Action Research Team
Pilot Program Recycling in Campus Buildings
University of California Los Angeles

Education for Sustainable Living Program

Isis Krause
Kathy Tran
Eugene Huang
Ricky Mak

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Table of Contents

Contact Information:

Isis Krause isiskrause@ucla.edu

Kathy Tran kaytee1387@gmail.com

Eugene Huang ehuang1085@gmail.com

Ricky Mak ricky.mak5@gmail.com

Action Research Teams are part of the Education for Sustainable Living Program, which seeks to educate and bring change to issues of sustainability at UCLA.

Overview and Objectives:

Our Action Research Team's main focus was recycling on UCLA's campus. We worked with Facilities Management, particularly Jack Powazek and E.J. Kirby, as our stakeholders to try and improve recycling. Jack and E.J. outlined a pilot program that had started in 2008 within seven buildings on campus to try and increase the amount of paper recycling. These seven buildings are La Kretz, Franz, Murphy Hall, Public Affairs, Strathmore, Facilities Management, and the Law School. The aim of the pilot program is to increase the use of personal under desk recycling bins to capture the mixed paper waste stream. The white paper waste stream had already been addressed over ten years ago with the implementation of white paper recycling in blue bins across campus. By solely focusing on mixed paper, facilities hopes to increase the amount of waste diverted to recycling. By June 2008, a state-wide UC mandate comes into effect that requires UC campuses to have 50% of their waste diverted. UCLA is at 42% at the last census (including recycling, waste diverted to energy, green waste, and construction waste) and the mixed paper pilot program seeks to increase this percentage for future years.

Our research sought to find out how the pilot program was running, in order to make suggestions on how to better the program when it is implemented in buildings across campus. Action research works with stakeholders to take their thoughts and objectives into consideration, because they are the ones able to make effective changes after the completion of our research. In working with Jack and E.J., their objectives included getting a better understanding of how the pilot program was running since its implementation, getting a feel for people's habits and perceptions of recycling, and finally how the pilot program could be altered to make it more effective when instituted in other campus buildings. Our research team also had personal objectives that we brought to the researching process. We wanted to understand the behaviors of faculty on campus and see if their needs were being addressed by the pilot program. We also wanted to be the missing link of communication between facilities and staff, for these two paths of communication seem to have gone uncrossed. Lastly we wanted to educate as many people as we could along the way, whether it be staff, faculty, student teachers, or students, to engage UCLA's campus in recycling efforts.

Please refer to page 17 concerning questions about what certain bins look like or are used for, as they are referenced frequently throughout this report.

Initial Conditions:

In the first stage of our research we walked around each of the seven buildings to get a general feel of what the recycling program looked like, and to have a baseline scenario for our research. We found several discrepancies between buildings. Some buildings (Franz, for example) had large blue mesh bins and grey slim jims in hallways and near elevators, while other buildings did not have a single bin in the hallway (Murphy, for example). Types of bins also proved to be different between buildings for some had white paper bins but not slim jims, some had no small blue or grey bins, and some had bins with different types of signage and directions for use. The amount and usage of bins also varied, with some floors having very few large and small bins. We also saw trashcans turned into recycling bins, and recycling bins labeled "trash". We did not expect to find so much variation between buildings, especially it was the same pilot program instituted in all of these buildings. These initial findings told us we had to not only look at the behavior and how the program was working, but also find out the logistical information of how many people haves bins, what types of bins, how are they used and emptied, etc.

Research Methodology:

After looking at the initial building conditions, we decided that the best way to approach our research was through interviews that would provide face to face interaction with faculty and staff within the seven buildings. Recycling is ultimately based on human behavior and we wanted to talk with as many people as we could in order to get a feel for their overall thoughts, impressions, and habits. We chose to do individual interview questionnaires to get a qualitative view of recycling within buildings, as opposed to doing a mass survey purely to get a high number of responses that we could quantitatively classify. With these objectives in mind we came up with a questionnaire that focused on the amount and usage of recycling bins, both under desks and in rooms, as well as recycling behaviors and the communication of information about the pilot program between facilities and staff on campus. We also came up with a signup sheet to enable those without bins to receive them. A copy of both the questionnaire and the signup sheet are included in the back.

As part of our research we came up with a sampling method to ensure that our research was valid and unbiased. We aimed for a minimum of 1/4 of the people on each floor within each

building. We randomly chose offices to go into, and marked which offices on each floor we had and had not been to. There were several obstacles that we ran into as we started our research. Firstly, many buildings have T.A. offices, which are only occupied for 1 or 2 hours per day. Time did not allow us to schedule individual appointments for all of these offices, but since these teaching assistants are there for such a short period of time the amount of waste generated is very small, especially for recycling. Secondly, there were several locations within buildings that had restricted access and we were unable to get permission to go inside and conduct our research. We feel both of these caveats however are not a substantial portion of the buildings, and therefore do not alter or skew our data.

Overall we did 136 individual questionnaires of people within La Kretz, Franz, Murphy, Public Affairs, Strathmore, and Facilities Management. By the time we had begun our research on the Law School, they had already closed for summer vacation, and there were no staff members left to talk with. We feel that the results we got from the other buildings would not be affected by the small amount of questionnaires from the Law School.

Data

The following pages examine the data of our results from the 136 questionnaires. Each chart and graph will be explained in detail after each figure. The data set includes: The Type of Bins Underneath Desks, How Bins are Emptied, Methods of Emptying Recycling Bins by Building, Frequency of Empting Bins, Notification of Pilot Program, Pilot Program Communication, and Recycling Behavior.

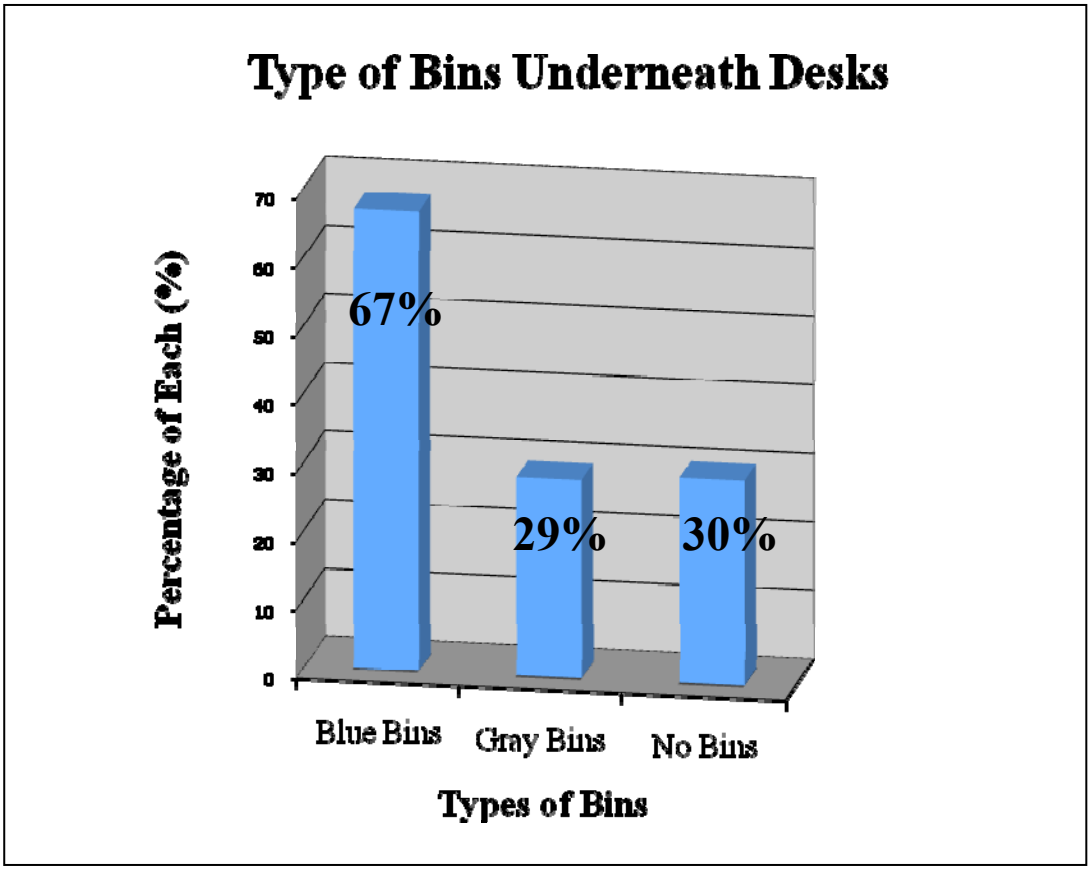

Figure 1

Figure 1 shows the types of bins individuals had underneath their desks. A large majority of 67% had the small 2 ½ gallon blue bins for white paper recycling, 29% of people had small 2 ½ gallon gray bins for mixed paper underneath their desk, and 30% of people had no bins at all. We found that most people who had gray bins also had blue bins.

The dominance of blue bins here is from the white paper recycling program started at UCLA over ten years ago. There has been a considerable period of time for this program to be fully implemented, and our research shows the success of this program. The gray bin program has not had as much time to reach as many people, though 29% is quite a large percentage for just having started the mixed paper pilot program so recently. The number of individuals without bins is still a high percentage, and this is the main audience both the pilot program and our research seeks to address and help solve the problem of recycling in UCLA campus buildings.

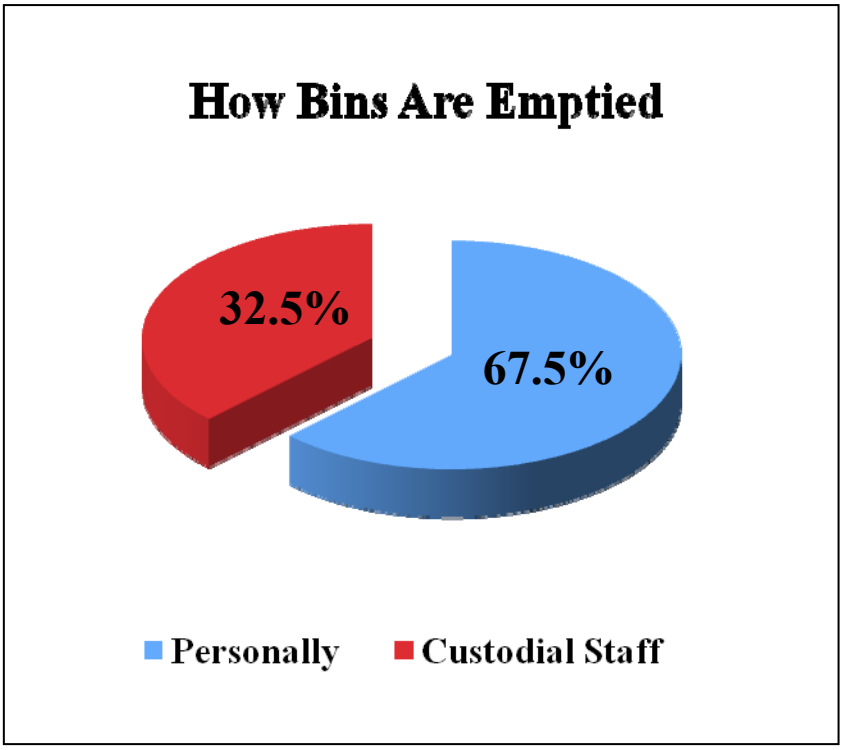

Figure 2

Figure 2 shows how individual recycling bins are emptied. E.J. Kirby said that as part of the pilot program, individuals were responsible for personally emptying their own small blue white paper bins and grey mixed paper bins underneath their desks into the larger blue mesh bin and larger grey slim jim located in copy rooms, larger offices, kitchens, etc. There are many reasons why facilities wants individuals to empty their own bins. For one, it would take a fleet of custodial staff to go through every single office building every day or every week and take out the recycling; it is an inefficient use of time and money for custodial staff to empty bins which might only have a few sheets of paper in them. The privacy of faculty is also maintained by not having custodial staff enter individual offices every evening. Finally, there is no budget for recycling and it is not financially feasible to have custodial staff members empty each bin

Going into our research we expected to find people following these guidelines, but our questionnaire results gave us a much different answer. As you can see by the pie chart, 67.5% of people do indeed personally empty their bins, but we also find that about a third have custodial staff empty them. While the majority does follow the program guidelines, the other 32.5% still needs to be accounted for. The breakdown of this percentage per building is shown in the next graph, Figure 2.1.

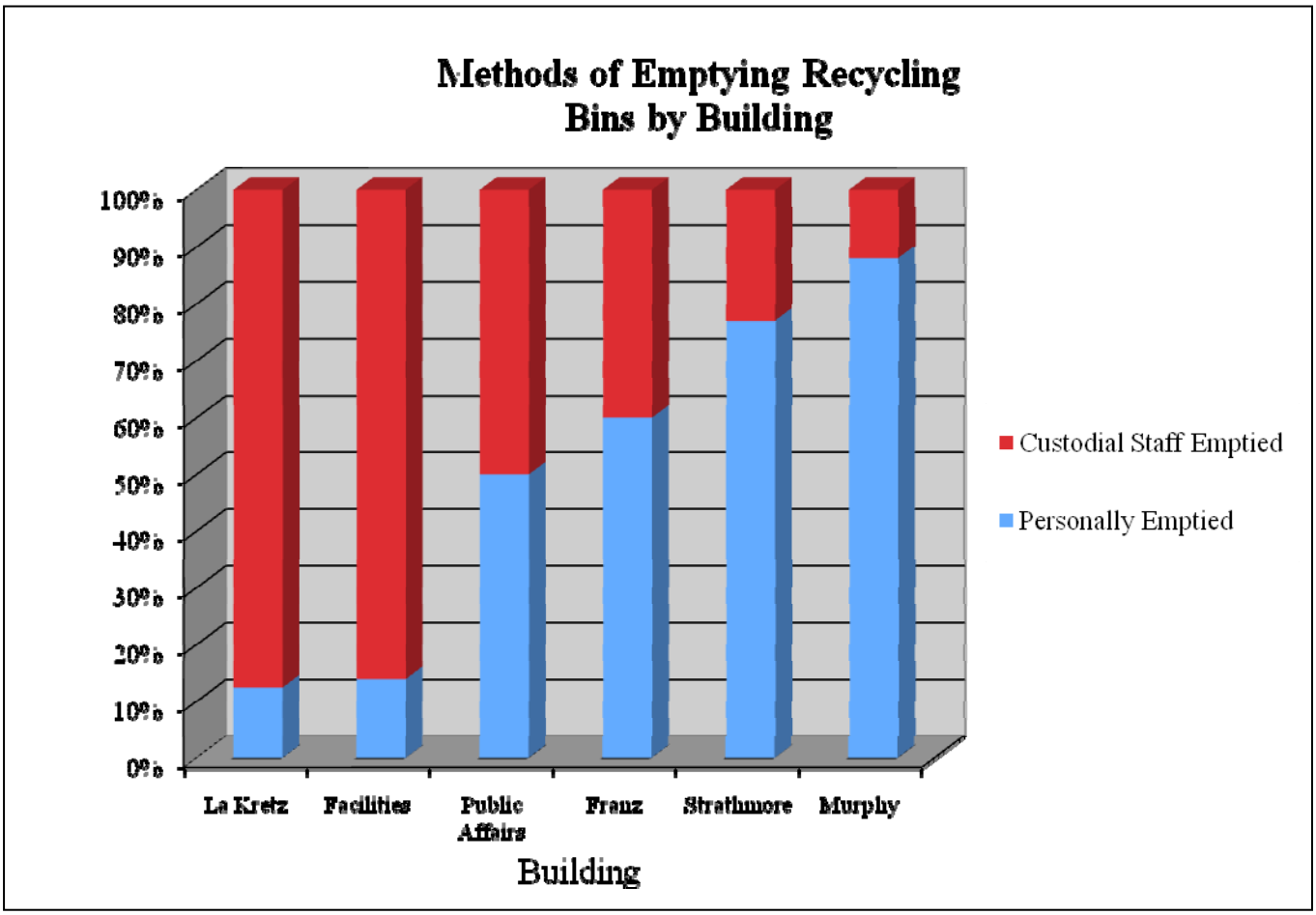

Figure 2.1

In trying to understand how 32.5% of recycling bins are emptied personally, we broke down our overall results into a per building graph, Figure 2.1. What we found was that two buildings, La Kretz and Facilities, accounted for most of the 32.5%. In both of these buildings people responded that custodial staff picks up the bins on a regular basis. Furthermore, neither building was told that they had to personally empty their own bins under the guidelines of the pilot program. Public Affairs was divided equally in how bins are emptied, 50%/50%. Upon closer examination we found that there was consistency within a floor but between floors was where the discrepancy lay. One floor would have bins removed by staff, and two floors below bins would be personally removed. Franz, Strathmore, and Murphy mainly followed the pilot program guidelines, and the small portion of bins emptied by custodial staff was random on any given floor.

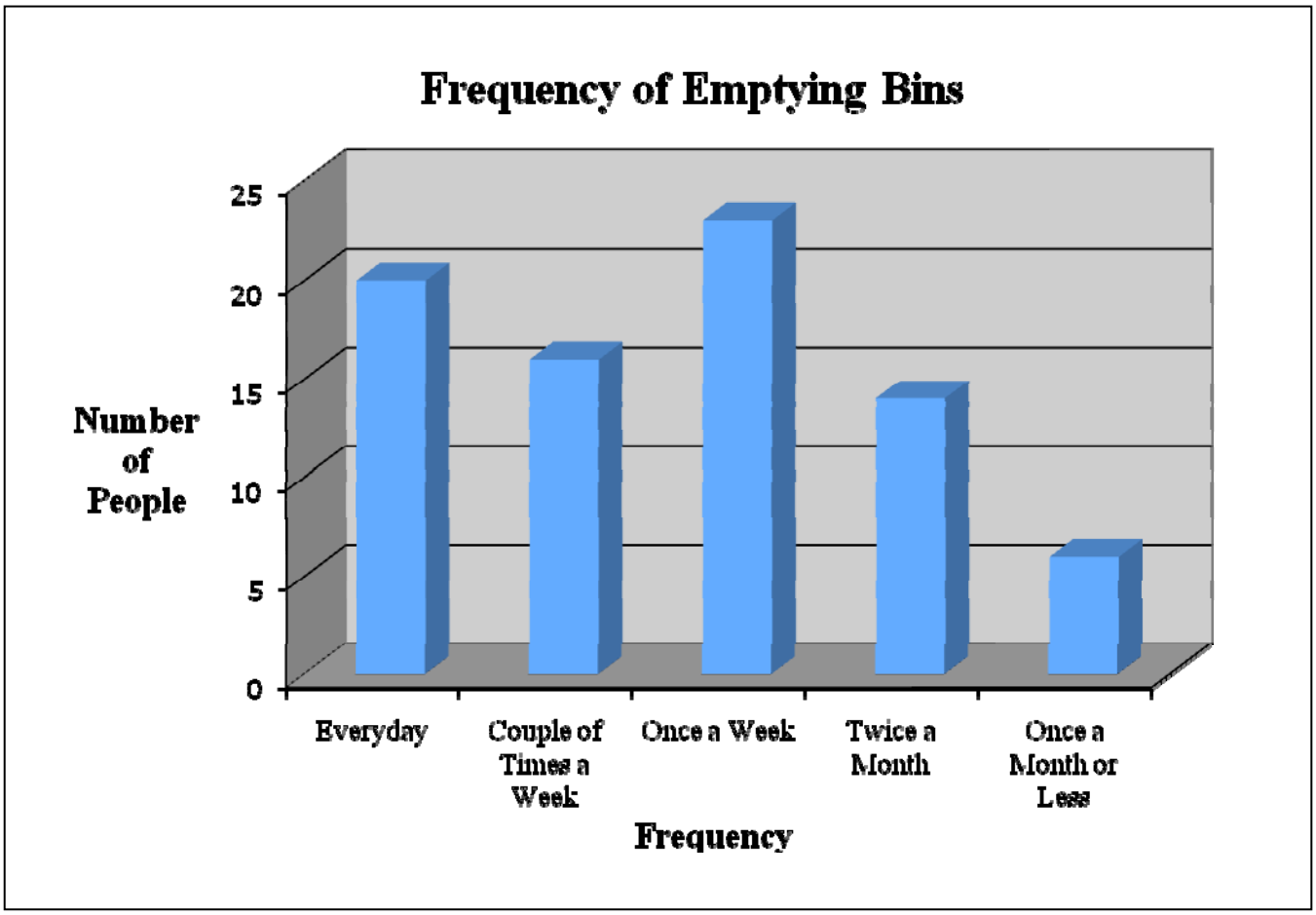

Figure 3

We also surveyed to find out how frequently people personally emptied their bins. Figure 3 shows this distribution. A vast majority of almost 70% empty their bins within the week. This shows how high the rates of recycling are within these buildings, and also shows how willing people are to recycle, even if it means personally emptying their bins three times a week. This also confirms how much paper there is to be recycled, and that capturing the mixed paper waste stream will help increase UCLA's overall waste diversion percentage. These numbers are for both white and mixed paper.

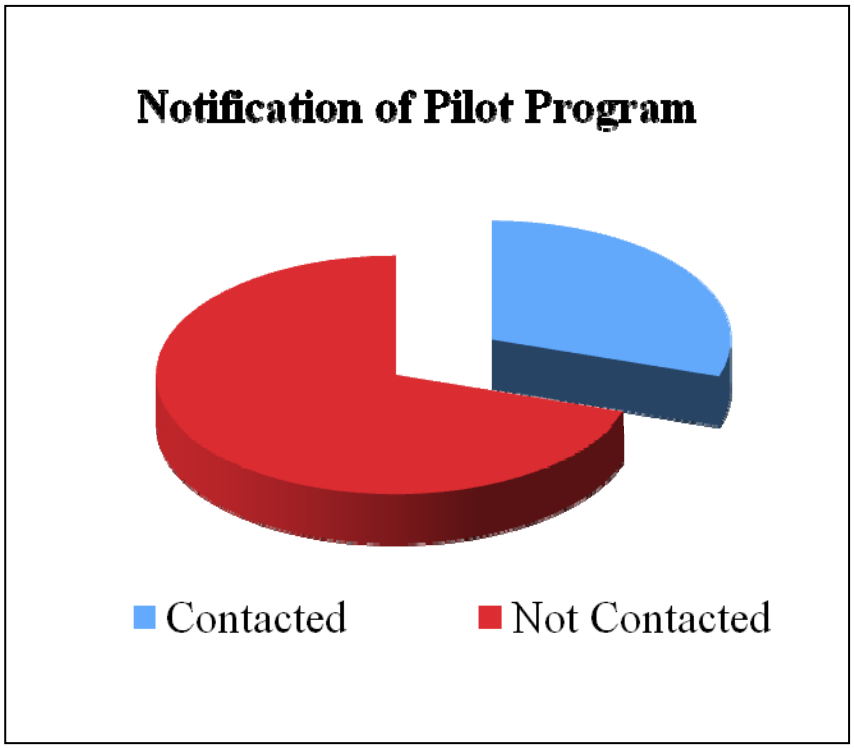

Figure 4

As Figure 1 showed, 29% of people do not have any bins, blue or grey. As part of our questionnaire we wanted to see if those people without bins were contacted. As part of the pilot program, Facilities Management had contacted the building coordinators of all seven buildings telling them of the program and how to receive free recycling bins. These building coordinators were supposed to then disseminate the information among the faculty and staff within their building. Figure 4 shows, however, that 70% of people without bins were never contacted, by email, phone or in person. The other 30% that were contacted varied across the board as Figure 4.1 will further explain.

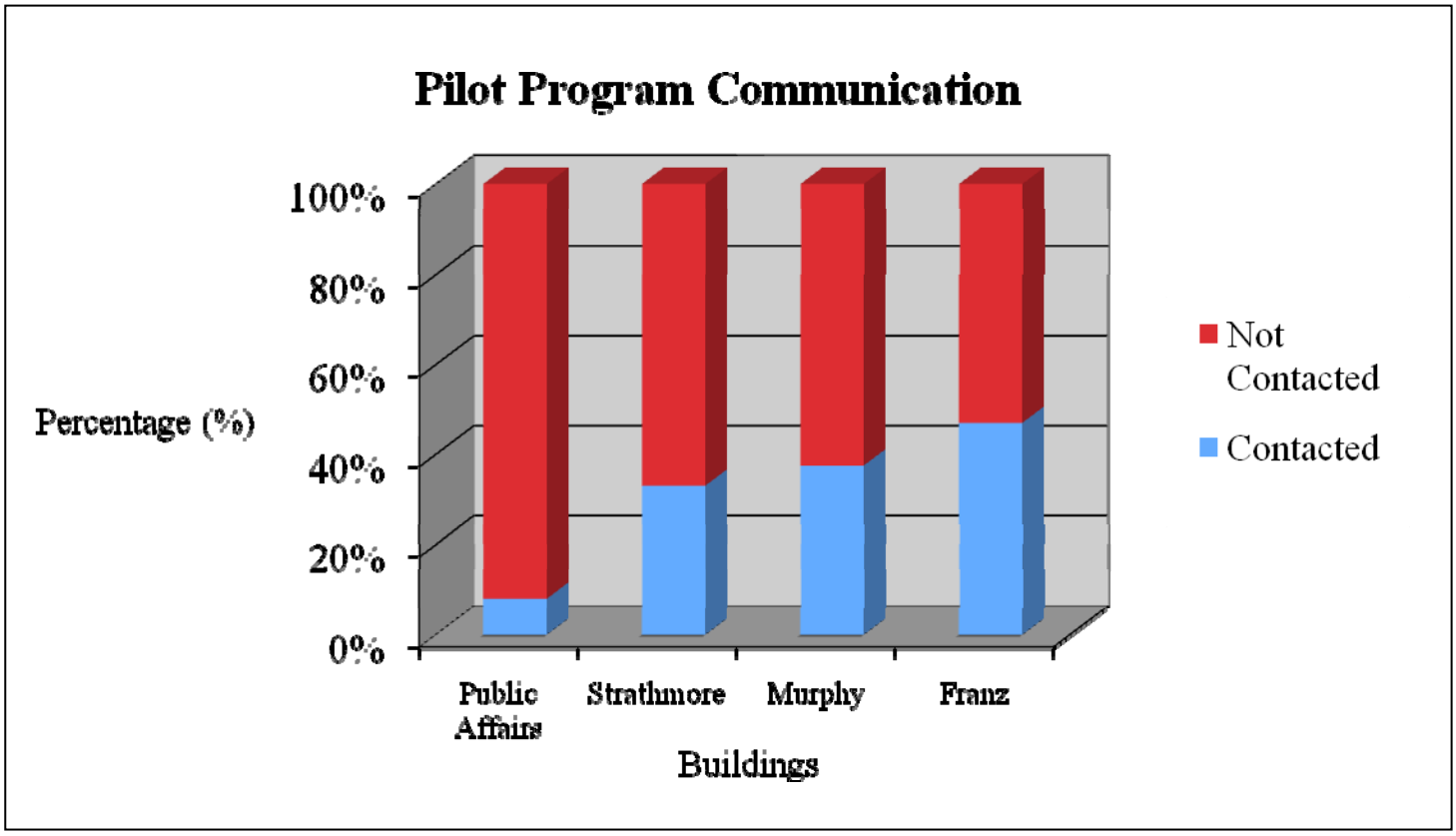

Figure 4.1

Figure 4.1 breaks down how many people were contacted and not contacted per building. La Kretz and Facilities Management did not have anyone without a bin and so they are not part of this bar graph. In all the buildings there is a large majority of people who were not contacted. Franz had the highest rate of success of communication as the bar graph shows. Many people in Franz told of a woman named Alisha who is apparently the recycling coordinator for the building. Having a designated person to be in charge of recycling duties obviously is very effective as shown by the high percentage in Franz that was in fact contacted. In Franz a total of 8 out of 17 people were contacted, while in Public Affairs only 1 person out of 12 was contacted. Almost all of the people contacted were done so by email.

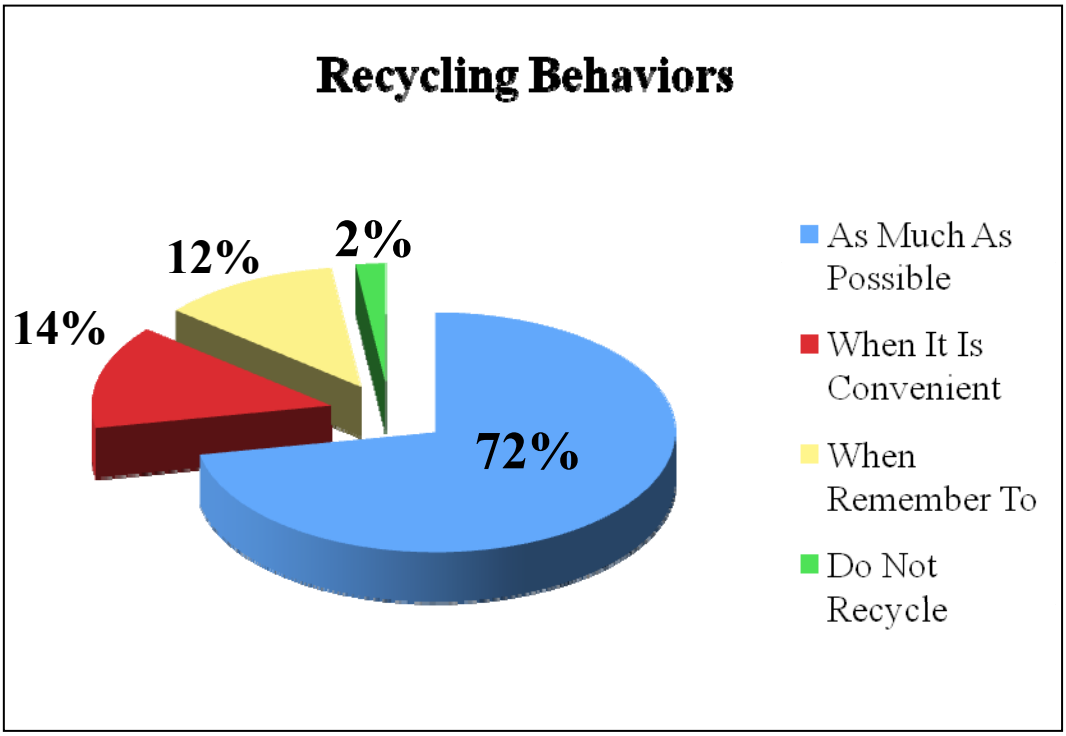

Figure 5

All of our data so far has looked at the number and types of bins, and Figure 5 shows attitudes and behaviors towards recycling. 72% of people said they recycle as much as possible. This shows how willing and supportive people are of recycling at UCLA. The other highest numbers also are in support of recycling they just need more convenience or reminders. Only 2% of people said they do not recycling. Having such a low percentage of non-recyclers is a very positive sign for the future of UCLA's recycling program. Some of the recommendations on page 14 might help boost the numbers of avid recyclers, by solving problems of convenience and high visibility.

Key Findings

Through examining our data we found several key findings. First of all, people are incredibly willing and eager to recycle. We talked with a number of individuals who told of how they bring their recycling from home to UCLA to recycle, or bring their recycling from UCLA to recycle at home if there are no available bins, and individuals who said they bring their e-waste and batteries to UCLA because it is a convenient location for them. All of these responses shows how recycling is a large part of UCLA's campus, and people readily use bins whenever possible.

Visibility and convenience was our second key finding. While we found people who are eager, we also found many unnecessary inconveniences for people. In Franz for example some floors had no large blue mesh white paper bins, or large grey mixed paper slim jims. These staff members would have to walk two floors down in order to personally empty their recycling. Going back to the high frequency of emptying bins (almost 70% within a week), this could possibly be a deterrent for some people as time progresses. People are also often unaware of where the closest large bin is, and this could hinder their recycling efforts. Central locations such as copy rooms, kitchens, and elevators were touted as being very convenient and easy to use, and perhaps there could be relocation of bins to help with this convenience factor.

Miscommunication was one of our greatest key findings because it relates to so many different areas. Staff members within buildings were not contacted about the pilot program, and if they were it was confusing and hard for them to get recycling bins or know what to do with them. Even the general knowledge of the existence of the pilot program was very low among the people we surveyed, and we feel this is a key aspect to the success of the program.

There was also inconsistency across the seven buildings, and within different floors in a single building. This makes it harder for facilities, custodial staff, building coordinators, and staff member to understand what their responsibilities are, and how the pilot program is supposed to be working.

Our final key finding is that there is a high demand for other types of recycling bins such as plastic, glass, aluminum, electronics, cardboard, ink and toner cartridges, etc. While they recyclables do not fall directly under the pilot program, we thought it important to include how much people want other types of recycling.

Recommendations

Making the pilot program uniform across all 7 buildings is our first recommendation. Having facilities, custodial staff, building coordinators, and staff/faculty all on the same page will clear up common confusions, and in general make the program more successful. Deciding whichh types of bins will go under desks across campus, and then what types of larger bins will go in copy rooms across campus is the initial step that needs to be taken. Once that is solved, the issue of how bins will be emptied needs to be addressed. From our data, we believe that having individuals personally remove their under desk bins is feasible, but it needs to be done across campus so that everyone shares equal responsibility. Right now La Kretz and Facilities have their bins removed by staff, and also certain floors within other buildings are also removed by staff. This causes confusion and anger as to why some people get special privileges and others do not. Increased signage would also create uniformity because then everyone would understand what recyclable materials go where.

Increased communication is our second recommendation. As seen by our data, communication between facilities and staff was not getting through, and in turn was hurting the success of the pilot program. Perhaps designating a single person within each building to the job of "recycling coordinator" (as was done in Franz) would have a higher success rate. This would also aide any future questions or concerns, because the recycling coordinator would know who to talk to and how to fix the problem.

When conducting our interviews, many people requested bins for other types of recycling. One of our recommendations is to have slim jims for bottles and cans be placed in kitchens and copy rooms as part of future pilot programs, therefore addressing the desire for other types of recycling. By implementing this as part of the pilot program, Facilities Management does not have to readdress these issues at a later time, therefore saving time and money.

Our final recommendation sums up all of the previous suggestions. We feel that having individual building recycling plans would greatly increase uniformity and communication. These plans could be posted on department websites or physically posted in a central location within buildings to allow everyone within the building easy access to the information. These plans could include such information as what the responsibility of each individual staff member is (in terms of how bins are emptied), the locations of the large bins within each floor, what materials

are recyclable and into which bin they need to go, who to contact for new or lost recycling bins, and finally who to contact within the building with questions or suggestions (perhaps the "recycling coordinator" fits in here again). Especially if uniformity between buildings is fixed before hand, most of these building plans should be very similar and therefore easy to draw up and distribute. These plans could even be downsized to a single plan for all the pilot program buildings (or in the future all North Campus/South Campus/Residence Halls buildings etc.), if individual building plans are too complicated.

Jack, E.J., Chris:

After meeting with you and hearing your thoughts, these are the following steps I feel could be taken to improve recycling at UCLA, through my understanding of the pilot program over the past 10 weeks of our research.

1. You had said you need to make decisions on what bins will go where. I feel that the small 2 ½ gallon blue white paper bin should stay underneath desks, because white paper seems to be the most prevalent recycling material that is produced by individuals at their desks. I think this should be the only bin underneath each desk, but it should be mandatory (or very close to mandatory). Having only one bin will make it easier for both Facilities and staff/faculty to implement and therefore will hopefully be very effective and can be a part of every office on UCLA's campus.
2. I think that the option should be given to individuals to have a second bin for mixed paper, but this is optional and purely to the discretion of each individual in terms of how much space and/or use they have for a grey mixed paper bin. This allows people to have more recycling space, but makes it easier for facilities to implement the program.
3. I think all individuals should be required to personally remove their bins (both white paper and mixed paper), and this needs to be a campus wide initiative so that there is no confusion or jealousy.
4. Seeing the success of the large bins in central locations, I think that a large blue white paper mesh bin, a large grey mixed paper slim jims, and a large bottle/glass/can slim jim should be put in each copy room and/or kitchenette. This will simultaneously address the need for bottle/glass/can recycling within buildings.
5. The above mentioned large bins need to be on every single floor within each building to allow all staff and faculty to have the same convenience of recycling
6. Signage needs to be uniform across campus on recycling bins; though fixing this is certainly a lower priority than the aforementioned goals.
7. Custodial Staff needs to be aware of what their responsibilities are, and what staff and faculties responsibilities are.
8. "Recycling Coordinators" need to be assigned per building, or the existing building coordinators need to have a better understanding of their responsibilities.

Thank you again for your time and energy. Kathy, Eugene, Ricky and I truly hope that our research has provided you with some insight into the workings of the pilot program. Please feel free to contact me over the summer for any reason, I would love to see and help with improvements made on our campus.

Isis Krause
isiskrause@ucla.edu
(805)-453-4043

SMALL BLUE RECTANGULAR BIN

Used for white paper only.

Under desk.

SMALL GREY RECTANGULAR BIN

Used for mixed paper only.

Under desk.

LARGE BLUE CIRCULAR MESH BIN

Used for white paper only.

In large room/office.

LARGE GREY RECTANGULAR (SLIM JIM) BIN

Used for all mixed recyclables.

In large room/office.

Action Research Team - Sign-Up Sheet for Receiving Recycling Bins -

Name	Date	Building	Office/Room#	Small W / M	Large W / M