Contamination was also less of an issue in the months after Outreach 1 was applied. During the study, the collection schedule was changed from biweekly to monthly service after consistent report of low volumes of materials. This requires close attention to number of collection days when analyzing the data. The graphs can be somewhat misleading if not examined carefully and compared to the data tables.

Outreach 2 was applied on April 9, 2004. Materials were not collected from the carts in March 2004 because the driver indicated there was relatively little material in them. April 2004 was a successful month indicating that the poster had a moderate impact. The impact was not substantial because the tonnage associated with April was likely placed in the recycling carts in March and there is a history of seasonally strong numbers in the spring of 2003. The poster was not an effective tool for reducing contamination.

Conclusions about Outreach Messages

The data suggests that any message can be effective in the right circumstance and that properties respond positively to outreach. A number of factors determine how successful outreach is at a given property. The data demonstrates that building size, performance level, outreach method and outreach message in combination impact how substantial and sustained a response to outreach will be. Properties with developed infrastructure are successful; properties without infrastructure have less ability to sustain performance improvements. The clearest example of this was the commitment cards. Commitment cards were not effective at 175 Charles where contamination in the recycling carts was already an issue. Conversely, the cards performed well at Kilkenny Court, which was a property with a solid infrastructure that was prepared to promote the program.

In high performing buildings, the basic education is usually already in place: carts are in a convenient place, consistently available, and clearly labeled. Information is available to residents. Outreach efforts at these buildings do not produce large increases, but rather sustain the participation that is already high. In low performing buildings, where the recycling infrastructure needs to be improved, outreach is less effective at producing sustained increases in participation.

When prioritizing resources, outreach that strengthens the recycling basics at a building is most effective: labels and signage for the recycling carts, directional signage in buildings and posters and signage letting residents know that recycling is available and is different from trash. Reinforce these with a good, basic brochure or flyer. Once residents have basic, clear information in place about recycling, other promotional campaigns can, in the right cases, help sustain the program.

The “No Garbage” message is appropriate to solve the specific problem of contamination; the other messages have more impact on improving participation.

Responses based on Outreach Methods

There are many ways to distribute information to multifamily residents. Outreach 2 examined the response to several different outreach methods. Although one of the methods, door to door education, was also used to distribute information in Outreach 1, it is the data from Outreach 2 that allows for comparisons between methods.

Outreach Method: Door to Door

Three properties utilized door to door education as their outreach method in Outreach 2.

Door to door outreach properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
175 Charles	Large	Low	Yes	Commitment Cards	Door to Door	Yes	Frequent
586 Central	Large	Low	Yes	How To/ Kits	Door to Door	Yes	Occasional
Springbrook	Large	Unknown	No	How To/ Kits	Door to Door	No	Occasional
1820 Larpenteur	Medium	High	Yes	Commitment Cards	Door to Door	Yes	Occasional
714/720 Stryker	Medium	Medium	Yes	How To/ Kits	Door to Door	Yes	Infrequent

Participation increased at every property that received door to door outreach. The low performing properties saw less of a response than the medium and high performing properties. Contamination appeared to become an issue again at the low performing 175 Charles after commitment cards were distributed. The other low performing building, 586 Central received kits and new cart labels and saw a more substantial increase in participation and no contamination issues. Predictably the smallest gains were seen at the properties where the fewest residents were contacted.

Outreach Method: Mail

Two properties received outreach via mail during Outreach 2.

Mail properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
1150 Cushing Circle	Large	Medium	No	Commitment Cards	Mail	Yes	Occasional
Oak Hill	Medium	Unknown	No	No Garbage	Eureka Install + Mail	No	Infrequent

Cushing Circle returned 9.7% of the postage-paid commitment cards that were mailed. Returned mail indicated 55 of the 427 units were vacant (12.8%); which was valuable information about vacancies that had been previously unknown. Recycling tonnage was

down to a three year low in January and February 2003 before outreach was applied in early March 2004. The property responded with a moderate upswing in March 2004 but settled back to where it had been before the outreach in April and May 2004. The increase in March 2004 does not appear to have been closely related to seasonal variation.

Oak Hill had developed some minor issues with contamination that cleared up after the outreach piece was mailed to residents.

Responses to outreach by mail are difficult to evaluate with limited data. Although this type of outreach appears to have commanded the attention of fewer residents than door to door outreach, it was effective.

Outreach Method: Management Information Distribution

At eight properties property management, caretakers or resident volunteers were asked to play a primary role in distributing materials during Outreach 2. At four properties management was asked only to put up a poster.

Management outreach properties

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
745 Grand	Medium	High	Yes	How To/ Kits	Management	Yes	Infrequent
469 Ada Street	Large	Low	Yes	How To/ Kits	Management	Yes	Occasional
1940 Marshall	Medium	Medium	Yes	Commitment Cards	Management*	Yes	Infrequent
168 Sixth Street	Large	High	No	Environmental Message	Poster	Yes	Infrequent
1074 York	Medium	Low	Yes	Environmental Message	Poster	Yes	Occasional
605 Portland	Small	High	Yes	Environmental Message	Poster	Yes	Infrequent
76 Wyoming	Small	Medium	Yes	Environmental Message	Poster	Yes	Infrequent

This method corresponded with increases in participation. Five of the eight participating properties saw significant increases in participation.

Two of the three properties that did not see significant increases in participation were already high performing properties, which supports the conclusion that increases at high performing properties are possible, but generally smaller than medium performing properties.

At 1940 Marshall there is evidence that the enthusiastic resident did not follow through on requests to distribute commitment cards as promised. Zero commitment cards were returned and tonnage actually saw a small decline in the two months after the cards were supposed to have been distributed.

The data suggests that outreach delivered by management, or someone else at the property, can increase participation if the materials are actually distributed. This method, like the others, does not have as much impact at properties that are already performing at a

high level. This method appears to be effective at increasing participation at medium and low performing properties.

Outreach Method: Event

One of the buildings in the study received outreach through an event.

Property Name	Property Size	Performance	Outreach 1 received	Outreach Message (Outreach 2)	Outreach Method (Outreach 2)	Data	Contamination
Kilkenny Ct	Large	Unknown	No	Commitment Cards	Event	Yes	Occasional

The staff person at Kilkenny Court in Washington County suggested that residents would respond more favorably to an event than door to door outreach. The staff of Washington County had the time and resources to hold an event, in which the hauler also participated. This building saw very substantial increases in participation following the event.

Conclusions about Outreach Methods

No one particularly method is better overall. The effectiveness of one method over another is based on the situation at an individual property. Information about properties provides valuable direction about what method to select. A decision about which method to use must be made based on individual building information. For example, we had planned to go door to door at Kilkenny Court, but changed to an event when we learned the senior residents did not like door to door outreach and preferred social gatherings. So in that case, an event was a better way to distribute Commitment Cards, and in other buildings door to door was very effective method for Commitment Cards.

Conclusion about Outreach Messages and Methods

What is most important is not the choice of one outreach strategy over another, but the devotion of time and resources to a few consistent outreach messages. Our data supports our research findings: Programs that take the time to implement a balanced and consistent set of outreach messages and continually re-apply them report more success. Consistent and basic outreach is much more effective than complex one-time outreach efforts. The majority of the residents that receive that outreach may be gone six months later. A percentage of the direct mail material will also be returned due to vacancies in the buildings. The limited amount of time, money and tenacity, and the need to spread it a long way, requires critical judgments be made about the potential for long term success. Initial results show it is unlikely that any increase in participation will happen without some attention, and very little will last longer than two to six months with out some consistent effort. Further analysis will follow the completion of this report to determine how long the improvements in participation are sustained from the application of Outreach 2.

In Saint Paul, most of the properties included in this study showed their most substantial response to Outreach 1. These buildings had received some outreach in the two years prior to the study, but it had been 18 months since the last direct outreach (a mailing of “how to” instructions) had been distributed to residents. Outreach 2 also produced an increase at these properties, but not as dramatic. This suggests that Outreach 1 was required to rejuvenate participation that had dropped off due to the absence of outreach prior to the study. The subsequent outreach sustained participation that Outreach 1 established. This study, our experience and the historical data in Saint Paul suggests that outreach is needed about every six months in order to sustain participation.

Messages and methods are not equal in terms of time and resources utilized to organize and implement them. Although some messages may have a less dramatic impact they may be more appropriate in circumstances where limited resources are available. Door to door outreach can be expensive and time-consuming. However, in some communities, volunteer groups are readily available to help with door to door projects. Printed materials that are specialized to each building’s program can be costly and unrealistic to produce. However, generic messages that cross program specifics and promote recycling can be produced in larger, money-saving quantities. Mail can ensure direct delivery to each resident but the postage costs or the time it takes to gather correct addresses can be prohibitive. Using management contacts may save on time and money. In other cases, where management involvement is nonexistent, mail is the most effective method to address a problem. An event might be impossible in buildings where management is uncooperative, but it may be ideal in another building where an avid recycler wants to plan and host annual recycling events. Choosing the best method and message depends not only on the buildings to be addressed, but also on available time, finances and human resources.

5. Modification, Design and Development of Toolkit

Activities:

- Make modifications to tools, methods and messages based on feedback and data analysis of field work.
- Develop a clear guidance manual for other communities to follow that instructs them on how to implement the developed strategies for increasing recovery rates in multifamily units.
- Develop final templates of multi-language and culturally sensitive outreach materials that can be easily adapted and used by other multifamily recycling programs.

Projected Outcome: A stand alone “kit” of guidance instructions and outreach material templates that have been field tested and redesigned for ultimate effectiveness.

Evaluation of outcome: Measured change in behavior/participation in select dwellings in targeted areas.

Modifying the Tools

All of our materials went through multiple modifications based on our experience, testing and feedback. These changes included language choices, layout, and the amount and type of information to include. For example:

- The final versions of our two-stream cart labels became much more concise by taking off the list of “no’s” (specific things you cannot recycle) because multifamily contamination is much more about actual trash than it is the wrong type of cardboard or glass.
- To increase the sense of community around recycling in multifamily buildings, we made all the language on our materials inclusive by using phrases like “our building recycles.”
- Commitment cards were mailed directly to resident at the Burlington, with prepaid postage for the return cards. The language on the cards read “Agree to Recycle and Save \$100 on Your Rent!” The other side explained that all returned and signed commitment cards would be entered into a drawing for the \$100. However, one resident did not read the other side, and sent in their signed card with their rent check \$100 dollars short. Thus, we modified the language to say “Agree to Recycle and Win \$100 off Your Rent!”

The materials that underwent the most major modifications were the translated materials (see Translated and Cultural Materials, page 98).

We also re-organized our materials into different categories, because we realized that basic information like “Our Building Recycles”, the location of carts, clear labels, and the differentiation between recycling and trash are all basic elements that need to be in place

before actual “outreach” can be effective. In the toolkit these messages and materials are recommended as essential parts of the basic recycling set-up at any building.

The Toolkit

All of the research, focus group feedback and outreach results were compiled, analyzed and distilled into a manual, or Toolkit, called *Exploring Multifamily Recycling: Tools for the Voyage*. The text of the toolkit offers a new way to assess and measure multifamily programs, as well as guidance on how to most effectively allocate resources and time in a ways that produce the most long term improvements. Because no two multifamily programs are alike, this is not a step-by-step guide, but rather a model of assessment that provides a systematic approach to apply to any program.

The research behind this toolkit includes a compilation and analysis of the best practices that Eureka Recycling has developed in the course of fifteen years of operating the city of Saint Paul’s multifamily recycling program. It includes all recent studies of multifamily recycling. It also includes surveys of and communications with the coordinators of multifamily recycling programs in cities across North America including Boston, San Mateo, New York City, Toronto, and many others. Using that research we identified common barriers, successful tools, and other current tools. Select focus groups and individuals gave their feedback on current outreach tools and methods before they were “street tested” in multifamily complexes over several months. Final modifications were then made to the tools.

This toolkit is designed for recycling coordinators who manage all or part of a community’s multifamily recycling program. We are aware that many communities in Minnesota do not have the staff resources and funding to invest significantly in their multifamily programs. To address that reality we have focused in this toolkit on providing cost-effective methods for waste reduction and increased recycling recovery.

Multifamily recycling’s success depends in great part on the legal structure that governs its functions. Programs are designed in accordance with (and can be limited by) the legal structure in the community. Legal structure may include state, county or city mandates, ordinances, franchises or contracts. Recycling coordinators may be faced with faulty or insufficient legal structure, which can make it difficult to run programs as efficiently and successfully as possible. For example, there may be vague or difficult-to-enforce ordinances or an “open hauling” system. What is really needed in many of these cases is a profound change in the legal structure of recycling. However, many communities lack the political support to address such change. This toolkit cannot help overcome the inherent problems in the legal structure, but it does provide some tools to change parts of the legal structure so that recycling coordinators can work more effectively within the existing structure. We recognize that most people responsible for recycling in their communities are already aware of mechanisms such as contracts, ordinances, and license requirements that can be the true foundation of a successful recycling program. But apathy—or ignorance—on the part of politicians in the community can be a real barrier to making positive changes to these mechanisms. It is our hope that some of the tools in this toolkit still can be used successfully in these instances to substantially increase material recovery and reuse.

Production and Design

The concept and content of the toolkit was developed by Eureka Recycling staff, but many other experts were brought into the process to produce a high quality end product that would deliver our message in a clear, professional and visually interesting way. The text was edited for content and grammatical errors by professional editor Eric Braun. We worked with Gail Wallinga, a professional designer, to design the layout and physical structure of the toolkit. All elements of design were chosen to make the toolkit fully recyclable to demonstrate our mission. The 60-page toolkit is printed on New Leaf, 100 percent postconsumer recycled paper and is spiral-bound because the glue that is used on book binding creates problems in the recycling process. The small bit of metal is easier for the pulping machines to remove. The pocket in the back cover that holds the Tools CD was specially designed to avoid using any glue so it can be easily recycled.

We worked with professional illustrator Brian Jensen, who fleshed out our conceptual “storyline” into supporting visuals for the print copy, presentations, and website. For all the outreach materials and other tools we worked with professional designers Rob Schanilec at By All Means, Barb Keith, Charlie Merck, Gretchen Ping at Impressive Print, and the team at Pinnacle Sign and Design. We worked with them to develop and improve the tools throughout the study based on all the research, focus group feedback and outreach experience. We were intentional about including all the tools on the CD in both a universally viewable format (J-pegs and PDFs) for recycling coordinators and others to view, as well as in formats for designers and print shops (such as Quark and Illustrator) to alter the materials for use in other programs.

Translations and Cultural Materials

Saint Paul’s translated materials have been a work in progress for many years, and will continue to be updated. Through interviews, a “community review” and long sessions with translators we worked hard to make our translations as accurate and widely applicable as possible. We learned a great deal about dialects, descriptions and the whole translation process. In the toolkit we included the accumulated advice and “base work” for recycling coordinators to use as a start, including translation glossaries of common recycling terms, cultural design elements and culturally specific recyclables.

Our Spanish translations were done by a group of people at the Resource Center of the Americas in Minneapolis. Through this process we were careful to use Mexican Spanish that could also be understood by other dialects throughout South and Central America.

The Hmong and Somali translations were done by International Translations Bureau in Minneapolis. The Hmong went through many revisions. For the Somali translations Eureka Recycling staff sat down with the translators to walk through exactly how things were being translated and how we were choosing to describe things. This was necessary since lengthy descriptions were needed to avoid misinterpretation. For example, the translation for magazine reads “a booklet of color photos and advertisements that is shiny”.

The Somali population in Saint Paul is comparatively new and we do not have well-established community contacts yet. The decisions we needed to make about design and translation felt less informed, so we put our Somali materials through a “Community Review” process, hosted by International Translations Bureau. They brought together a group of 10 individuals that were apartment dwellers with limited English skills and walked through our translated recycling information to see how clear it was to them. The feedback we received was excellent. For example, we had chosen to say “to use things again” to translate the word “Recycle” like we did in many of the Hmong pieces. However, recycling is a less familiar concept to most of the Somali population in Saint Paul, and they were confused by that language. They assumed this meant that the recyclable would be cleaned and used again in their current form. Because of this conversation we changed the phrase that describes recycling to say “to manufacture things again” instead.

Based on our experience in developing our translated material, and our research and focus group feedback, we offered the following advice to recycling coordinators who are interested in providing translations to residents in their program:

Community connections

Before creating materials that you think a community needs, you should get help from within the community to accurately gauge what kind of information is needed. Contact community members, social service agencies, advocacy organizations, community groups, “English as a Second Language” instructors, churches or other groups that are working within a community to get a general sense of how familiar the community you are targeting is with recycling so you can adjust your educational materials accordingly.

Networks

The concept of recycling might not be able to be addressed in a translated brochure. Non-English and bilingual communities often have well-established communication networks of their own. Applying multicultural outreach through venues like radio programs, local news and community events gets people talking and can move a community to embrace and identify with recycling. These messages should begin very general. Once again, you will need to focus on distinguishing recycling from trash and then the broad categories of recycling, rather than the details of what exactly to recycle. These networks typically do not neatly fall within our cities’ boundaries. However, word of mouth is a powerful tool that these communities rely on and can be very advantageous to you. If recycling is selected as a topic of community interest, it will be more sustainable than imposing recycling talk from the “outside.”

Not Word for Word

Translations are not just submitted to a translator and returned in perfect form. Translations are often a description as opposed to a literal translation because many languages do not have words for the technicalities of recycling and there are variations within languages for what items are called (think soda vs. pop). The word “recycling” itself can be tricky. Be prepared to be involved in the process to provide recycling expertise. For example, you do not want to translate “glass” literally or you might instruct residents to recycle their window glass. You want a specific translation of “bottles made

from glass.” Be clear on what exactly is being described and expect several versions. Translations are always a work in progress as languages and cultures evolve, so your translations will change over time as communities get established and language adjusts. Remember this when re-printing aging materials.

The glossary we include in the toolkit is a listing of the most accurate translations that we have been able to develop for the Latino, Hmong and Somali communities of Saint Paul. These translations are also appropriate for the Latino, Hmong and Somali communities throughout the metro area and in other areas of Minnesota, which are similar.

Design Elements

In addition to translating the words, you should also translate the design of your materials. By using culturally specific artwork, you can help create the feeling that recycling information is part of the culture of the people you are targeting. The idea is to have those in the community pick up your information and distribute it as their own.

The “design elements” included on the toolkit are borders that we developed over time for each of the three groups. The Spanish border was inspired by a series of greeting cards designed by a Latino artist in Saint Paul. The Hmong border developed out of patterns that we noticed to be prevalent in Hmong art as we spent time at local Hmong stores and galleries and did research on the internet. The Somali border and color scheme was developed through internet research and a visit to a Somali restaurant.

Bilingual

Many communities are bilingual and bicultural, meaning they are familiar with the language, customs, traditions and values of different cultures. An increased use of English in these communities does not mean a decreased preference for native language. In fact, most bi-lingual communities prefer recycling materials in both English and their native language, rather than a single language. This allows all members of a household, regardless of their English language and reading level, to use the brochure and to practice their English skills. This also allows people to see what information was trying to be translated in case a different dialect or meaning was used. In other words, if the translation contains errors (and it likely will) the bilingual reader will have a better chance of comprehension. The reader is likely to know English better than person who created the brochure knows their native language.

Photographs

Our studies and focus groups showed us that the newer a group of people are to the concept of recycling, the more pictures are preferred over illustrations. Pictures are more specific and can help newcomers understand the seemingly arbitrary difference between one type of glass over another. But, once the practice of recycling becomes commonplace, illustrations are preferred since pictures can be too specific and create more confusion.

To create the images of the culturally specific recyclables that are included in the toolkit and on our translated materials, we went shopping at local ethnic markets and asked the grocers what some of the most commonly purchased items are among the Hmong, Latino,

and Somali communities. We purchased the items, digitally photographed them, and our designer turned them into digital images.

All Dressed Up With No Place To Go

Once translations are created, it is difficult to distribute them to the right audience without help, particularly from building management. We suggest offering translations to community organizations that serve the community being targeted, knowing that they may only use it where it is requested. We also suggest letting building contacts know that translations are available.

Translated Flyers

The translations we have included with this toolkit have been evolving with our program for many years. They are the result of professional translation services, community reviews, and trial and error. They incorporate all the things we have learned about the Latino, Hmong, and Somali communities in Saint Paul, Minnesota over the years, and they incorporate all the advice we have been giving about content, images, colors, design, and language choices. We offer these to you to take as a base from which to develop materials that serve the Spanish, Hmong and Somali speaking communities in your program. In other words, we are by no means cultural advisors, and these materials can and should be continually reassessed and edited depending on the characteristics of these groups in your community. Like the glossary, these translations should be appropriate for most Latino, Hmong and Somali communities throughout the metro area and in other areas of Minnesota, which are similar to those communities in Saint Paul. They may not be applicable in other areas of the country.

6. Summary

1. The toolkit provides a framework for a sustainable approach to multifamily recycling and addresses the unique challenges facing multifamily recycling programs.

Multifamily recycling programs are distinctly different from curbside programs even though both serve residential recyclers. To see the possibilities in multifamily recycling, we have to change the way multifamily recycling is viewed. The first step is to stop using the same standards of success that are used for curbside programs. Curbside programs and multifamily programs, though they both serve residential recyclers, are very different from each other. It is highly unlikely that any given multifamily recycling program will average as many pounds per unit per year as an average single-family household. Multifamily programs should be measured in relation to other multifamily programs. This toolkit provides some information about goals for multifamily recycling tonnage that are not based on curbside programs but on the proven potential of other multifamily programs across the country. And it provides a way of looking at multifamily recycling that will enable you to assess the potential and limitations of your program.

Besides being different from curbside programs, multifamily recycling programs are also different from each other. Furthermore, each building within each program is different from the other buildings in the program. Still, most programs share certain universal characteristics and challenges. In the toolkit we use the words **characteristics** and **challenges** to describe the different realities facing recycling programs. Characteristics are defined as the things that we likely cannot change, such as high resident turnover and building size. Challenges are defined as the things that we can change and must address in order for our programs to operate and be more successful. It can be easy to misdirect our resources by focusing on what cannot be changed. With an understanding of the differences we can overcome challenges.

2. The toolkit identifies and prioritizes the foundational, root challenges to address to achieve the most sustained improvements.

Most recycling coordinators have learned that almost any kind of proactive or reactive outreach will likely result in at least a temporary “improvement” to a program—a measurable, short-term success. However, through the research done here and many other studies it is clear that these efforts can have more sustainable payoff if they are built on a firm foundation of the basic elements. Without a systematic approach to multifamily recycling, beginning with the basics, it can be easy to get scattered, overextend, expect too much and be paralyzed by the enormity of it all.

Because prioritizing resources is a must, this toolkit introduces the base, where efforts will be more sustainable. This base includes addressing how the program is designed, collecting information about the buildings served, and setting up basic and clear recycling areas at buildings. Despite the uniqueness of a program, this is the base of a successful multifamily program. By focusing on the base before applying outreach or reacting to individual problems, a structure is proactively put into place that will make the entire program

stronger. Using this foundation as it builds, over time, it will become easier and easier to perform an assessment of the buildings within the program as to their potential for sustaining results with effective outreach. This is the demonstration of effective allocation of resources that can help ensure that these programs and recycling sustain over time.

3. This toolkit provides ready-to-use tools that can be implemented with minimal time commitments and expense.

Several effective outreach campaigns to promote recycling and reuse were created, tested, evaluated, modified and finalized. The toolkit identifies the outreach tools that provide the most results over the long haul: labels and signage for the recycling carts, directional signage at buildings and posters and signage letting residents know that recycling is available and is different from trash. In addition, it provides tested, effective examples of more complex campaigns that help sustain the program.

4. This toolkit includes materials for the metro-wide promotion of the Free Market.

This campaign is geared specifically to tenants moving in and out to divert large bulky items from the waste stream. This addresses the need for waste reduction promotions beyond recycling and specifically addresses the need that apartment managers have for tools to deal with bulky waste.

5. This toolkit provides templates of translated and culturally appropriate outreach materials that can be adapted to other communities' programs.

Real quality translations are not just a translation of the language, but a *technical* translation of recycling information and *cultural* translation of the materials as well. It takes time and attention to get translations right. This is time-consuming, expensive and intimidating. The toolkit includes translations that have been evolving with Saint Paul's program for many years. They are the result of professional translation services, community reviews, and trial and error. They incorporate all the things we have learned about the Latino, Hmong, and Somali communities in Saint Paul, Minnesota over the years, and they incorporate all the advice we have been giving about content, images, colors, design, and language choices. In other words, we are by no means cultural advisors, and these materials can and should be continually reassessed and edited depending on the characteristics of these groups in your community. Like the glossary, these translations should be appropriate for most Latino, Hmong and Somali communities throughout the metro area and in other areas of Minnesota, which are similar to those communities in Saint Paul. They may not be applicable in other areas of the country.

7. Recommendations

Recommendations for Saint Paul:

As Saint Paul moves to two stream sorting system, they benefit from having complete operational control over the transition, seventeen years of data on each building and well-established recycling set ups.

- Saint Paul needs to focus on the foundational elements at each building in order to experience a successful transition to dual stream. Recycling set ups need to be clearly identified for recycling and different than garbage containers. They need to be clearly labeled for two streams.
- Saint Paul can capitalize on the timing of this new system to educate residents about their opportunity to recycle in the multifamily recycling program. Saint Paul should be prepared to educate residents once, at the beginning of the transition, and again at six months.
- Saint Paul should continue to modify the design and content of its translated/cultural materials. With the majority of the translation in place, this should be much less time consuming than the original translations; however, it will still require significant resources to develop tools and community partnerships to distribute translated information.

Recommendations for the City of Fridley

- If there is no political will to change the ordinance from open hauling to a contract or franchised system, then the City of Fridley could continue to strengthen its ordinance language to increase the success of the multifamily program as operated in an open hauling system.
- Ordinance changes could require clearly labeled and signed recycling set ups at every building. This is an area where there is demonstrated potential for success. By working to distinguish recycling set ups from garbage containers, the City of Fridley can expect improvements in both the quality and quantity of materials.
- The City of Fridley could document the contacts, problems and outreach histories of buildings. This information will create a structure for the program using information that is currently known and will help the City of Fridley identify buildings with the greatest potential for increased recycling through targeted outreach.

Recommendations for Washington County

- Washington County could use the toolkit to assist cities in assessing the limitations and potential of their programs and to determine and prioritize what funding support is needed.
- Washington County could determine what level of support it can provide to cities in need of multifamily recycling program support and develop funding criteria for cities at different levels based on the assessment of their program. Possibilities for funding and support should begin at the foundational level and more up to outreach.

- Assisting cities in updating contract or ordinance language to heighten accountability for haulers and building management.
- Implementing information tracking system to institutionalize building information.
- Set standards for recycling container labels and signage. Provide assistance in design or actual production of materials to distinguish recycling containers from garbage containers.

Recommendations for Future Studies of Multifamily Recycling:

Future work to improve multifamily recycling should follow the priorities outlined in the toolkit, focusing on the foundational elements first, then outreach efforts, then special problems at multifamily buildings. Foundational tools described in the toolkit should be more closely examined and expanded.

- This work begins with more in depth analysis of program design, resulting in additional effective contract and ordinance examples. More detailed information about how to change, improve and strengthen the program design to ensure the accountability of haulers and property owners is needed. More focus is also needed on legal ramifications and other possible tools that would support a municipality that is trying to start or improve multifamily recycling.
- Additional cost-effective, easy to use data collection systems should be researched and shared, including ways to strengthen program design to ensure that data is communicated from the hauler to the program coordinator.
- More testing and development of tools to address issues with recycling set ups is needed, including basics that establish recycling as separate from garbage and ways to strengthen program design to ensure that haulers provide adequate labeling, signage, cart placement and cart maintenance.

Multifamily outreach strategies (both methods and messages) should continue to build on the principles outlined in the toolkit, focusing on simple, singular messages that support the recycling basics at buildings. Further, regionally-based analysis should be done to understand the measurement of success in terms of participation, contamination and expected sustainability of efficient and cost-effective outreach strategies.

Multicultural messages need further discussion in terms of their incorporation into the foundational elements of programs and effective distribution.

Recommendations to the OEA:

The current open hauling system that dominates the metro area and most of Minnesota does not provide a stable foundation for successful multifamily recycling. There are reasonable concerns about monopolistic behaviors including lack of competition in single hauler contracts. There are a multitude of ways to provide a better program design that would encourage multifamily recycling (and other recycling programs) without creating or increasing the above concerns or other concerns traditionally brought up in this discussion. The OEA should provide resources to address this problem including: national research on best practices in program design for increased multifamily recycling, grant assistance to communities that require technical assistance in making these decisions including elected officials, municipal staff and citizens that are investigating these options.

Historically, dialogues about program design (open hauling, contracts, franchises, etc.) have not been initiated by the OEA. Local elected officials that are trying to improve recycling have no resources or assistance. Often the debate has been overpowered by the issue of “flow-control” for waste facilities. OEA should take a leadership role in this critical issue. Multifamily recycling offers an opportunity to focus on a smaller segment of the population which may reduce the ramifications of the flow control fight over burying garbage or burning it. To experience the diversion potential inherent in multifamily recycling, the program design, including open hauling, must be addressed.

Several counties are exploring the idea of reducing SCORE funds to cities if they do not provide the “opportunity” of multifamily recycling. Without assistance in developing optimal program design and legal structures, it seems this will only result in efforts to meet minimal requirement that are not designed to increase recycling.