

OWU Cell Phone Recycling Program

OWU CPR

Project Proposal, Spring 2011



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Geography 360: Environmental Geography, Fall 2010 (John Krygier)

Geography 495: Independent Study, Spring 2011 (John Krygier)

Executive Summary

Ohio Wesleyan lacks a student-focused e-waste recycling program. Ohio Wesleyan currently recycles electronic waste including computers, televisions, printers, etc. While this program has recycled roughly three tons of e-waste in the last year, it has no provision for collecting e-waste from students. E-waste generated by students ends up in the trash, or students must seek an off-campus e-waste recycling option. Since most Ohio Wesleyan students live on-campus, few students have the option to utilize off-campus e-waste recycling options. Their e-waste ends up in the wastebasket.

During the fall of 2010, senior Timothy Schmidt organized a “test” e-waste drive on campus. Analysis of the collected materials revealed that the largest category of e-waste created at OWU is cell phones. In a one-day e-waste drive he collected 34 cell phones and 18 computers. Based on these results, we propose a cell phone-recycling program at OWU – OWU CPR – with lockable receptacles strategically placed across the residential side of campus. The receptacles will be accessible to students 24/7. The proposed program will start with student based cell phone recycling, and may be expanded to include computers, televisions and other electronics.

The recycling company that OWU CPR will use is a company called Terracycle. This is an organization based out of Trenton New Jersey that recycles all sorts of materials and turns them into reusable products. Terracycle pays for the shipping fees to their collection facility, and pays \$0.40 per phone to the organization. The cell phones will be safely recycled under EPA standards for FREE! It is vital that OWU’s e-waste is recycled properly, not just shipped overseas (where lax regulations lead to serious human and environmental impacts). The CPR Program will improve OWU’s “Green Report Card” score, and add value to the Ohio Wesleyan name.

It is essential that OWU CPR be competently managed. Schmidt is a senior Economics Management major, with a Minor in Geographic Information Systems. He is currently an Advertisement Sales Representative for the Transcript at OWU. With his knowledge of entrepreneurial business and management, he is capable of organizing, implementing, and ensuring a sustainable cell phone-recycling program at OWU.

We request support for OWU CPR in the amount of \$502. Details follow.

The E-Waste Problem

- E-Waste is the fastest growing component of municipal waste worldwide.
- E-Waste contains harmful components such as lead, mercury, and plastic polymers.
- 100 Million Cell Phones are thrown away annually in the US.
- Seven out of ten children in Hong Kong have too much lead in their blood stream as a result of poor recycling methods.
- China banned the import of e-waste in 2000. However, the labor-intensive nature of electronics recycling has perpetuated a black market in the trade, taking advantage of China's abundant, cheap, and skilled labor force.
- In Guiyu, China e-waste recycling has taken a huge toll on humans and the environment, due to the methods for metal extraction from circuit boards and open dumping of waste and ash residue into the water. The ground water of Guiyu undrinkable, and has to be trucked in from other villages. The lead poisoning level in children is 69%.



Source: <http://thejunction.net/>

OWU CPR Collection Locations

- 3 Senior Living Units (In the Main Lobby)
- Stuyvesant Hall (In the Smoker)
- Smith Hall (In the Main Lobby)
- Bashford Hall (In the Main Lobby)
- Thompson Hall (Right next to the Thompson Store)
- Hamilton Williams Campus Center (Promotional Bin in the lobby)

The locations have been chosen based on results from the e-waste drive at OWU during the Fall of 2010, and results seen at a similar program at Pepperdine University. The proposed OWU program is geared towards students, and thus it's important to ensure the ease of recycling for students. The receptacles will be placed where the students live. Peter Duby, the coordinator of Pepperdine's E-Waste recycling program, informed Schmidt that their cell phone receptacles were placed in common areas such as the student center and the library. According to Mr. Duby, they haven't seen as much success as they would like to, and he believes this is attributed to their location far from the students living facilities. One central location is included in the program, in Hamilton Williams Campus Center, to serve off-campus students, faculty and staff interested in recycling their old cell phones.

Receptacles

Schmidt's research on appropriate cell-phone collection receptacles suggests a floor-standing, metal, lockable unit is the most appropriate for the program. For example:

Safeco Recycling Receptacle

- ADA Compliant
- Greenyard Indoor Air Quality Certified
- Made of %100 Steel
- 20-Gallon Capacity
- About 3 Feet Tall, 1.5 Feet Wide
- \$66 each (discountofficeitems.com)



The receptacles will be modified to include two lid locks with the help of Jonathon Quick in the Fine Arts Department. This process will ensure that the cell phones will be secure. The receptacles will also be modified to make it clear they are for cell phone recycling.

Additionally, through collaboration with a Fine Arts student named Anh Hoang Vu a specialized receptacle will be made as a promotional item for the program. This receptacle will be made of 1/8 steel and will be shaped like a cell phone. Some preliminary features include a plexiglass window so recycled cell phones can be seen from students walking past the receptacle. Assuming the highest volume of foot traffic on campus being through HWCC, this will be the preliminary position for the bin.

Marketing/Advertising Strategy

Tabling Promotion Event

The “Tabling Promotion Event” will be held for two days in the main lobby of the Hamilton Williams Campus Center. A table will be set up during the noon hour to promote the importance of e-waste recycling, and make students aware of the new campus program for recycling their old cell phones. A projector and screen will show an informational clip on the impact of US e-waste in other countries.

Schmidt will prepare a poster map of campus highlighting the locations of the collection receptacles in the GIS Lab. In addition, business-card sized handouts will detail the location of recycling receptacles and basic information about the program.

Social Media Strategy

It is vital to establish a social media strategy given the target market of OWU CPR is college-age students. Schmidt will develop an OWU CPR fan page on Facebook. This page will include the map of available locations as the main page picture, results of the program, news and updates about future expansion of the program. This page will also serve as an efficient and effective form of program feedback since we will ask for feedback in the information section. We will post surveys on the page as a way to ensure that the program is dynamic and meets the needs of its users, the students.

OWU Homepage Advertisement

As the central cyber hub for OWU students, it seems fitting to display a promotion for the OWU CPR program on the main OWU webpage. Such a promotion would be advantageous to the OWU name and marketing to prospective students, as well as the OWU CPR Program.

Word of Mouth/Flyers

Among the most rudimentary and effective methods of marketing and promotion are word of mouth and flyers posted on campus. The flyers will be strategically placed in high traffic areas such as HWCC, the library, the dorms, etc. The flyers will contain all pertinent information about the program, including the map of locations. Schmidt will use his extensive OWU network to promote the CPR Program.

Program Logistics

The program should run smoothly and without much labor after the installation of the receptacles. After acquisition of the receptacles, Schmidt will arrange for the addition of the locks with Professor Quick. Then, with the help of Buildings and grounds, Schmidt will place and secure the receptacles in their respective positions.

A vital part of the program is the collection schedule. The current plan is for Schmidt to collect the contents of the receptacles once a week, a schedule that can be adjusted if need be. The cell phones will then be packaged up and shipped free directly to TerraCycle. The check for the revenues will then be credited to the OWU CPR account to be used for expansion and other miscellaneous costs.

Exit Strategy

It is vital for the OWU CPR program to have an exit strategy – making the program sustainable after Schmidt graduates in the Spring of 2011. Ideally the OWU Recycling Coordinator (a student position) would manage the program. Schmidt would seek out a student organization or group to volunteer (long term) to cover the phone collection process. The OWU CPR program may appeal to campus SLUs, environmental groups, social justice groups, etc. It is also possible to involve Buildings and Grounds in the process.

Timeline

- March 2011: Plan initial promotion of project (table, social media, promotion, materials)
- April 2011: Receive the bins, modify them and place them in their locations. Begin collecting cell phones.
- Early May 2011: Practice the exit/ transition strategy.

Financing

Debt

- 7 receptacles @ \$66 per receptacle = \$462
- Printing costs = \$30
- Miscellaneous Expenses = \$10
- Total Expenses = \$502

Revenue

The most important revenue stream will come from the \$0.40 per cell phone shipped to Terracycle. This is a guaranteed recurring revenue stream for the program that will help to offset the costs of the program and aid in the possible expansion. At this rate, for every 100 cell phones collected \$40 will be contributed towards the program. This revenue stream could be allocated towards paying student employees to help run logistics, pay down some of the debt created in the purchasing of the receptacles, and helping with the expansion of OWU CPR.

If costs of the OWU CPR program are an issue, it is possible to explore selling advertising space on the receptacles. Revenue gained from the advertising could be used to fund expansion of the network of receptacles to the academic side of campus as well as collecting additional types of e-waste. Prices for the advertisements on the receptacles will be relatively cheap compared to other types of advertising, and will be calculated according to the printing cost of advertising decals. One prospective advertiser would be the Verizon store in Delaware, since people using the CPR receptacles might need a new cell phone. All prices are by the semester:

- Small Advertisement (1/4 of the receptacle on one side) Price = \$65
 - \$65-\$15 for printing costs = \$50 in Revenue
- Medium Advertisement (1/2 of receptacle on one side) Price = \$120
 - \$120-\$35 for printing costs = \$85 in Revenue
- Large Advertisement (One full side of the receptacle) Price = \$210
 - \$210-\$60 for printing costs = \$150 in Revenue

With this revenue model for advertising, the initial investment of \$896 could be made back with the sale of six large advertisements. After the initial investment covered, future advertising revenue can be devoted to the growth and maintenance of the program.

An additional revenue stream option is to ask for a small \$1 donation with the cell phones received. These donations could be retrieved by attaching a small lockable donation box on top of each receptacle. The justification for these donations is to support the growth and sustainability of OWU CPR on campus. This revenue opportunity could prove useful when it comes time to expand the program, and in paying back the initial investment for the receptacles.