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GEOS 206
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Methods for Increasing Recycling at Williams College

Introduction

Recycling is perhaps one of the easiest forms of active sustainability practices. While some may be unable to afford solar panels or compact fluorescent lightbulbs, there is very little, if any, personal cost associated with recycling. Particularly, at Williams College, students need not spend any money in order to ensure that their bottles or cans are properly taken care of. Despite this, recycling remains low in residential buildings.

The benefits of recycling are not hidden or unknown. The Environmental Protection Agency (EPA) states, "Recycling prevents pollution caused by the manufacturing of products from virgin materials. Recycling saves energy. Recycling decreases emissions of greenhouse gases that contribute to global climate change. Recycling conserves natural resources such as timber, water, and minerals." (EPA, 2011). However, at a school like Williams College, where information on the benefits of recycling are widely available, I did not believe lack of information or knowledge was an excuse for the low recycling numbers.

In doing further reading on the topic of recycling, many articles I found cited lack of incentive for low recycling rates (Reschovsky and Stone, 1994). I believed this to be a reason that could be true for the Williams campus. Since students cannot actively see the benefits listed by the EPA above, perhaps they feel as though there is no direct benefit. However, I read many reports that contradicted this sentiment. In my group project, we explored group thought and its effect on sustainable behaviors. I certainly found many articles to support this. As social norms start to dictate the acceptance of recycling, those who did not recycle are often judged negatively

for not taking part (Carlson, 2001). This would certainly explain why recycling is far more habitual for students in public spaces rather than in the privacy of their own dorm rooms.

When I began my research, I was not sure of the reasons why people recycled less in dorms versus public spaces such as Paresky and Sawyer and Schow libraries. The group behavior theory mentioned above became my leading hypothesis. Perhaps, without the influence of observers, people felt no need to



Figure 1a: Typical recycling set-up in public spaces. (Williams image)

recycle. However, I did not believe this could be the complete answer. Could it be lack of knowledge on proper recycling procedures? Was it a lack of incentive?

I decided to explore the subject further as it is quite clear that before we can expect students to take seriously more pressing environmental concerns, we must first understand their actions and opinions on the most basic level of sustainable practices, such as recycling. I believe once we understand the hows, whys, and whats of recycling practices on campus we will be better able to encourage more controversial practices such as meat reduction in meals and reduced energy usage.

This study sets out to explore the various methods of recycling already in place at Williams College (see Figure 1a), campus opinions on recycling, and methods of improving recycling on campus. Through my research I have found new ways we can combat the lack of recycling in residential halls on campus.

Method

In order to adequately gauge campus opinion on recycling, I created a 10 question survey and had 273 respondents (see appendix). While I had some initial concerns about whether my survey would reach a wide enough audience or be taken seriously, these concerns were calmed once I saw the results of



Figure 2a: Paresky Mailroom recycling bins.

the survey. The 273 respondents came from a variety of classes, backgrounds, and housing facilities. This survey placed students into one of three groups, regular recyclers, occasional recyclers, and those who never recycle. The differences between these groups were clearly described in the



Figure 2b: Recycling bins in the basement of Sawyer Library.

survey. Regular recyclers stated “If I have a recyclable item I always make sure to recycle it”, occasional recyclers stated, “I don’t always remember to recycle recyclable items” and those



Figure 2c: Recycling bin in Mark Hopkins common room on left, dorm room on right.

who never recycle stated, “I never recycle”. I also included more specific questions such as

“Do you always recycle your pop bottles” so that I could differentiate between those who were truly regular recyclers and truly occasional recyclers in case they did not understand the previous question. To see how closely the survey results would match up to actual recycling habits on campus, I also observed students in Paresky (see Figure 2a), Sawyer Library (see Figure 2b), and

in common rooms and dorm rooms in Mark Hopkins dormitory (see Figure 2c). In addition to using research from academic articles, I also researched recycling policies and rates at other colleges. I also used actual recycling data from Williams College during the 2010-2011 school year that was provided by the Zilkha Center.

Data from Survey

In order to understand whether the social climate at Williams influenced recycling, I wanted to know the recycling habits of students prior to coming to Williams. 56.8% (155) respondents stated that they regularly recycled, 36.6% (100) said they occasionally recycled, and

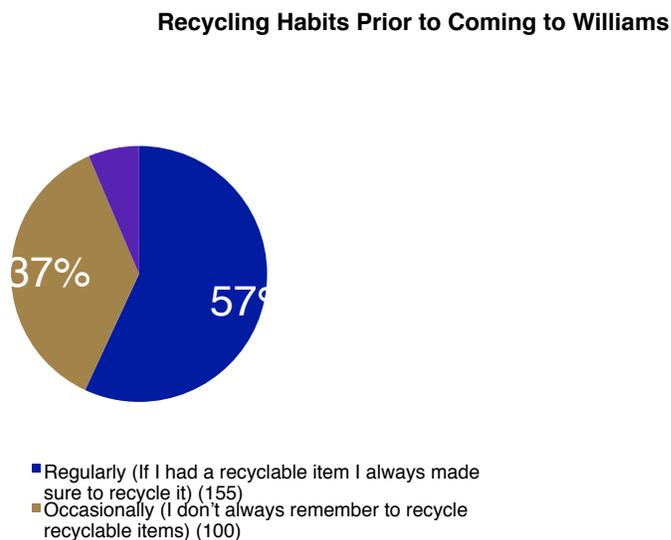


Figure 3a: Survey response of prior recycling habits.

6.6% (18) stated that they never recycled (see Figure 3a). Upon coming to Williams these numbers improved in an interesting pattern. While the majority of students stated that they either recycled more or about the same since coming to Williams (see Figure 3b), this

was only true in public spaces such as Paresky (see

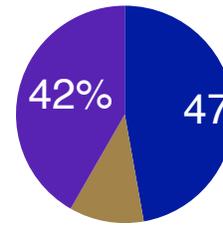
Figure 3c). However, in private spaces such as dorm

rooms, the numbers were quite similar to pre-Williams recycling levels (see Figure 3d). In fact, there were slightly more people in the “never” category when it came to recycling habits in dorm rooms.

Students seemed to be aware of the discrepancy between their public and private recycling practices as 164 (60%) of respondents labeled themselves as “somewhat active” recyclers. Meaning they do not always recycle, but will if recycle bins are available. 102 (37%) respondents labeled themselves as very “active recyclers” and only 7 (3%) labeled themselves as “not active” recyclers.

The question of knowledge regarding campus recycling guidelines was split into three categories: Very aware (I know where to recycle basics and items such as batteries or electronics), pretty aware (I know where to recycle basics such as glass, paper, and plastic), and unaware (I do not know where to recycle my trash). 77% of respondents (210) stated that they were pretty aware of recycling guidelines while only 21% (57) said they were very aware and 2% (6) said they were

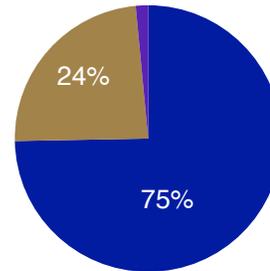
Do you recycle more or less since coming to Williams?



■ More (128)

Figure 3b: Survey response on recycling habits since coming to Williams.

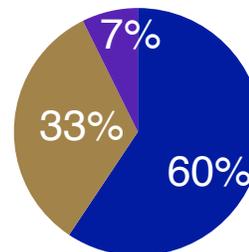
How often do you recycle in public buildings on campus?



■ Regularly (I always make sure to recycle in these buildings) (204)
 ■ Occasionally (I don't always recycle in these buildings) (65)
 ■ Never (I do not recycle) (4)

Figure 3c: Survey response on recycling in public buildings.

How often do you recycle in your dorm?



■ Regularly (I always make sure to recycle in my room) (162)
 ■ Occasionally (I don't always recycle in my room) (91)
 ■ Never (I do not recycle in my room) (20)

Figure 3d: Survey response on recycling habits in dorms.

unaware.

When it came to incentive for recycling more, most people (138 respondents) simply wanted more availability of recycling bins (see Figure 4a). The final question, “If you do not recycle very often, why not?” was answered by 109 respondents (see Figure 4b). Within the written responses, the most given reason was laziness or inconvenience. Examples of this are, “Sometimes the garbage can is just closer”, “Sometimes too lazy”, “Don’t feel like going down to (sic) 3 floors to my basement every time” and “Living off-campus, we have to take care of our own trash. For lack of time we end up dumping everything together, unfortunately.” True indifference or lack of concern was only written in by four respondents.

The data from my survey is incredibly telling, however we will understand its true significance after examining the results of my observations and data from the Zilkha Center.

Data from Observation and Zilkha Center

I observed recycling habits in the Paresky mailroom and front entrance on Tuesday, May 10th, 2011 from 5:00pm-6:30pm and again on Wednesday, May 11th, 2011 from 11:00am-1:00pm. I believe these two time periods allowed me to see a wide range of crowds in Paresky. I also observed on the first floor of Sawyer Library near the printers on Thursday, May 12th, 2011 from 4:45pm to 6:00pm and again in the basement of Sawyer on Friday, May 13th, 2011 from 6:00pm to 7:30pm. Due to this being the last day of classes and Reading Period beginning the following day, Sawyer was still relatively busy on this Friday night. My observations at Paresky fell in line with my survey results. On the whole, most people recycled their mail or garbage properly. However, in the few cases this did not happen, when I asked why they did not recycle the response I heard most often was, “I was in a rush and didn’t notice”. In only one case did someone respond negatively to the idea of recycling by saying, “I don’t care about the

environment, the environmentalists on this campus are crazy and need to leave people alone.” In my first observation session in Paresky on Tuesday, I noticed 15 people recycle their garbage properly and only 6 failed to do so in the mailroom area. When I observed the front entrance, things were quite different. Here, the waste bin is much larger than the recycling bins and is more prominent (see Figure 5a). I noticed 10 people throw away a recyclable item in the waste bin while 6 properly recycled their trash.

The numbers from my second observation period in Paresky varied since the building was busier during this time. I saw 22 students properly recycle their mail while 8 did not, this was prior to the rearrangement described below. In the front entrance, 15 people did not properly recycle while 12 did. I then rearranged the formation of recycling bins in the Paresky (see Figure 5b) mailroom to see if this would have any effect. As they currently stand, the general waste bins are right next to the walkway while the recycling bins are behind a corner. I switched these around for 45 minutes on Wednesday and noticed that all 10 out of 10 people properly recycled. In such a short amount of time it is hard to say whether this was because they were surprised by the movement of the cans or they would have recycled anyways. I was able to ask one student and he said that the rearrangement made him think more about what he was throwing away and where he was putting it.

My observations in Sawyer also fell in line with my observations at Paresky and the statistics from my survey. Generally, people will recycle if it is easy and convenient. At Sawyer there are mainly paper and waste bins on the first floor. The basement has smaller waste, paper, and plastic bins. Next to the printer on the first floor is a paper bin. While there is also a waste bin only a few feet



Figure 5a: Recycling bins at the entrance of Paresky.

away, all 8 people I saw recycled their paper in the proper bin. It appears this was simply because it was closer and the most convenient. After 40 minutes I switched the waste and paper bins to see if the change would be noticed. It wasn't and the following 5 students continued to throw their paper in the nearest bin. In the basement, the story was slightly different. Most of the waste found here is either paper or soda cans. In areas such as the monkey carrels, where these recycling bins are close, I saw 3 people all properly recycle. The contents in the bins from earlier in the day were also properly sorted. However, when I checked the



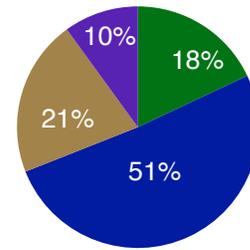
Figure 5b: Rearranged recycling bins in Paresky mailroom. The bins are now more prominent.

waste bins in the computer room and the East Viewing Room, I found recyclables in the general trash bin.

Again, it seems to be an issue of convenience rather than a real disregard towards recycling.

As we have seen in the data from the survey and my observations, there are a number of students on campus who are not recycling, but there is also a large number of students who are

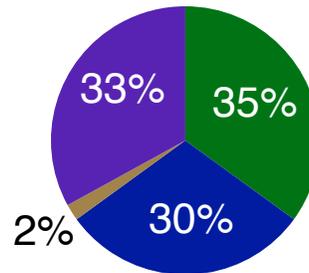
What would encourage you to recycle more?



- Money return for recycling (49)
- More availability of recycling bins (138)
- More information on recycling (58)
- Nothing (28)

Figure 4a: Survey response on recycling incentives

If you do not recycle very often, why not?



- I do not know where to recycle (38)
- I do not have the time to recycle (33)
- I am opposed to recycling (2)
- Other (36)

Figure 4b: Survey response on reasons for not recycling often.

actively recycling. Does it all add up in the end? Should we continue to hope that those who do recycle continue to do so and that those who don't occasionally do? After examining data from the Zilkha Center on Williams' waste from August 2nd, 2010 to April 29th, 2011 I do not believe we can do this. We must strive to encourage occasional recyclers to move towards becoming regular recyclers. The following table presents the data found (full data in appendix):

Table 1: *Waste Recycling Management for Williams College from 8/2010 to 4/2011*

Type of Waste	Volume	Cumulative Cost
Solid Waste	541.18 tons	\$80 a ton= \$43,294

*Compost pick-up is only listed for one date, 12/13/2010.

**E-Waste pick-up ranges from 6/17/2010 to 1/1/2011.

Bottles and Cans	27.31 tons	no cost from North Adams
Paper and Cardboard	99.84 tons	no cost from Allied Waste
Compost*	20 yards	no cost from Holiday Farm
E-Waste (electronics)**	11.11 tons	\$4,023

According to the Williams Sustainability website, when a waste audit was done in 2009, 40% of solid waste should have been sorted into recyclables (Williams College, 2010). If we assume that this rate has not shifted past a rate of 3%, we can estimate that between 37% and 43% of the solid waste during this school year should have been recycled. That's between 200.23 and 232.7 tons of recyclables. At \$80 a ton, the school is losing between \$16,018 and \$18,616 due to a lack of recycling. This data did not show a cost associated with recycling more. I believe this is a good amount of money and justifies re-examining the recycling practices at Williams College.

Narrative

After analyzing the survey data, it can be seen that inconvenience plays a huge role in the rate of student recycling. Even out of the 7 respondents who stated that they were not active recyclers, 4 said they simply did not have the time to recycle. The other three described themselves as lazy or indifferent. There are very few students on campus who are truly opposed to recycling. This makes me hopeful, as it means recycling really is an area where we can improve our actions without meeting opposition. Students clearly recycle more in public buildings because recycling bins are easily accessible and available, however this is not the case in dorm rooms. While students are given a paper recycling bin, they must take these bins to the trash rooms themselves to sort them. Given that some students cannot take the time to bring their regular waste down to the trash room, it is not surprising that they would not take the time to sort their recyclables. While large plastic and glass bins are available in common rooms, and these are emptied by custodial staff, it appears that students will sooner throw their soda can into the waste bin in their room rather than take it to the common room. This was especially seen in buildings such as Morgan, that do not have common rooms on each floor and where only two floors had large recycling bins. The survey results show that students are educated on campus policies regarding recycling, they know the benefits, and do not seek incentives. They simply want it to be easier. As I saw in my observations at Sawyer, people will recycle, even unknowingly, if it is the most convenient option.

Recommendations

I believe there are a few easy options for making recycling more convenient. First of all, we should find a way to put paper,



Figure 6a: Recycling bins provided in Amherst College dorms. (Amherst image)

glass/plastic, and waste bins in each dorm room. Harvard, Ohio State, and Amherst all have this for their students (see Figure 6a). I do not believe these bins would take up an extreme amount of room in our



Figure 6b: New outdoor recycling bin on the left, old on the right.

dorms, however if a student objects they could return it. If students can easily sort

their waste in their rooms, it creates less of a hassle when bringing their waste to the trash room. In addition, I believe we should work to make recycling easier for off-campus students. As mentioned above, one off-campus student said that they rarely recycled because they had to sort their garbage on their own and did not have recycling bins. Williams could perhaps provide off-campus students with recycling bins similar to those found in common rooms and co-op houses. They could sign out a recycling bin for the year and return it at the end and pay a fee if it is damaged. I saw repeatedly in the survey requests for outdoor recycling bins. Currently, Williams has three, one which was just installed within the past week, one at the top of Mission Hill, and one outside Frosh Quad. While the new outdoor recycling bin is a great start, the older one is the same color as the regular trashcans and I believe people may not know it is for recycling (see Figure 6b).

We should also try to make recycling of electronics easier for students, as seen in the survey results, only 20% of respondents knew where to recycle these items. I believe we could do this by having battery recycling stations in residential buildings. We could also make the recycling guide on the Williams Sustainability website more clear. As of right now it gives examples (Yogurt containers, drink bottles, newspapers), but if you have an item outside of these

examples you may not know what to do. Many respondents would not recycle a recyclable item if they were unsure of what to do with it.

We should also make sure that recycling bins are conveniently available to residents in every residential building. Upon looking at the buildings with the lowest recycling rates, there seemed to be a pattern in Morgan and East. I believe we will see an increase in regular recyclers and recycling rates if we use the recommendations above. The savings from disposing of less recyclable solid waste could help to fund more advanced recycling initiatives such as more battery recycling or recycling of plastic bags. Williams has a clear impact on the recycling habits of its students. If we encourage and introduce new means of recycling, we may be able to inspire them to continue these practices as they leave campus and enter the “real world”.

Acknowledgements

I would like to thank Stephanie Boyd, Director of the Zilkha Center for Environmental Initiatives, for providing me with valuable information on waste management at Williams College and for helping me create my survey. I would also like to thank the 273 respondents who took the time to do the survey.

References-Works Cited

- Carlson, Ann E. 2001, Recycling Norms *in California Law Review*: California Law Review, Inc., University of California, Berkeley School of Law, p. 1232-1233.
- Reschovsky, James D. and Stone, Sarah E., 1994, Market Incentives to Encourage Household Waste Recycling: Paying for What You Throw Away *in Journal of Policy Analysis and Management*: John Wiley & Sons, p. 120-139.
- <http://www.epa.gov/osw/conserve/rrr/recycle.htm>. Recycling. Content Last Updated: 4/14/2011. Visited 5/15/2011.
- <http://sustainability.williams.edu/category/whole-campus/waste-and-recycling/waste>. Waste and Reduction. Content Last Updated: 2010. Visited 5/15/2011.

Appendix A: Survey Results on Recycling

Recycling at Williams College			
Prior to coming to Williams, how often did you recycle?			
Answer Options	Response Percent	Response Count	
Regularly (If I had a recyclable item I always made sure to recycle it)	56.8%	155	
Occasionally (I don't always remember to recycle recyclable items)	36.6%	100	
Never (I never recycled)	6.6%	18	
answered question		273	

skipped question			0
Recycling at Williams College			
How often do you recycle in public buildings (Paresky, Hollander Hall, Sawyer, etc.) on campus?			
Answer Options	Response Percent	Response Count	
Regularly-I always make sure to recycle in these buildings	74.7%	204	
Occasionally-I don't always recycle in these buildings	23.8%	65	
Never-I do not recycle in these buildings.	1.5%	4	
answered question		273	
skipped question		0	

Recycling at Williams College			
How often do you recycle in public buildings (Paresky, Hollander Hall, Sawyer, etc.) on campus?			
Answer Options	Response Percent	Response Count	
Regularly-I always make sure to recycle in these buildings	74.7%	204	
Occasionally-I don't always recycle in these buildings	23.8%	65	
Never-I do not recycle in these buildings.	1.5%	4	
answered question		273	
skipped question		0	

Recycling at Williams College			
What type of housing do you live in? Please list whether it is a co-op, off-campus, or the name of the dorm.			
Answer Options	Response Count		
	273		
answered question	273		
skipped question	0		

What type of housing do you live in? Open-Ended Response				
Agard				
Off-campus				
Mission				
Mills				
prospect				
West.				
Mission Park				
currier building				
tyler				
Hubbell House				
Brooks				
Garfield				
Brooks House				
Woodbridge (co-op)				
perry				
Agard				
Carter				
Morgan				
Agard				
Sage Hall				
Brooks				
Off-campus				
Williams Hall (Willy F)				
Morgan				
Tyler Annex				
Off-campus				
Prospect				
Mark Hopkins				
West				
Morgan				
tyler annex				
Mission				
Mission				
Bryant				
tyler annex				
Tyler Annex				
mission, armstrong				

Morgan				
Williams				
Currier Hall				
Garfield				
Bryant				
Parsons				
mission				
Mark Hopkins				
Dodd House				
MorgAn				
prospect				
Wood				
Bryant				
Carter				
Garfield				
Williams Hall				
co-op				
Williams Hall				
Lehman				
Dorm- prospect				
Gladden				
Morgan				
co-op				
Lehman				
williams hall				
Morgan				
Sage				
co-op				
Gladden House				
co-op (poker)				
co-op				
Currier House				
Fitch				
Prospect				
Currier				
agard				
Gladden				
Mission				
Carter				
Armstrong 2 (in Mission)				
Williams Hall (Entry D)				

Morgan				
Thompson				
co-op				
prospect				
Agard House				
mission				
Tyler				
West				
Co-op				
Mission				
Williams Hall				
Sewall House				
Fayerweather				
Mission Park				
Mark Hopkins				
Bryant				
Williams				
Parsons last semester (abroad in China this semester)				
Sage				
Dorm-Hubbell				
Prospect				
Carter Hall				
williams hall				
Williams Hall				
Mills				
Carter				
Prospect				
fay				
Mission (Armstrong)				
Prospect				
sewall				
Williams				
Williams Hall				
agard				
Lehman				
Spencer				
sewall				
carter, on-campus				
Carter				

Garfield house.				
Bryant				
Currier				
Lehman				
Morgan 4th floor...the custodian refused to allow us to have a recycling bin				
Lehman				
West College				
carter				
dorm (Fitch)				
Co-op				
mission park				
co-op				
Williams				
Currier House				
Brooks House				
Propsect				
Parsons				
Dodd House				
co-op				
Co-op				
off-campus				
Greylock Quad				
co-op				
Prospect				
On-Campus: Pratt 2				
Garfield House				
Annex				
Fitch				
East				
Tyler Annex				
Mission				
Williams Hall				
William Hall				
Mark Hopkins				
Morgan				
Pratt 3, Mission				

Currier				
Sewall (dorm)				
spencer				
thompson				
faye				
Currently abroad, but I lived in Agard last year.				
Prospect				
Wood House				
mark hopkins				
sage				
Mark Hopkins				
Fitch dorm				
brahspect				
co-op				
prospect				
Mission Park Fayerweather Hall				
Co-op - Doughty House				
Morgan Dormitory				
Goodrich dorm				
Willy E Thompson				
Lehman				
Currier				
Williams Hall				
Morgan				
Fayeweather				
Hubble.				
Mission Park: Pratt				
morgan				
west				
Bryant				
co-op				
Lehman				
Gladden				
Carter				
currier				

Goodrich House				
Lehman				
Sage				
off campus				
typer annex				
mission				
morgan				
Williams Hall				
Prospect				
Mark-Hopkins				
co-op				
Poker E (coop)				
co-op doughty				
Willy A				
Garfield				
Goodrich House				
West				
Co-op				
Sewall House				
off-campus				
Mission Park				
Currier House				
Gladden				
Carter				
Mark Hopkins				
Willy Hall				
Co-op				
Prospect				
Prospect				
Mish Delish				
Bryant House				
Currier				
mission				
Morgan Hall				
prospect				
Bryant House				
East				
Morgan				
Mission				
co-op				
Williams				

Mission Park				
Tyler Annex				
Prospect				
Mission				
MISSION				
Mark Hopkins				
Mission				
Tyler House				
co-op, Chadbourne				
Lehman				
Currier				
Bryant				
Off campus - but only in my off-campus housing do I fail to recycle. In my dorms the past 3 years I always recycled.				
Williams Hall				
Mission				
Mission				
Prospect				
Morgan				
Mark Hopkins				
Williams Hall				
Off campus co-op (Woodbridge)				
Mark Hopkins				
Fitch				
Dodd & Garfield.				
Co-op - Lambert				
Sage				
Garfield				
Hubbell				
Mission Park				
Carter				
co-op dennett in mission				
Prospect				

Carter -- dorm				
Fay				
Currier				
Mark Hopkins				
carter				
Dodd House				
Sage Hall				
Bryant				

Recycling at Williams College

How aware are you of recycling guidelines on campus?

Answer Options	Response Percent	Response Count
Very aware, I know where to recycle basics and items such as batteries or electronics.	20.9%	57
Pretty aware, I know where to recycle basics (glass, paper, plastic).	76.9%	210
Unaware, I do not know where to recycle my trash.	2.2%	6
answered question		273
skipped question		0

Recycling at Williams College

How active of a recycler do you consider yourself to be?

Answer Options	Response Percent	Response Count
Very active-I make it a habit to recycle all of my recyclable materials.	37.4%	102
Somewhat active-I don't always recycle, but will if recycle bins are available.	60.1%	164
Not active-I don't recycle or make a habit of recycling.	2.6%	7
answered question		273
skipped question		0

Recycling at Williams College

If you have a plastic bottle or paper item do you always recycle it?

Answer Options	Response Percent	Response Count
Yes	68.1%	186
No	31.9%	87
answered question		273
skipped question		0

Recycling at Williams College		
If you have a plastic bottle or paper item do you always recycle it?		
Answer Options	Response Percent	Response Count
Yes	68.1%	186
No	31.9%	87
answered question		273
skipped question		0

Recycling at Williams College		
What would encourage you to recycle more?		
Answer Options	Response Percent	Response Count
Money return for recycling	17.9%	49
More availability of recycling bins	50.5%	138
More information on recycling	21.2%	58
Nothing	10.3%	28
Other (please specify)		33
answered question		273
skipped question		0

Recycling at Williams College		
If you do not recycle very often, why not?		
Answer Options	Response Percent	Response Count

I do not know where to recycle	55.1%	38	
I do not have the time to recycle	47.8%	33	
I am opposed to recycling	2.9%	2	
Other (please specify)		36	
answered question		69	
skipped question		204	

1. Sometimes the garbage can is just closer.
2. I just throw my garbage in a garbage bin, I don't really think about which one. I'm just as likely to throw trash in a recycling thing as vice versa, or recycling into recycling. You know, I don't discriminate..
3. Williams is busy. Sometimes I need to ditch a container and the only thing in sight is a trash can. It kills me but on occasion I put a bottle in the trash
4. if it's inconvenient
5. I have a paper bin in my room, but I need to put cans in it, so I put paper in my trash.
6. not sure if it is recyclable
7. I don't recycle at home because our city's garbage is recycled for us at a separate facility. It's weird, but I can talk to you about it if you need more info. This is Sam from class btw.
8. I don't really care about recycling.
9. hard to find bins; guidelines confusing (worry that I'll contaminate recycling stream if I recycle wrong things, and seems better to throw out questionable items than contaminate a huge pile of recycling)
10. n/a
11. Outside of Williams, frequently there is no place to recycle.
12. i forget

13. Sometimes too lazy
14. It's not a priority, I just don't always think about it.
15. I recycle often
16. I do not recycle certain items that I have learned are inefficient to recycle compared to just producing new materials.
17. I recycle very often
17. indifference
18. Availability of
19. I recycle
20. Laziness
21. Combo of 1&2 -- if you don't know where to recycle, it takes time to find out!
22. Sometimes I am just not sure where certain things should go.
23. I don't care about the environment, so I don't want to go out of my way to do something I don't care about.
24. Don't feel like going down to 3 floors to my basement everytime and I find it odd that the recycling is in our bathroom.
25. Less obvious items are more difficult to recycle. Maybe an online photo guide/wiki could benefit people with questions about tricky items.
26. Recycling bins not always convenient to location
27. not opposed to recycling, just indifferent to it
28. I'm not always sure what can be recycled, for example what types of plastic.
29. Too lazy (shameful, I know)
30. I will if a recycling option is readily available, if not i don't really care

31. It's not always convenient.
32. There aren't any bins available (I'm thinking for batteries and things)
33. Living off-campus, we have to take care of our own trash (taking to the dump). For lack of time we end up dumping everything together, unfortunately.
34. I forget, or won't do it if a bin isn't handy
35. Honestly, I'm ashamed to say it, but I'm lazy.

Appendix B: Waste Management Data from Zilkha Center**Solid Waste**

Timestamp	Name of Hauler	Name of Transfer Station/Broker	Date	Volume (tons)	Cost (\$)
	Scott Smith trucking	North Adams	8/2/10	2.57	\$80/ton
	Scott Smith trucking	North Adams	8/3/10	1.52	\$80/ton
	Scott Smith trucking	North Adams	8/4/10	1.77	\$80/ton
	Scott Smith trucking	North Adams	8/5/10	0.8	\$80/ton
	Scott Smith trucking	North Adams	8/6/10	1.58	\$80/ton
	Scott Smith trucking	North Adams	8/9/10	2.17	\$80/ton
	Scott Smith trucking	North Adams	8/10/10	1.95	\$80/ton
	Scott Smith trucking	North Adams	8/11/10	2.39	\$80/ton
	Scott Smith trucking	North Adams	8/12/10	1.42	\$80/ton
	Scott Smith trucking	North Adams	8/13/10	2.33	\$80/ton
	Scott Smith trucking	North Adams	8/16/10	2.82	\$80/ton
	Scott Smith trucking	North Adams	8/17/10	2.33	\$80/ton
	Scott Smith trucking	North Adams	8/18/10	1.7	\$80/ton
	Scott Smith trucking	North Adams	8/19/10	0.5	\$80/ton
	Scott Smith trucking	North Adams	8/20/10	1.39	\$80/ton
	Scott Smith trucking	North Adams	8/23/10	3.76	\$80/ton
	Scott Smith trucking	North Adams	8/24/10	0.87	\$80/ton
	Scott Smith trucking	North Adams	8/25/10	2.26	\$80/ton
	Scott Smith trucking	North Adams	8/26/10	0.7	\$80/ton
	Scott Smith trucking	North Adams	8/27/10	2.24	\$80/ton
	Scott Smith trucking	North Adams	8/30/10	1.06	\$80/ton
	Scott Smith trucking	North Adams	8/31/10	0.75	\$80/ton
	Scott Smith trucking	North Adams	9/1/10	2.65	\$80/ton
	Scott Smith trucking	North Adams	9/2/10	1.57	\$80/ton
	Scott Smith trucking	North Adams	9/3/10	3.08	\$80/ton
	Scott Smith trucking	North Adams	9/7/10	3.93	\$80/ton
	Scott Smith trucking	North Adams	9/8/10	2.41	\$80/ton
	Scott Smith trucking	North Adams	9/9/10	2.16	\$80/ton
	Scott Smith trucking	North Adams	9/10/10	4.33	\$80/ton
	Scott Smith trucking	North Adams	9/13/10	4.1	\$80/ton
	Scott Smith trucking	North Adams	9/14/10	1.35	\$80/ton
	Scott Smith trucking	North Adams	9/15/10	2.61	\$80/ton
	Scott Smith trucking	North Adams	9/16/10	1.34	\$80/ton
	Scott Smith trucking	North Adams	9/17/10	4.6	\$80/ton
	Scott Smith trucking	North Adams	9/20/10	3.02	\$80/ton
	Scott Smith trucking	North Adams	9/21/10	2.58	\$80/ton

	Scott Smith trucking	North Adams	9/22/10	2.82	\$80/ton
	Scott Smith trucking	North Adams	9/23/10	1.2	\$80/ton
	Scott Smith trucking	North Adams	9/24/10	3.57	\$80/ton
	Scott Smith trucking	North Adams	9/27/10	5.25	\$80/ton
	Scott Smith trucking	North Adams	9/28/10	4.72	\$80/ton
	Scott Smith trucking	North Adams	9/29/10	3.62	\$80/ton
	Scott Smith trucking	North Adams	9/30/10	0.79	\$80/ton
	Scott Smith trucking	North Adams	10/1/10	4.1	\$80/ton
	Scott Smith trucking	North Adams	10/4/10	4.55	\$80/ton
	Scott Smith trucking	North Adams	10/5/10	3.08	\$80/ton
	Scott Smith trucking	North Adams	10/6/10	3.7	\$80/ton
	Scott Smith trucking	North Adams	10/7/10	1.61	\$80/ton
	Scott Smith trucking	North Adams	10/8/10	4.06	\$80/ton
	Scott Smith trucking	North Adams	10/11/10	2.49	\$80/ton
	Scott Smith trucking	North Adams	10/12/10	3.15	\$80/ton
	Scott Smith trucking	North Adams	10/13/10	3.68	\$80/ton
	Scott Smith trucking	North Adams	10/14/10	1.97	\$80/ton
	Scott Smith trucking	North Adams	10/15/10	4.15	\$80/ton
	Scott Smith trucking	North Adams	10/18/10	4.75	\$80/ton
	Scott Smith trucking	North Adams	10/19/10	3.29	\$80/ton
	Scott Smith trucking	North Adams	10/20/10	3.75	\$80/ton
	Scott Smith trucking	North Adams	10/21/10	1.93	\$80/ton
	Scott Smith trucking	North Adams	10/22/10	3.82	\$80/ton
	Scott Smith trucking	North Adams	10/25/10	4.16	\$80/ton
	Scott Smith trucking	North Adams	10/26/10	3.61	\$80/ton
	Scott Smith trucking	North Adams	10/27/10	5.31	\$80/ton
	Scott Smith trucking	North Adams	10/28/10	2	\$80/ton
	Scott Smith trucking	North Adams	10/29/10	4.5	\$80/ton
	Scott Smith trucking	North Adams	11/1/10	4.55	\$80/ton
	Scott Smith trucking	North Adams	11/2/10	2	\$80/ton
	Scott Smith trucking	North Adams	11/3/10	2.55	\$80/ton
	Scott Smith trucking	North Adams	11/4/10	2.34	\$80/ton
	Scott Smith trucking	North Adams	11/5/10	3.94	\$80/ton
	Scott Smith trucking	North Adams	11/8/10	4.51	\$80/ton
	Scott Smith trucking	North Adams	11/9/10	3.47	\$80/ton
	Scott Smith trucking	North Adams	11/10/10	3.92	\$80/ton
	Scott Smith trucking	North Adams	11/11/10	3.2	\$80/ton
	Scott Smith trucking	North Adams	11/12/10	4.55	\$80/ton
	Scott Smith trucking	North Adams	11/15/10	4	\$80/ton
	Scott Smith trucking	North Adams	11/16/10	3.48	\$80/ton
	Scott Smith trucking	North Adams	11/17/10	3.61	\$80/ton
	Scott Smith trucking	North Adams	11/18/10	1.7	\$80/ton
	Scott Smith trucking	North Adams	11/19/10	2.99	\$80/ton
	Scott Smith trucking	North Adams	11/22/10	3.86	\$80/ton

	Scott Smith trucking	North Adams	11/23/10	2.4	\$80/ton
	Scott Smith trucking	North Adams	11/24/10	3.81	\$80/ton
	Scott Smith trucking	North Adams	11/29/10	2.54	\$80/ton
	Scott Smith trucking	North Adams	11/30/10	3.95	\$80/ton
	Scott Smith trucking	North Adams	12/1/10	3.25	\$80/ton
	Scott Smith trucking	North Adams	12/2/10	1.52	\$80/ton
	Scott Smith trucking	North Adams	12/3/10	4.25	\$80/ton
	Scott Smith trucking	North Adams	12/6/10	3.25	\$80/ton
	Scott Smith trucking	North Adams	12/7/10	0.95	\$80/ton
	Scott Smith trucking	North Adams	12/8/10	3.86	\$80/ton
	Scott Smith trucking	North Adams	12/9/10	1.02	\$80/ton
	Scott Smith trucking	North Adams	12/10/10	3.66	\$80/ton
	Scott Smith trucking	North Adams	12/13/10	7.52	\$80/ton
	Scott Smith trucking	North Adams	12/14/10	1.02	\$80/ton
	Scott Smith trucking	North Adams	12/15/10	4.03	\$80/ton
	Scott Smith trucking	North Adams	12/16/10	1.15	\$80/ton
	Scott Smith trucking	North Adams	12/17/10	3.92	\$80/ton
	Scott Smith trucking	North Adams	12/20/10	5.82	\$80/ton
	Scott Smith trucking	North Adams	12/21/10	0.92	\$80/ton
	Scott Smith trucking	North Adams	12/22/10	5.03	\$80/ton
	Scott Smith trucking	North Adams	12/24/10	1.2	\$80/ton
	Scott Smith trucking	North Adams	1/3/11	2.43	\$80/ton
	Scott Smith trucking	North Adams	1/4/11	0.95	\$80/ton
	Scott Smith trucking	North Adams	1/5/11	3.4	\$80/ton
	Scott Smith trucking	North Adams	1/6/11	1.4	\$80/ton
	Scott Smith trucking	North Adams	1/7/11	4.2	\$80/ton
	Scott Smith trucking	North Adams	1/10/11	3	\$80/ton
	Scott Smith trucking	North Adams	1/11/11	2.15	\$80/ton
	Scott Smith trucking	North Adams	1/12/11	3.7	\$80/ton
	Scott Smith trucking	North Adams	1/13/11	0.98	\$80/ton
	Scott Smith trucking	North Adams	1/14/11	3.81	\$80/ton
	Scott Smith trucking	North Adams	1/17/11	2.76	\$80/ton
	Scott Smith trucking	North Adams	1/18/11	6.29	\$80/ton
	Scott Smith trucking	North Adams	1/20/11	1.13	\$80/ton
	Scott Smith trucking	North Adams	1/21/11	4.15	\$80/ton
	Scott Smith trucking	North Adams	1/24/11	4.15	\$80/ton
	Scott Smith trucking	North Adams	1/25/11	1.12	\$80/ton
	Scott Smith trucking	North Adams	1/26/11	3.83	\$80/ton
	Scott Smith trucking	North Adams	1/27/11	0.84	\$80/ton
	Scott Smith trucking	North Adams	1/28/11	3.35	\$80/ton
	Scott Smith trucking	North Adams	1/31/11	3.1	\$80/ton
	Scott Smith trucking	North Adams	2/1/11	2.24	\$80/ton
	Scott Smith trucking	North Adams	2/3/11	4.19	\$80/ton
	Scott Smith trucking	North Adams	2/4/11	3.53	\$80/ton

	Scott Smith trucking	North Adams	2/7/11	4.15	\$80/ton
	Scott Smith trucking	North Adams	2/8/11	4.12	\$80/ton
	Scott Smith trucking	North Adams	2/9/11	3.75	\$80/ton
	Scott Smith trucking	North Adams	2/10/11	2.19	\$80/ton
	Scott Smith trucking	North Adams	2/11/11	4.17	\$80/ton
	Scott Smith trucking	North Adams	2/14/11	4.12	\$80/ton
	Scott Smith trucking	North Adams	2/15/11	4.13	\$80/ton
	Scott Smith trucking	North Adams	2/16/11	3.4	\$80/ton
	Scott Smith trucking	North Adams	2/17/11	2.84	\$80/ton
	Scott Smith trucking	North Adams	2/18/11	5.14	\$80/ton
	Scott Smith trucking	North Adams	2/22/11	5.43	\$80/ton
	Scott Smith trucking	North Adams	2/23/11	3.41	\$80/ton
	Scott Smith trucking	North Adams	2/24/11	3.18	\$80/ton
	Scott Smith trucking	North Adams	2/25/11	4.24	\$80/ton
	Scott Smith trucking	North Adams	2/28/11	3.16	\$80/ton
	Scott Smith trucking	North Adams	3/1/11	2.09	\$80/ton
	Scott Smith trucking	North Adams	3/2/11	3.66	\$80/ton
	Scott Smith trucking	North Adams	3/3/11	1.26	\$80/ton
	Scott Smith trucking	North Adams	3/4/11	3.19	\$80/ton
	Scott Smith trucking	North Adams	3/7/11	4.53	\$80/ton
	Scott Smith trucking	North Adams	3/8/11	2.92	\$80/ton
	Scott Smith trucking	North Adams	3/9/11	4.05	\$80/ton
	Scott Smith trucking	North Adams	3/10/11	2.15	\$80/ton
	Scott Smith trucking	North Adams	3/11/11	4.42	\$80/ton
	Scott Smith trucking	North Adams	3/14/11	4.96	\$80/ton
	Scott Smith trucking	North Adams	3/15/11	2.97	\$80/ton
	Scott Smith trucking	North Adams	3/16/11	4.23	\$80/ton
	Scott Smith trucking	North Adams	3/17/2011	1.56	\$80/ton
	Scott Smith trucking	North Adams	3/18/2011	4.12	\$80/ton
	Scott Smith trucking	North Adams	3/21/2011	3.52	\$80/ton
	Scott Smith trucking	North Adams	3/22/2011	2.61	\$80/ton
	Scott Smith trucking	North Adams	3/23/2011	3.21	\$80/ton
	Scott Smith trucking	North Adams	3/24/2011	0.25	\$80/ton
	scott Smith trucking	North Adams	3/25/2011	1.23	\$80/ton
	scott Smith trucking	North Adams	3/28/2011	1.12	\$80/ton
	scott Smith trucking	North Adams	3/30/2011	1.34	\$80/ton
	scott Smith trucking		4/1/2011	3.18	
	scott Smith trucking		4/4/2011	2.63	
	scott Smith trucking		4/5/2011	2.33	
	scott Smith trucking		4/6/2011	3.21	
	scott Smith trucking		4/7/2011	1.36	
	scott Smith trucking		4/8/2011	3.27	
	scott Smith trucking		4/11/2011	4.13	
	scott Smith trucking		4/12/2011	2.94	

	scott Smith trucking		4/13/2011	3.27	
	scott Smith trucking		4/14/2011	1.83	
	scott Smith trucking		4/15/2011	3.92	
	scott Smith trucking		4/19/2011	6.47	
	scott Smith trucking		4/20/2011	3.47	
	scott Smith trucking		4/21/2011	1.96	
	scott Smith trucking		4/22/2011	3.73	
	scott Smith trucking		4/25/2011	5.02	
	scott Smith trucking		4/26/2011	2.68	
	scott Smith trucking		4/27/2011	3.11	
	scott Smith trucking		4/28/2011	1.36	
	scott Smith trucking		4/29/2011	3.81	
				541.18	

Bottles and Cans

Name of Hauler	Name of Transfer Station/Broker	Date	Volume (tons)	Cumulative Volume (tons)	Revenue (\$)	Cost (\$)	Net Cost (\$)	Cumulative Cost
Allied Waste	North Adams	6/9/2010	2.58	2.58			\$0.00	\$0.00
Allied Waste	North Adams	7/29/2010	2.15	4.73			\$0.00	\$0.00
Allied Waste	North Adams	9/10/2010	1.93	6.66			\$0.00	\$0.00
Allied Waste	North Adams	9/29/2010	1.72	8.38			\$0.00	\$0.00
Allied Waste	North Adams	10/18/2010	1.58	9.96			\$0.00	\$0.00
Allied Waste	North Adams	11/2/2010	1.68	11.64			\$0.00	\$0.00
Allied Waste	North Adams	11/19/2010	2.09	13.73			\$0.00	\$0.00
Allied Waste	North Adams	12/14/2010	1.83	15.56			\$0.00	\$0.00
Allied Waste	North Adams	1/13/2011	1.62	17.18			\$0.00	\$0.00
Allied Waste	North Adams	2/8/2011	2.6	19.78			\$0.00	\$0.00
Allied Waste	North Adams	2/22/2011	1.94	21.72			\$0.00	\$0.00
Allied Waste	North Adams	3/9/2011	1.94	23.66			\$0.00	\$0.00
Allied Waste	North Adams	3/24/2011	1.73	25.39			\$0.00	\$0.00
Allied Waste	North Adams	4/20/2011	1.92	27.31			\$0.00	\$0.00

Paper and Cardboard

Name of Hauler	Name of Transfer Station/Broker	Date	Volume (tons)	Cumulative Volume (tons)	Revenue (\$)	Cost (\$)	Net Cost (\$)	Cumulative Cost
Allied Waste	Allied Waste	8/11/2010	5.78	5.78			\$0.00	\$0.00
Allied Waste	Allied Waste	8/20/2010	5.72	11.50			\$0.00	\$0.00
Allied Waste	Allied Waste	9/10/2010	5.15	16.65			\$0.00	\$0.00
Allied Waste	Allied Waste	9/16/2010	4.14	20.79			\$0.00	\$0.00
Allied Waste	Allied Waste	9/21/2010	5.47	26.26			\$0.00	\$0.00
Allied Waste	Allied Waste	10/4/2010	6.31	32.57			\$0.00	\$0.00
Allied Waste	Allied Waste	10/15/2010	5.3	37.87			\$0.00	\$0.00
Allied Waste	Allied Waste	10/28/2010	5.18	43.05			\$0.00	\$0.00
Allied Waste	Allied Waste	11/12/2010	5.19	48.24			\$0.00	\$0.00
Allied Waste	Allied Waste	12/1/2010	5.27	53.51			\$0.00	\$0.00
Allied Waste	Allied Waste	12/15/2010	4.86	58.37			\$0.00	\$0.00
Allied Waste	Allied Waste	1/18/2011	3.86	62.23			\$0.00	\$0.00
Allied Waste	Allied Waste	1/28/2011	4.99	67.22			\$0.00	\$0.00
Allied Waste	Allied Waste	2/14/2011	6.77	73.99			\$0.00	\$0.00
Allied Waste	Allied Waste	2/24/2011	5.3	79.29			\$0.00	\$0.00
Allied Waste	Allied Waste	3/9/2011	4.91	84.20			\$0.00	\$0.00
Allied Waste	Allied Waste	3/21/2011	4.64	88.84			\$0.00	\$0.00
Allied Waste	Allied Waste	4/11/2011	5.86	94.70			\$0.00	\$0.00
Allied Waste	Allied Waste	4/27/2011	5.14	99.84			\$0.00	\$0.00

Compost

Scott Smith Trucking	Name of Transfer Station/Broker	Date	Volume (yds)	Cumulative Volume (yds)	Revenue (\$)	Cost (\$)	Net Cost (\$)	Cumulative Cost
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Allied Waste	Holiday Farm	12/13/2010	20	20.00			\$0.00	\$0.00
				20.00			\$0.00	\$0.00

E-Waste

	Item	Date	Volume (tons)	Cumulative Volume (tons)	Revenue (\$)	Cost (\$)	Net Cost (\$)	Cumulative Cost
Electronic Recyclers	CRT	6/17/2010	0.523	0.52	198.74		-\$198.74	-\$198.74
Electronic Recyclers	E-Waste	6/17/2010	0.5275	1.05	189.9		-\$189.90	-\$388.64
Electronic Recyclers	Computers incomplete	6/17/2010	0.1285	1.18	46.26		-\$46.26	-\$434.90
Electronic Recyclers	LCD/Laptops	6/17/2010	0.067	1.25	25.46		-\$25.46	-\$460.36
Electronic Recyclers	Freight	6/17/2010		1.25	150		-\$150.00	-\$610.36
Electronic Recyclers	Computers-laptops	6/24/2010	0.5085	1.75	0		\$0.00	-\$610.36
Electronic Recyclers	CRT	6/24/2010	0.087	1.84	33.06		-\$33.06	-\$643.42
Electronic Recyclers	CRT	6/24/2010	1.2595	3.10	478.61		-\$478.61	-\$1,122.03
Electronic Recyclers	E-Waste	6/24/2010	0.072	3.17	25.92		-\$25.92	-\$1,147.95
Electronic Recyclers	E-Waste	6/24/2010	0.683	3.86	245.88		-\$245.88	-\$1,393.83
Electronic Recyclers	Computers incomplete	6/24/2010	0.9845	4.84	354.42		-\$354.42	-\$1,748.25

Electronic Recyclers	LCD/Lapto ps	6/24/2010	0.016	4.86	6.08	-\$6.08	-\$1,754.33
Electronic Recyclers	LCD/Lapto ps	6/24/2010	0.155	5.01	58.9	-\$58.90	-\$1,813.23
Electronic Recyclers	Plasma	6/24/2010	0.0455	5.06	17.29	-\$17.29	-\$1,830.52
Electronic Recyclers	Server incomplete	6/24/2010	0.0465	5.10	0	\$0.00	-\$1,830.52
Electronic Recyclers	Server incomplete	6/24/2010	0.293	5.40	0	\$0.00	-\$1,830.52
Electronic Recyclers	Freight	6/24/2010	0	5.40	150	-\$150.00	-\$1,980.52
Electronic Recyclers	CRT	7/13/2010	0.4585	5.86	174.23	-\$174.23	-\$2,154.75
Electronic Recyclers	CRT	7/13/2010	1.2545	7.11	476.71	-\$476.71	-\$2,631.46
Electronic Recyclers	E-Waste	7/13/2010	0.016	7.13	5.76	-\$5.76	-\$2,637.22
Electronic Recyclers	E-Waste	7/13/2010	0.879	8.00	316.44	-\$316.44	-\$2,953.66
Electronic Recyclers	Computers incomplete	7/13/2010	0.048	8.05	17.28	-\$17.28	-\$2,970.94
Electronic Recyclers	LCD/Lapto ps	7/13/2010	0.035	8.09	13.3	-\$13.30	-\$2,984.24
Electronic Recyclers	Plasma	7/13/2010	0.022	8.11	8.36	-\$8.36	-\$2,992.60
Electronic Recyclers	Computers	1/1/2011	0.1985	8.31	0	\$0.00	-\$2,992.60

Electronic Recyclers	Computers	1/1/2011	0.4355	8.74	0	\$0.00	-\$2,992.60
Electronic Recyclers	CRT	1/1/2011	0.297	9.04	112.86	-\$112.86	-\$3,105.46
Electronic Recyclers	CRT	1/1/2011	1.031	10.07	391.78	-\$391.78	-\$3,497.24
Electronic Recyclers	E-Waste	1/1/2011	0.1745	10.25	62.82	-\$62.82	-\$3,560.06
Electronic Recyclers	E-Waste	1/1/2011	0.8185	11.06	294.66	-\$294.66	-\$3,854.72
Electronic Recyclers	LCD/Lapto sps	1/1/2011	0.0485	11.11	18.43	-\$18.43	-\$3,873.15
Electronic Recyclers	Freight	1/1/2011	0	11.11	150	-\$150.00	-\$4,023.15