



**Solid Waste Reduction and Recycling Demonstration Grant
Computer Collection Collaboratives. Project No. 04-01
WasteCap Wisconsin, Inc.
Grant Period: January 8, 2004 – January 8, 2005
Final Report**

The International Association of Electronics Recyclers estimates that one billion computers will become potential scrap between now and 2010 and that only about 10% of obsolete computers are currently recycled. There are typically not enough scrap computers in any one medium-sized business to make it cost-effective for a computer recycler to collect the computers. However, if several businesses get together on one collection route, a computer recycler can collect the computers economically thus keeping lead and other hazardous materials out of WI landfills. Working with the Wisconsin Department of Natural Resources and with funding through the Solid Waste Reduction and Recycling Grant program, WasteCap Wisconsin worked to test this collection method, a Computer Collection Collaborative (CCC).

Introduction

In Wisconsin, state law prohibits landfilling of computers by businesses and the expansion of appropriate recycling of computer scrap is a growing need and a priority area for the DNR Demonstration Grant Program. Although large businesses can access computer recycling services fairly cost-effectively, and very small businesses can often access community drop off programs, small-to-medium-sized businesses cannot and currently are not accessing computer recycling services.

There are not enough scrap computers in any one small-to-medium sized business to make it cost effective for a computer recycler to collect the computers. However, if many of these businesses collaborate on one collection route, a computer recycler can collect the computers economically for both the hauler and the scrap generator, thus keeping the lead and other hazardous heavy materials out of Wisconsin's landfills. This type of arrangement is a Computer Collection Collaborative (CCC).

WasteCap Wisconsin is a private, nonprofit 50(c)(3) industry supported organization which provides Wisconsin's business community with unique, non-regulatory, business-to-business waste reduction and recycling assistance. WasteCap works all across Wisconsin, but our work targets computers, construction and demolition debris, and food waste. We have organized several computer recycling events in the past and have developed contacts in computer recycling on the state and

national level. In addition, we have successfully organized collection collaboratives with other industries within Wisconsin. Thus, organizing a computer collection collaborative effort within Wisconsin is both within our mission and our expertise.

Initial Concept

Initially WasteCap Wisconsin set out to develop a computer collection collaborative which would allow for the appropriate recycling of computers from small-to-medium-sized business, and would establish local partnerships to reuse and recycle solid waste generated at commercial businesses. It was intended that this first computer collection collaborative would be a demonstration and that it would be financially self supporting after a year.

A computer collection collaborative is the establishment of a collection route and workable schedule for small-to-medium-sized businesses that have scrap computers and a joint contract for all of them – resulting in a now-unavailable economical and legal option for managing old computers. WasteCap was to provide the link between computer scrap generators in the greater Milwaukee area and computer recyclers, making a CCC possible.

WasteCap set out with the following plan:

- a. Contact small-to-medium sized businesses that have scrap computers within a small geographic area (an industrial park, a high-rise office building, a main street)
- b. Conduct at least ten site visits to businesses to evaluate their current practices, discuss the collection model that will work best for that individual business, and discuss interest by the business and their requirement to sign a hauling contract
- c. Assess interest by each business in a joint computer collection contract and determine collection needs such as frequency of pickup needed, projected quantity for each pickup
- d. Obtain letters of intent to contract by each interested business
- e. Write a request for proposal for a joint collection contract by a computer recycler
- f. Receive proposals and evaluate them
- g. Recommend a computer recycler to the businesses
- h. Oversee the signing of the contracts (each business will sign a contract with the computer recycler and may cancel according to the contract)
- i. Educate employees regarding proper handling requirements
- j. Monitor and troubleshoot during the first few collections
- k. Obtain cost and quantity information from the computer recycler for each haul
- l. Provide results to all participating businesses

- m. Survey all participating businesses to determine how satisfied they are with the program and get suggestions for improvement
- n. Assess all program costs and develop a model for self-sustaining computer collection collaboratives.

Work to Date

Quarter One

During the first quarter of the year, WasteCap focused on gathering background information pertinent to the program as well as making initial contacts with businesses that may be interested in participating in the Computer Collection Collaborative (CCC) efforts.

Although WasteCap had successfully organized other types of collection collaboratives in order to gain more functional knowledge, we decided to research other collection collaboratives that have taken place across the country, especially those that would be applicable to the collection of obsolete electronics. We spent a significant amount of time researching the models for small business recycling cooperatives put out by the Northeast Recycling Council located in Vermont. Their publication "Implementation Guide for Small Business Recycling Cooperatives" was of particular help in organizing the CCC framework.

After our initial research, WasteCap developed a written overview of the Computer Collection Collaborative initiative and other supporting materials that could be used in approaching possible program participants and partners. Through past experience and in some preliminary discussions with potential program participants, we felt it was key to lay the program out as clearly and simply as possible right from the beginning.

During the first quarter of 2004, WasteCap also worked to establish partnerships with business and organizations that would be instrumental in the program's success. These partnerships included Cascade Asset Management, Paragon Development Systems, and ReCellular. Cascade Asset Management is a computer recycler based in Madison, and Neil Peters-Michaud, president of the company, is a former WasteCap Board Director. Neil served as a key resource and supporter for WasteCap and the CCC throughout the grants' implementation. Paragon Development Systems has developed a very unique way of managing end-of-life computers and has been a WasteCap partner for a number of years. Paragon was able to lend their expertise over the course of the entire project and in the end was essential to the completion of a collection event. Lastly, ReCellular works with businesses to establish Community Recycling Initiatives (CRI) for cell phones, PDAs, pagers, digital cameras, rechargeable batteries, two-way radios, toner and inkjet cartridges, and any other small consumer electronic products. It was our hope that we could rely on ReCellular for both guidance in

our own program and also help and support in recycling the electronic equipment not included in our collection program.

Quarter Two

During the second quarter of the year, WasteCap began identifying, contacting, and completing site visits to small- to-medium sized businesses having scrap computers and who may have been interested in participating in the CCC efforts. Because we needed to find a number of businesses in close proximity to each other to make the CCC a success, we focused our search on businesses located within business parks, large buildings, and small geographic areas. During this period, WasteCap's most promising lead for a location for the Computer Collection Collaboratives was with Schlitz Park located in Milwaukee. Our initial conversations with Sam Denny and Tracey Villa, park managers, indicated that they were very excited about the program and were interested in setting it up within their office park. As a result, WasteCap developed a questionnaire that was sent to all of the park's business tenants. Tenants were asked to fill out the short questionnaire and indicate their interest in involvement in a computer collection collaborative. Upon receipt of the survey results, eight businesses showed and initial interest in participated and Schlitz Park managers gave WasteCap the go ahead to continue the Computer Collection Collaborative efforts at Schlitz Park. However, because the park managers felt eight was only a small portion of their establishment Sam Denny and Tracey Villa were unwilling to take any responsibility for the overall coordination of the program, requiring WasteCap to work individually with the park's tenants. By contacting tenants individually and discussing the CCC further WasteCap was able to identify five companies that may have been willing to participate in the program: Security Microlmaging, Goldberg Velmen S.C, PIC, Independent Health Care Plan, and Time Warner Cable. However, participation of four of the businesses was based on Time Warner Cable's willingness to participate because of Time Warner Cable's size and prestige within the office park. While Time Warner Cable's initial interest was significant, complications and concerns arose as we progressed in the program's implementation. Some of those complications and concerns surrounding current computer waste management methods that were already being implemented as well as concerns over data security. While WasteCap continued discussions with Time Warner Cable in an effort to work through their hesitations, WasteCap also pursued other possibilities. Ultimately, Time Warner Cable decided not to participate due to concerns with current contractual obligations and the four other businesses in Schlitz Park that were initially interested dropped out.

Unfortunately, the problems we faced at Schlitz Park in implementing a CCC were similar to what we experienced elsewhere. Some business parks and businesses were not even aware of the

fact that recycling their computers was required by law: others recognized the CCC model as a potential solution to their computer recycling problems but were unwilling to be the first place this type of collection collaborative was implemented. And one thing we quickly realized is that cooperation from the office parks general managers was essential. Support from the general managers not only lent credibility to the program, but if they were able to oversee the contract and coordination of the CCC it became a much simpler and easier process for the businesses within the park.

While we faced and dealt with problems of finding a site for the CCC, WasteCap continued to work on producing documents to support the CCC effort, and resources that businesses could utilize regardless of their participation in the CCC. WasteCap developed a *Computer Recycling Markets Directory* meant to assist businesses across Wisconsin in finding an outlet to recycle their waste computers. The directory was made available on a special electronics recycling page on WasteCap's website www.wastecapwi.org. WasteCap receives over 30,000 hits a month to our website and we use it as our main means of disseminating information quickly and easily. This electronics recycling webpage and resource directory will be permanent fixtures on WasteCap's website and will continue to be available as a resource for businesses across Wisconsin well after this grants completion.

In anticipation of a working CCC WasteCap also drafted a Request of Proposal (RFP) that could be used to solicit a computer recycler and hauler for the CCC once businesses had signed on to participate in the program. The RFP was developed from a working model that WasteCap uses for other projects and was reviewed and revised by Cascade Asset Management and the WI DNR before it was completed. Thus, as soon as we could locate a viable site for the CCC we had all of the materials needed to quickly determine business needs, obtain letters of intent, and solicit a hauler and recycler.

Quarter Three

Throughout July, August, and September WasteCap continued to identify, contact, conduct site visits and promote the Computer Collection Collaboratives to area businesses in both Milwaukee and Madison who had scrap computers and who may want to participate in the Computer Collection Collaborative efforts. However, this process continued to prove to be very slow and challenging. While the majority of business owners and business park managers recognized the CCC as a potential solution to solving the problem of what to do with waste computers, many were hesitant to pilot the program. Individual businesses looked to their office park managers or building managers to take on the coordination of the program while office park managers and building managers were reluctant to take on that responsibility and wanted to hand it off to the individual businesses. In addition, businesses had concerns over the implications this program would have on their current waste hauling and recycling contracts, how security issues would be dealt with when combining

multiple companies machines, and were reluctant to change their current way of conducting themselves. In some cases, despite knowledge that recycling computers was required by law, businesses were unwilling to change their current disposal methods, which often meant landfilling, due to cost implications. In other cases, businesses had already found ways of dealing with their computers, such a donations to charities, which allowed them to dispose of their computers at no cost, whereas our program would carry some expenses. It was WasteCap's hope to have a Computer Collection Collaborative set up and established by the grant's third quarter. However, our inability to find a suitable and willing place to conduct the CCC hindered this goal.

After negotiations with Schiltz Park failed as explained above, WasteCap continued to pursue our most promising leads which included the 411 building of East Wisconsin Avenue in Milwaukee, the Milwaukee Center, Old Sauk Trails Office Park in Madison, WI, and Center Properties located in Middleton, WI. However, by the end of the third quarter discussions with each of these possibilities had proven unfruitful, for the same reasons as described in the previous paragraph.

Recognizing the challenges in locating businesses for the Computer Collection Collaboratives, in an effort to gain support from other organizations, and in an effort to identify still other potential CCC sites, WasteCap worked to establish and develop a relationship with the Milwaukee chapter of BOMA (the Building Owners and Managers Association) during July and August. BOMA's mission is to enhance the human, intellectual and physical assets of the commercial real estate industry through advocacy, education, research, standards and information. John Periard, executive director of BOMA in Wisconsin, was very interested in the CCC concept and talked with WasteCap on numerous occasions about how they could both help WasteCap in facilitating the program and what value WasteCap could provide for their members. Through this effort, we were able to identify several BOMA members who were interested in piloting the CCC, however these again proved to be unfruitful for similar reasons as already explained: an unwillingness to change current practices, implications to current waste hauling contracts, security issues, and management of the contracts.

In September our long pursuit to find a site for the CCC succeeded when we found Oconomowoc Business Park. While we had entertained the idea of Oconomowoc Business Park from early on in the project we had faced al resistance from the parks managers and receive no cooperation in trying to set up the CCC there. The park managers were even unwilling to give us a list of the businesses within the park so that we could contact each one ourselves. However, while management of the business park was reluctant to work with WasteCap, Paragon Development Systems, a WasteCap Wisconsin Member and supporter of the CCC effort, dedicated themselves to seeing some type of CCC get off the ground. WasteCap met individually with Kerry Marti of Paragon Development Systems on September 3rd and this meeting was very fruitful. Paragon Development

Systems was willing to partner with WasteCap on conducting a CCC within their business park. Through various discussions and analysis between Paragon and WasteCap, it was decided that we would do a trial run of the CCC by completing a free Computer Collection Event. Because we were having such difficulty in setting up a full scale CCC as described by our initial idea, we decided that by completing one free collection event, based around the same concept, we would be able to gather enough information that we could then use to further promote and prove the CCC concept. Not only would the free collection event introduce the CCC philosophy into the Oconomowoc Business Park, it would arm WasteCap with solid data on the success of a CCC which we could then use in convincing other businesses and business parks to participate in the program.

For this one time collection event, we would solicit the participation of all of the businesses in the Oconomowoc Business Park with significant help from Paragon Development Systems. Paragon Development Systems agreed to serve as the waste hauler for the one time collection event and Cascade Asset Management, Paragons contracted computer recycler, agreed to process all of the recyclables that were generated through the event. Because this was to be a one time, fact finding, event, and because our partners in the events' completion were a hauler and a recycler, we did not use the RFP previously generated.

Fourth Quarter

During October, November, and December WasteCap worked closely with Paragon Development Systems to implement a CCC event in the Oconomowoc Corporate Business Park. Working together we were able to generate a complete list of the companies located within the office park. A date of December 10th was picked and letters, general information, and surveys inviting all of the businesses to participate in the CCC were sent out in early November--followed by personal phone calls to each business. It took a great deal of effort to cultivate the relationships with the businesses within the park, like many of the businesses we had already dealt with, many businesses had concerns about security issues or were unwilling to change from the way they were currently handling things. We found that the larger businesses within the park already had corporate policies in place for the handling and recycling of electronic equipment, and many of the smaller businesses were reluctant to even reveal how they dealt with their obsolete computers. However, in the end, six businesses signed up to participate in the CCC. Allen Builders, Engine Power Inc., Leather Rich Inc., Loans for Homes, Waukesha State Bank, and Wauwatosa Savings Bank. WasteCap and Paragon Development Systems worked through the end of November and the beginning of December to ensure that each business was aware of the event as well as to provide them with training and

education on how to prepare their recyclables for pick up by Paragon Development Systems on December 10th.

On December 10th Paragon Development Systems sent a truck and two technicians to each of the businesses listed above. WasteCap staff attended, documented the process and interviewed participants. All recyclable electronic equipment was secured and loaded onto the trailer and taken to Paragon's warehouse. 64 computers, 7 printers, 10 servers, 24 monitors and an assortment of other electronics were collected, for a total of 3,708 pounds of electronics. All of the electronics were then packaged and sent to Cascade Asset Management for processing and recycling. An exact breakdown of the amounts of electronics recycled is attached to this report as an appendix.

Financial Evaluation

The total cost for the one day collection event that took place in the Oconomowoc Business Park was \$2,026.45. This price includes the recycling services, general labor, and shipping charges associated with the collection. Had this event not been free—it would have cost each participating business in the collaborative approximately \$337. However, if each of the businesses would have recycled their electronics individually (not in the collaborative arrangement) the price per business would have been approximately \$550. Thus, by participation in this Computer Collection Collaborative-- each business would have saved about \$213.

As follow-up to the CCC event, WasteCap sent thank you notes and follow-up surveys to each of the businesses that participated. The results of this survey are described below.

Survey Results

WasteCap surveyed each of the businesses that participated in the Computer Collection Collaborative, asking them a series of 8 questions:

1. What did you like about the Computer collection event conducted by WasteCap and Paragon?
2. What, if anything did you dislike about the Computer Collection event conducted by WasteCap and Paragon?
3. Was this event an efficient way for you to dispose of your computers?
4. Would you have participated in this event if it was not free?
5. Before this event were you aware that recycling your computers is not just environmentally friendly, but is required by law?
6. Other than special collection events like the one conducted by WasteCap and Paragon are you aware of other proper disposal methods?

7. Would you be interested in receiving information on proper electronics disposal methods?
8. Would you be interested in participated in future collection collaborative events with other businesses, even if there was a cost?

Five of the six businesses who participated in the Computer Collection Collaborative event answered the survey. The detailed survey results are attached as an appendix to this final report, but some of the most important data gathered is as follows: When asked if they would have participated in the event if it hadn't been free--four of the five businesses answered probably not or no. When asked if they were aware of other proper disposal methods other than our event--four of the five businesses said no. When asked if they knew that recycling computers was required by law, three businesses said no, one said maybe, and one said yes. And, when asked if they would be interested in receiving information on proper electronics disposal methods- all five answered yes.

Additionally, WasteCap has continued to work to survey businesses not involved in the Computer Collection Collaborative event in an effort to identify areas where businesses run into problems and identify ways which computer recycling and be promoted. This survey is ongoing and final results will not be available upon the completion of this grants cycle. However preliminary results indicate a strong need for business education. Over 75% of respondents to date indicate that they are unaware that recycling their computers is required by law, and over 80% of respondents to date indicate that that they do not know how to properly dispose of there obsolete computers. Results of this survey will be made available to any interested parties upon the survey's completion in April 2005. In addition WasteCap will work with Paragon Development Systems and Cascade Asset Management to publicize the results of this work upon completion of this final report. Findings will be publicized in WasteCap's monthly email bulletin, on WasteCap's website, and in local news publications.

Conclusions

While the 3,708 pounds of electronics recycled is a far cry from what we had originally set out to recycle through this computer collection collaborative effort, the potential for this model to be used in the future, to become self-sustaining, and to have a great environmental impact is significant.

Based on the success of the Oconomowoc Business Park CCC event as well as upon the results of the surveys conducted, WasteCap made the following observations regarding the future of Computer Collection Collaboratives:

One big obstacle to the success of future Computer Collection Collaboratives is clear, education. Small-to-medium sized businesses are not aware that recycling their obsolete computers

is required by law in Wisconsin. This issue came up time after time in WasteCap's discussions with businesses and business park owners and is clearly indicated in the results of both surveys conducted by WasteCap. Unless businesses are aware of the fact that they need to be recycling their computers they are not going to be willing to pay the extra money to get rid of them. Even with the knowledge that recycling computers is required by law, businesses may be unwilling to pay for recycling, as indicated by the results of WasteCap's CCC event follow-up survey. Thus, it is our recommendation that before a Computer Collection Collaborative is attempted again, educational efforts are implemented. Businesses must be made aware that recycling is required, of the penalties of not recycling, and be given the means in which to recycle. Once proper education takes place, then a permanent Computer Collection Collaborative effort may become for feasible.

Another big obstacle to the success of future Computer Collection Collaboratives is the willingness of Business Park Managers to facilitate the collection efforts. It is our intention that WasteCap, or some other entity, would serve simply as a start-up facilitator for Computer Collection Collaboratives. Once the collaboratives are in place, businesses trained, and collections underway, someone else would take over to ensure that the collaborative continues to function as it should. Ideally this would be a business park manager who manages all of the businesses within the collaborative. Minimal work would be required; however one central facilitator is key to keeping a collaborative going. During implementation of this grant, WasteCap found business park managers very leery of taking on this responsibility. However, the development of more detailed materials (based on the successes of our one time collection event) as well as testimonials may be helpful in persuading business park managers to step-up and take on the responsibilities of a Computer Collection Collaborative.

A third obstacle that should be addressed in any future program is the businesses concerns for information security. One main reason that many businesses chose not to participate in the Computer Collection Collaborative event at the Oconomowoc business park was due to concerns that the information contained on their computer would be destroyed in an effective and confidential manner. While in reality this would not have been a problem, as Cascade Asset Management guarantees total and confidential data destruction, it was still a concern that some businesses were not willing to deal with. In the future, particular attention should be paid to calming this concern and again this may be a place where testimonials from past participants may be of particular use.

Collection Collaboratives have been proven as a successful means of recycling all across the country and there is no reason that with further cultivation a Computer Collection Collaborative will not be successful. Even if our trial event not been free, each business would have saved over \$200 through this one collection and by increasing the number of participants the potential savings would

increase even more. By first addressing obstacles listed above, and by proving the savings achieved, WasteCap is confident that future Computer Collection Collaborative events can be an appropriate means for disposing of end of life computers and other electronics.