Study Objective

The Appalachia Ohio Zero Waste Initiative (AOZWI) collaborates with communities to build local wealth and environmental health by increasing waste diversion and supporting the development of a zero waste economy. The AOZWI is coordinated by Rural Action in partnership with the Voinovich School of Leadership and Public Affairs and funded by the Sugar Bush Foundation, a supporting organization of the Ohio University Foundation.

Zero waste is an approach to resource management that conserves, repurposes, and recycles what otherwise would be buried or burnt into valuable assets that contribute to environmental, economic, and social well-being.

As part of the effort to better inform and prepare the Athens-Hocking Solid Waste District (AHSWD) for solid waste management plan renewal, the AOZWI, with collaboration from the Ohio Environmental Protection Agency (OEPA), conducted qualitative case studies regarding recycling and waste reduction management practices in the State of Ohio. The case studies provide a broad overview and review of components of the selected programs. They are not intended to be a comprehensive evaluation of a solid waste district or an entire program. Furthermore, an in-depth analysis would be required before replicating a program to a specific location.

This report will outline the case study process. Sections include a discussion of the qualitative methods, the 11 case study documents, program analysis, key approaches, and an appendix with the research protocol and the interview instrument.

Methods

Preliminary research, with advice and direction from the OEPA, was conducted in order to identify potentially exemplary Solid Waste Districts and/or individual programs. Priority was given to programs with a rural focus, but several of the management programs are housed in more urban districts and are included in this report due to their potential for replication in a rural district.

 Eleven case studies were conducted throughout a five month period, March 2012 to July 2012. Each case study consisted of preliminary contact with the interviewee, a formal invitation to participate, submission of interview question categories for interviewee preparation, and a quantitative demographic and financial information form. The majority of the information was gathered through a phone interview, lasting approximately one hour. Each interview was moderated by a project manager of the Voinovich School with notes taken by a graduate student. Each interview was also recorded for reference purposes. All recordings were deleted afterwards. A research protocol further detailing procedures is in Appendix I.

In order to provide consistency, each interview was comprised of a semi-structured format with a set of specific questions directed at understanding the root of each program or district’s success. The main question categories and sub-categories included: Demographics, Infrastructure/Facility Operations, and
Administration including Organizational Structure, Outreach/Public Relations, Policies, and Goals/Outcomes. The interview instruments are found in Appendix II. The open-ended interview format provided consistency while allowing sufficient flexibility to tailor interview questions to the type of district or program. For example, interview questions regarding the types of materials collected and the collection methods were not asked of programs that do not collect anything.

After interviews, notes were transcribed with the aid of the interview recording. Interview notes were then used to create the draft text of each case study. Each case study follows a specific formula for presenting necessary and relevant information. In each case study, an introductory segment offers a summary of each program or district, program statistics including program diversion rates, job creation, and current financial information. The two major sections of each case study are “What Makes it Work?” and “Nuts and Bolts.” “What Makes It Work” seeks to explore the components of the program that make it successful. These components include such things as the key partnerships that the program maintains, efforts at outreach, and the structure and nature of the management responsible for the program. In the “Nuts and Bolts” section, the details of the program are fleshed out a bit. This section includes discussion of what materials are collected, the required infrastructure, associated costs, and other notable details.

Prior to finalization, each interviewee was given the opportunity to review the final text and provide feedback for accuracy and correct representation of the program. Every effort was made to ensure an accurate portrayal of each program and to highlight what makes the program or district effective. Case studies of the 11 programs follow this discussion.

To identify key approaches of effective programs administered by Solid Waste Districts, content analysis was used to analyze responses to the semi-structured interview questions. Content was analyzed to determine what phrases, concepts, and words were prevalent throughout the participants’ responses. Findings that discuss operational and financial models are based on a review of components of each program, not a comprehensive evaluation of the solid waste district or the entire program.

**Case Studies**

Included in this section are case studies of the 11 recycling and waste management programs examined as part of this study. The case studies are listed in alphabetical order by Solid Waste District name. Included in each case study is a description of the program, a discussion of why the program is effective, such as key partnerships and outreach efforts, and the basic elements of the program, which varies from materials collected and infrastructure to possible applications.
**Figure 1. Table of Programs**

<table>
<thead>
<tr>
<th>Name of Solid Waste District</th>
<th>Program Type</th>
<th>Case Study Program Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown County SWMD</td>
<td>Buy Back</td>
<td>Adams Brown Recycling Buy-back Program</td>
</tr>
<tr>
<td>Butler County RSWD</td>
<td>Pollution Prevention Internship Program</td>
<td>Butler County Recycling &amp; Solid Waste Management District’s Pollution Prevention Internship Program</td>
</tr>
<tr>
<td>Erie County SWMD</td>
<td>Compost</td>
<td>City of Huron Curbside Yard Waste/Compost Program</td>
</tr>
<tr>
<td>Hamilton County RSWD</td>
<td>Incentive Program</td>
<td>Hamilton Country Recycling and Solid Waste District Resident Recycling Incentive Program</td>
</tr>
<tr>
<td>Lawrence-Scioto SWMD</td>
<td>Illegal Dumping Enforcement</td>
<td>Lawrence-Scioto County Joint Solid Waste Management District’s Anti-Illegal Dumping Enforcement Program</td>
</tr>
<tr>
<td>Logan County SWMD</td>
<td>Household Hazardous Waste</td>
<td>Logan County Recycling CHARM Facility</td>
</tr>
<tr>
<td>Logan County SWMD</td>
<td>Pay-As-You-Throw</td>
<td>Logan County Recycling and Pay-As-You-Throw (PAYT) Drop-off Program</td>
</tr>
<tr>
<td>Mahoning County SWMD</td>
<td>University Collaboration Reusables Program</td>
<td>Mahoning County Solid Waste Management District Collaboration with Youngstown State University’s RE:CREATE Program</td>
</tr>
<tr>
<td>Montgomery County SWMD</td>
<td>Reusables</td>
<td>Montgomery County Materials Reuse Facility-McMRF</td>
</tr>
<tr>
<td>SouthEastern SWMD</td>
<td>Rural Education/Outreach Programs</td>
<td>SouthEastern Ohio Joint Solid Waste Management District’s Environmental Education Program</td>
</tr>
<tr>
<td>Van Wert County SWMD</td>
<td>Comprehensive Rural Recycling Program</td>
<td>Van Wert County Solid Waste Management District’s Comprehensive Rural Recycling Program</td>
</tr>
</tbody>
</table>

**Program Analysis**

**Key Approaches**

While it is the goal of the AOZWI to use examples from each case study and discuss their adaptability and feasibility for inclusion in the AHSWD portfolio of programs, this discussion is limited to the overarching themes that surfaced throughout the case study process. These general approaches include: innovative and entrepreneurial coordinators and program administrators, a collaborative approach to program design and implementation, focused community engagement, meeting an identified community need and addressing a documented challenge, and a commitment to long-term program success.

**Approach: Innovative and entrepreneurial coordinators and program administrators**

In speaking with district managers, district coordinators, and program coordinators, it became evident that the passion and commitment of the people involved in these programs are what make all the
difference. The individuals that run the identified programs are committed to their communities and to the success of their programs. As strong recycling advocates, their enthusiasm provides a base for district-wide support and community trust in the efficacy of the programs.

Approach: Collaborative program design and implementation

The collaborative efforts of innovative district coordinators, supportive local community leaders, and eager citizens make these programs successful and strengthen the sustainable future of their communities. It is one thing to have an outstanding recycling program on paper, but it takes a remarkable effort to successfully implement that program. An example of this approach in practice is the Lawrence-Scioto Anti-Ilegal dumping enforcement program. This program would not be possible without support from law enforcement, community members, and the legal system. The enforcement officer is a full-time position under the authority of the District Coordinator with support from the District’s Board of Directors. Over the course of six years the program has gained the support of the county sheriffs, the county prosecutors, and many of the county judges.

Approach: Meeting an identified community need and addressing a documented challenge

All of these case studies identify a specific need in the community and address that need with an effective program. While some of these programs deal with state mandated issues, such as education and illegal dumping and burning, many of these programs stem from local issues. Even if the program ideas did not come directly from the community, residents have come to benefit from and greatly appreciate the programs. An example is the Hamilton County Resident Recycling Incentive Program. By mandating that each community in Hamilton County offer a recycling program, the District ensured that citizens would have access to recycling programs while at the same time offering an incentive for each community to strengthen their own program.

Approach: Focused community engagement

Each of these programs requires the support of the public. If any recycling program is going to succeed, the public must eventually support its continuation. Without community engagement and support, many programs will not make it past the pilot stage. The yard waste and compost program offered by the City of Huron is an example of a program that did not have overwhelming community support during the initial phase. However, over the last several years the program has grown into one that the community encourages and appreciates.

Approach: A commitment to long-term program success

New, innovative programs are vital for increasing access to and use of recycling programs. However, it is the commitment of a district and its policy makers to creating sustainable programs that enable these programs to make a difference in their communities. Logan County and its Pay-As-You-Throw Drop-Off program is an excellent example of a commitment to long-term success. This program requires the District to incur a substantial upfront capital investment to place permanent drop-off locations located throughout the county. The commitment to long-term success is evidenced by the District’s willingness
to fund these locations and the support from the communities who house them. In addition, the yearly increase in the volume of recyclable material collected demonstrates that the public values this program and supports its long-term success.

**How might AHSWD benefit?**

While not every one of these programs will suit the AHSWD, these case studies provide the District with options to begin thinking about what will work best in a rural setting and what will provide the greatest positive outcome for the community. AOZWI has prepared these case studies to aid the policy committee in their continued efforts to determine the type of programs that will have the most positive effect on the District as a whole.
SUMMARY

Adams Brown Recycling (ABR) is a division of Adams Brown Community Action Agency (CAA), a 501(c)(3) non-profit corporation, whose long-term goal is to reduce poverty. One of the functions of the recycling center is to run a buy-back program for non-ferrous metals. There are two buy-back locations, one in Adams County and one in Brown County, with the Brown County location being the largest and primary location. Residents and businesses of Adams and Brown County have the opportunity to sell their recyclable non-ferrous material at both buy-back locations. Conveniently, the Brown County buy-back collection and storage area is attached to the Community Action Agency’s Material Recovery Facility (MRF), which allows for efficient processing of the collected metals along with other types of materials to be recycled as well. It is not typical for a Solid Waste Management District (SWMD) and a Solid Waste Authority (SWA) to operate a buy-back; usually this is seen only in the private sector. The buy-back program, however, started in the early 1980s prior to private sector development. The buy-back program not only puts money back into the community but also provides a revenue system to help subsidize other recycling programs such as the household recycling program that came later, when Ohio’s House Bill 592 was passed.

PROGRAM STATISTICS

- **Program Diversion:** 997 tons of non-ferrous materials
- **Targeted Materials:** non-ferrous materials, which includes items made of or containing aluminum, copper, brass, lead, and zinc.
- **Jobs:** 7 fulltime positions
- **Ownership:** Adams Brown Community Action Agency
- **Year established:** Early 1980s
- Adams Brown Community Action Agency serves the recycling needs of both Adams and Brown Counties in collaboration with the Adams Clermont Solid Waste Management District and the Brown County Solid Waste Authority.
- **Population:** Brown County SWA: 44,846; Adams Co.: 28,550; Clermont Co: 197,363
- **District Diversion Rates:** Brown County SWA: 13.12%; Adams Clermont Joint SWMD: 44.10%

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- **Total Payout to community:** $1,426,151
- **Total program operating costs, including payout:** $1,628,743
- **Sale of Material @ 20% average profit margin:** $1,713,381
What Makes It Work?

KEY PARTNERSHIPS

The Brown County Solid Waste Authority and Adams Brown Community Action Agency are the main partners. Although the Brown County SWA runs the buy-back program, the employees work for the Adams Brown CAA, which contracts with the SWA. The SWA and the CAA pride themselves on their relationships with key stakeholders and their ability to deliver a successful program that has a lasting positive economic impact for the community.

OUTREACH

The District has a full-time education specialist who spends time in schools and with civic groups. They have a large presence at the county fair and in a few media outlets. But mostly, word-of-mouth promotes the use of the buy-back program. All of the outreach is for recycling in general, not specifically the buy-back program. Occasionally they will advertise the buy-back program. The opportunity to sell material for cash has been in existence long enough that minimal promotion is needed.

MANAGEMENT

Staff size on a daily basis is 1-2 buyers, 2 processors, and a “volunteer” or two from Brown County Job and Family Services or the Alternative Sentencing Program. Staff training is a major necessity, especially for the buyers. In order for the buyers to purchase the material at a competitive price, it is important that they be well trained in metals identification and grading. The plant operator and the material marketer are the program’s most important positions. The plant operator oversees the operation of the entire facility, both buy-back and MRF, while the material marketer monitors the end markets in order to compare prices with brokers. It may be necessary to store materials in order to wait for the best market prices. If the markets trend up, the District makes more straight loads, which means holding the material longer and therefore limiting space for additional materials. However if the markets trend down, the District makes mixed loads and sell them more frequently. The more concentrated the load, the more it is worth so straight loads are ideal but this requires space for storage and the money is tied up longer, which could be an issue if the market fluctuates.
MATERIALS COLLECTED
The District collects non-ferrous metals—which are any metals that a magnet will not pick up—and they buy based on a per-pound price, which fluctuates with the end market. Non-ferrous metals include: aluminum, copper pipe and wire, starters and alternators, zinc, magnesium and lead acid batteries. The non-ferrous metals collected are stored in heavy duty, pallet sized, corrugated fiberboard boxes. Buyers are stationed in the buy-back area to minimize interference with the MRF side of the operation. After unloading what someone brings in, they weigh it and the weight will determine the amount of money that is paid for the material. The process requires a significant amount of personal information to be collected from the customers to fight theft.

INFRASTRUCTURE AND COSTS
The District has a steel frame, clear span building that houses the buy-back program and MRF. The buy-back section is an enclosed drive thru, totaling 6,000 square feet, allowing all the unloading to be done inside. Most of the plant does other resource recovery tasks besides the buy-back, so space for storage is an issue. Currently, the program diverts approximately 1,000 tons of non-ferrous materials per year. In terms of costs, starting a buy-back program can be expensive. The biggest issue is cash flow. Most recently, ABR has paid customers $0.58 per pound for aluminum cans and sold 40,000 pound loads, resulting in a tie-up of $23,000 per full load of aluminum cans. Not only is equipment essential for running a buy-back, but it is estimated that at any given time, a buy-back program needs to have at least a $100,000 cash flow. For example, ABR reports at times having up to $300,000 in outstanding balances due to the lag time between shipping materials and receiving payment for it.

POTENTIAL START-UP COSTS:
✦ $5,000-$10,000 Used Forklift
✦ $2,000 Scale
✦ $2,000 Cash Register
✦ $5,000-$10,000 Down Stroke Bailer
✦ $5,000 Miscellaneous supplies such as banding and shrink wrap
✦ $100,000-$300,000 Cash Flow

POSSIBLE APPLICATIONS
✦ Buy-back programs tend to be successful programs in rural areas. In general, if there is 15-20 mile gap between buy back locations, or 20,000 or more people not being serviced by another recycler, this may indicate that a buy-back center would be successful.
✦ Could possibly be expanded to buy back other commodities such as paper.
OF INTEREST

✦ Security against theft is important. Potentially, districts could have many thousands of dollars worth of hard to identify and easily sold metals in their possession.

✦ Space to store materials is also important. For every category of materials that a program wants to market in straight truckloads, approximately a semi-trailer worth of storage space is needed. Most programs underestimate this need.

✦ Residents report being pleased with the cleanliness of the plant and also the friendly, courteous service.

✦ The State of Ohio has passed a new law requiring all buy-back programs to photograph all customers and upload the information to a state-wide database. The photographing is slated to begin in 2013 while the database will go live in 2014. This new law has the potential to increase start-up costs for new buy-back programs and to impede current ones, with software packages estimated to cost $15,000.

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Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.
SUMMARY

The Southwest Ohio Pollution Prevention (P2) Internship Program targets bright, forward thinking engineering students from universities in Ohio and pairs them with Butler County industrial and manufacturing companies for a 12-week summer internship. The interns research and recommend strategies that assist companies in improving operational efficiencies and environmental compliance that often results in cost savings, which help businesses meet or exceed their sustainability objectives. This program provides valuable professional work experience and training to students with the goal of securing talent for future environmental occupation in Ohio while also adding to the capacity of local industry.

PROGRAM HIGHLIGHTS

✦ Industry Savings: in 2011, participating companies reported a cost savings of $140,000
✦ Targeted Audience: Undergraduate Engineering students from universities in Ohio
✦ Jobs: 2 summer interns per year
✦ Year established: 2008
✦ Single County Solid Waste Management District
✦ 2010 Population: 368,130
✦ 2010 District Residential & Commercial Diversion Rate: 24.70%
✦ 2010 District Industrial Diversion Rate: 61.15%

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✦ Program costs approximately $11,000 per year
✦ Intern pay is $11-$22 per hour depending on student seniority and experience
KEY PARTNERSHIPS

There are several key partnerships that contribute to the P2 Program’s success. Butler County Recycling & Solid Waste Management District recruits the students—since the students can come from any Ohio university or college—through a statewide, online database that allows all students in Ohio to screen internships. While students can come from anywhere in Ohio, the companies must be located in Butler County. The major partner in this collaboration is TechSolve, based in Cincinnati. They are a private consulting firm that works with companies on a wide range of industrial and manufacturing issues such as attaining ISO14000 certification. ISO14000 is an environmental certification that demonstrates environmentally sound operations in order to optimize efficiency. TechSolve is a for-profit organization working as the technical advisor and trainer for the P2 interns. They offer the interns consultation and assistance with complex issues that may emerge during the internship period, and TechSolve coordinates and hosts a critical week-long Pollution Prevention training for the interns prior to the start of their employment at the P2 partner industries. TechSolve’s support and involvement in the P2 Internship is underwritten by a grant from United States Environmental Protection Agency, Region 5. The grant is awarded for a term of 2 years, and has been renewed twice since the P2 Program’s inception.

RECRUITMENT

Everyone involved, including the District, the companies, and the students, learn from each other. The goal is capacity building in multiple sectors—increasing professional talent among Ohio’s undergraduate population and demonstrating support for local industry. Company recruitment takes place by contacting the local Chamber of Commerce, attending area meetings, and contacting businesses directly to explain the benefits of the program. Outreach efforts are continued throughout the internship process with a mid-term conference where both companies and interns come together to share information and then an end of the term conference with presentations by the interns about their individual projects and accomplishments.
TARGETED ACCOMPLISHMENTS

Many solid waste districts tend to focus their waste reduction and diversion efforts on the residential and commercial sectors, leaving a programmatic deficit in the industrial sector. The P2 Program addresses this deficit by helping industries meet their environmental and operational needs at minimal cost. Also, local engineering students need opportunities to cultivate their talent and find opportunities for employment in Ohio. This program is a great entree into professional engineering and problem solving. It helps participating students put their knowledge and experience together as part of their professional development.

INFRASTRUCTURE AND COSTS

The United States Environmental Protection Agency, Region 5 has funded the program with three grant awards since 2008. The 2-year grant awards underwrite the training provided by TechSolve. Butler County Recycling & Solid Waste District is responsible for internship compensation and program promotion. The District covers 75% of the intern’s salary while the companies are responsible for the remaining 25%. This employment process relies on a substantial commitment from the partner industries as participating companies need to provide supervision and a commitment to work with and mentor the P2 interns.

POSSIBLE APPLICATIONS

✦ For a program such as this to succeed in any location, there needs to be a critical mass of private sector industries. A smaller community might be able to modify this program to include smaller industries, but any company needs to have the funds and time to foster an intern.

✦ Along the lines of tailoring this program to more rural areas, it might help to expand the recruitment beyond technical majors and hone in on the kind of capacity building that is needed in a specific area.

OF INTEREST

✦ The P2 Program fosters strong relationships with industries, which enables the District to meet its waste reduction goals and assists industries in finding sustainable solutions and cutting costs.

✦ Students who excel in the internship often turn into permanent employees after graduation.

✦ Butler County jointly coordinates the P2 Internship Program with Hamilton County Recycling & Solid Waste Management District. Each county funds their own program and pays for the two interns from each county, but they jointly recruit interns, train interns, and conduct a mid- and end-term conference.
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Appalachia Ohio Zero Waste Initiative
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http://ruralaction.org/programs/zerowaste/

Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.
SUMMARY
The City of Huron, located in Erie County, runs one of the few curbside compost programs in the state. What started as a pilot program in the spring of 2009 has grown into a year-round collection of food scraps and yard waste collection for nine months of the year. In 2011, the program diverted over 486 tons of organic material from the waste stream, which amounts to over a third of the city’s total diverted material.

PROGRAM HIGHLIGHTS
✦ Program Diversion: 486 tons of organic material
✦ Targeted Materials: Household food scraps and yard waste
✦ Ownership: City of Huron through collection contract with Fultz and Son, Inc. (FSI Disposal).
✦ Year established: 2009
✦ Population: 7,149 (3,100 households)
✦ Erie County Diversion Rate: 29.57%

FINANCIALS-2011
✦ Cost to resident for compost program: $80 per year
✦ Cost to FSI Disposal: $25 per ton
What Makes It Work?

KEY PARTNERSHIPS

The City of Huron contracts its curbside yard waste/compost program to FSI Disposal. The contract stipulates that all yard waste collected within the city will be recycled at a compost/yard waste facility in Erie County. Conveniently, Barnes Nursery and Compost Facility is located in Erie County and has partnered with FSI Disposal and the City of Huron for over 15 years.

OUTREACH

Erie County Solid Waste Management District provides pamphlets and educational materials to the public to create better awareness about the program. The District also delivers educational programs in schools and to community groups.

MANAGEMENT

The City of Huron contracts with FSI Disposal to haul all of the city’s trash, organics, and recyclables. A public vote every five years determines if the contract will be renewed. While participation by residents is voluntary, once a resident chooses to participate in the program, they cannot opt out until the next public vote.
MATERIALS COLLECTED

All yard waste and food scraps, except dairy products, are collected. Residents combine the food scraps with yard waste in a paper bag that is purchased in addition to the compost pick-up fee. Since the food scraps and yard waste are combined, all material goes directly into the compost pile at Barnes Nursery and Composting Facility.

INFRASTRUCTURE AND COSTS

The total cost to participate in the city’s waste, recycling, and compost program is $220 per year. This is approximately $100 less a year than most residents throughout the county pay for trash removal alone. The key to this low cost is the proximity of the compost facility and the willingness of the hauler to make the program affordable. FSI Disposal had to purchase a special type of truck to haul organics, which contain a lot of water. The three types of material (waste, recycling, and organics) requires three rounds of collection.

POSSIBLE APPLICATIONS

✦ To encourage participation, Solid Waste Management Districts can create a “pay as you throw” waste disposal program that would provide a financial incentive for composting. Currently, Huron’s waste contract is a set fee per container. Establishing a “pay as you throw” program would provide an incentive for residents to minimize these costs by composting and recycling.

✦ Curbside compost pickup might be more applicable in urban areas where backyard composting is not possible.

OF INTEREST

✦ This program was the first curbside compost program in Ohio.

✦ FSI Disposal and Barnes Nursery and Composting Facility received a grant from the Ohio Environmental Protection Agency in the amount of $260,000 to start the organics program. Half of the funds helped FSI Disposal buy a new truck for the collection of organic material and the other half helped Barnes Nursery purchase composting equipment.
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Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University
for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.
SUMMARY
The Resident Recycling Incentive (RRI) program started in 1993 as a program to encourage and reward communities for starting curbside recycling programs. Hamilton County Recycling and Solid Waste District (RSWD) offered communities with a curbside program a flat rate per ton of residential material recycled. In 2007, however, the District revamped the program by creating a reward system. The higher the rate of diversion, the more dollars per ton a community receives. This has increased the diversion rates in many communities. The District distributes $1,050,000 a year in incentive funds to communities for their recycling programs. This is funded through tipping fees, primarily from one municipal solid waste landfill in Hamilton County. The incentive funds can only be used by communities for recycling related expenses, including outreach, education, and subsidizing curbside recycling programs.

PROGRAM HIGHLIGHTS
✦ Program Diversion: Approximately 35,000– 45,000 tons of recyclable material per year
✦ Targeted Materials: All recyclable material in Hamilton County
✦ Jobs: 5% of 1 Job
✦ Ownership: Hamilton County Recycling and Solid Waste District
✦ Year established: 1993
✦ Single County Recycling and Solid Waste Management District
✦ Population: 802,374
✦ 2010 District Residential/Commercial Diversion Rate: 39%

FINANCIALS-2011
✦ Hamilton County’s total RSWD budget: $2,888,243.94 (includes personnel costs)
✦ Approximately 5% of a fulltime employee’s time is spent administering this program, or ~$2,200
✦ The RRI program has a budget of $1,050,000 which is ~35% of the total budget
✦ The RRI program payout in fiscal year 2012: approximately $30/ton
KEY PARTNERSHIPS

The RSWD Policy Committee supports an aggressive incentive program for the District. The District aspires to generate “zero waste.” This means a 90% diversion of residential and commercial material from the waste stream. The District works with private sector haulers and local community-run recycling programs to achieve this goal.

OUTREACH

Hamilton County RSWD has an advertising budget for each of its programs, including the RRI. However, instead of advertising to increase awareness about the program, the money is spent in communities with low diversion rates in order to increase recycling tonnages. They send out postcards and use press and social media. In the fall of 2012 they launched a county-wide marketing campaign that included radio, billboard, direct mail, and online elements. A portion of the outreach budget goes to the Target Communities Program, which targets communities with a 10% or lower diversion rate.
COST
Hamilton County RSWD pays $12-$34 per ton, based on the reward scale, for recycled material. This system was put in place in 2007 after research showed a loss of incentive as evidenced by a plateau of the residential recycling rates. Since the revamp of the program, which includes providing more funding for communities, residential recycling rates have increased. In 2007 the average recycling rate was 9.8%. In 2011 the rate made a modest increase to 14.41%. The payback rate ranges from only $160 to $448,000 per year.

TARGET COMMUNITIES
The District picks one to two low performing communities a year to work with in order to help bring up diversion rates. The District approaches them—usually those with diversion rates below 10%—and asks if they would like to work with the District to put together a plan, mostly focused on outreach, to increase rates. Sometimes the District agrees to fund a drop-off center for one year if the community takes over its management. While the plans vary depending on the community, there are a few constants: direct mail, group presentations, and school education/outreach.

POSSIBLE APPLICATIONS
✦ This program could be applied in a county or district where the private sector infrastructure is already in place. Hamilton County RSWD does not compete with the private sector; instead they are working with the private sector to increase the amount of recyclables processed.
✦ The program could also work in a county or district where there is a history of political support. An incentive program involves giving away money, which is an action that has to be supported from the top.

OF INTEREST
✦ When it comes to an incentive program, it does not have to cost a fortune. A community can be happy with any amount of money that they receive from their recycling efforts.
✦ The State mandated diversion rate of 25% is an outdated number. Hamilton County has a rate over 35%, and thinks that the State might want to revisit the mandated rate and increase it to reflect the changing times.
For more information please contact:
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Appalachia Ohio Zero Waste Initiative
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Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University
for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.
SUMMARY
The Lawrence-Scioto County Joint Solid Waste Management District (SWMD) has one of the most successful rural, anti-illegal dumping enforcement programs in the state. In the six years since the program’s inception, there has been a major improvement in the cleanliness of the two counties and an ongoing change in the mindset of the public. The program is run by the SWMD’s enforcement officer. While the officer is an employee of the District, one of the keys to the program’s success is the officer’s commission by each counties sheriff, giving the officer full jurisdiction in both counties. Through a hard-earned, multifaceted collaboration, the Lawrence-Scioto Solid Waste Management District enforcement officer works to uphold the law.

PROGRAM HIGHLIGHTS
✦ Program Diversion: In 2011, 136 cases were investigated. 64 cases were tried in court, in favor of the District, while 72 cases were successfully resolved outside of court.
✦ Targeted Materials: Illegal dumping
✦ Jobs: 1
✦ Coordination: Lawrence-Scioto Solid Waste Management District
✦ Year established: 2006
✦ 2010 Population: 139,078, two-county district with 14 Townships
✦ 2010 District Diversion Rate: 12.07%

FINANCIALS-2011
✦ Landowners pay $12 a year for all of the District’s recycling services, including the enforcement program.
✦ The enforcement program comprises approximately $70,000 of the District’s total annual budget. This includes the officer’s salary, fringes, and supplies.
What Makes It Work?

KEY PARTNERSHIPS

This program would not be possible without support from law enforcement, community members, and the legal system. The enforcement officer is a full time position under the authority of the district coordinator with support from the District’s Board of Directors. Over the course of 6 years the program has gained the support of the county sheriffs, the county prosecutors, and many of the county judges.

OUTREACH

The District also employs a fulltime educator whose main focus is in-school presentations. Approximately 50% of the educator’s total presentation time is devoted to discussion of litter prevention and illegal dumping and burning. By teaching children about litter prevention and illegal dumping, it is the hope that they can help change the mindset of the local population in regards to what is right and wrong when it comes to proper waste disposal and recycling. Students really react positively to physically cleaning up their surroundings and it helps them become aware that litter is an issue.

MANAGEMENT

The enforcement officer is commissioned by the sheriffs of both counties; however the officer is an employee of the SWMD and is completely under the authority of the district coordinator. The officer’s sole responsibility is the enforcement of illegal litter issues. The enforcement officer also has access, granted by Sheriff Jeffery Lawless’ department of Lawrence County, to the Ohio Attorney General’s website, which contains personal information, such as license plate numbers and warrants for arrest. The officer can use this highly sensitive information against offenders.
**INFRASTRUCTURE**

As an employee of the District, the enforcement officer drives a vehicle that belongs to the SWMD and it is labeled: Solid Waste District Enforcement Officer. The vehicle is equipped with lights and a siren. Lawrence County donated the radio that allows the officer to be in contact with the sheriff departments. The enforcement officer also has handheld radios that allow contact with the District office. If someone calls the department with a complaint, the officer can be notified immediately. Other equipment includes three motion detectors with wireless cameras that allow the officer to download pictures to a laptop, a tape recorder, a handheld evidence camera, binoculars, and a firearm. The enforcement officer usually handles two to three calls a day for enforcement issues. All cases are called in by the public; the officer does not patrol looking for infractions.

**CASE MANAGEMENT**

The most common offences are open dumping, such as litter and trash out back doors, and trash burning. It is not mandated that you have to have your trashed hauled in the two counties. The cases are tried in a combination of municipal and common pleas courts. Littering and clean air violations are for municipal court, while open dumping is a felony and is tried in a common pleas court. A typical sentence for a dumping violation, especially from Judge Capper of Lawrence County, is $250-$500 in fines, $200 in court fees, $106.32 restitution, which is paid directly to the SWMD, 12 days in jail or 30-60 days of community service, and 1 year of probation. Community service is often served with the District’s Litter Control Crew. Such a good relationship with the judicial system means that the Districts usually get what they ask for in terms of retribution from offenders. If the offender is taken to court and is convicted of illegally dumping, in addition to the hefty fines, jail time and community service, the offender also has to clean-up the infraction to the satisfaction of the enforcement officer who reports back to the presiding judge.

**POSSIBLE APPLICATIONS**

✦ Illegal dumping is a major issue in most rural counties. While most SWMDs are trying to do something about it, cleaning up the environment and changing the mindset of the public takes a commitment from all local stakeholders.

✦ This type of program might be very useful in an area that does not mandate trash hauling.

**OF INTEREST**

✦ Under Ohio Revised Code the law states that one can dispose of material generated on one’s own property, such as grown “vegetation,” however, anything else that is discarded is considered litter. If someone else dumps something on one’s property, even if the property owner does not do the dumping, the property owner is responsible for breaking the law.

✦ The District does not have a landfill; therefore there is no generation fee to fund recycling programs. Instead, the District is funded through a property tax line item that exists on any newly acquired or improved piece of property. Landowners pay $12 per year for all the District’s recycling services, including the enforcement program.
ACKNOWLEDGEMENTS

Lawrence-Scioto County Joint Solid Waste Management District would like to acknowledge its staff and partners that make this program a success. County Prosecutor J.B. Collier, Jr. and his staff: Brigham Anderson, Mac Anderson, Bob Anderson, and Jeff Smith, are pivotal partners in the program as they prosecute all illegal dumping cases in Lawrence County. Lawrence County Judge—Judge Donald Capper—is also a supporter of the program, and is often the presiding judge for the illegal dumping cases. He is also a supporter of the District’s other programs, often as a volunteer for such things as litter clean-ups.

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Appalachia Ohio Zero Waste Initiative
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SUMMARY
The Logan County Solid Waste Management District (SWMD) operates a Center for Hard to Recycle Material (CHARM). As a convenient drive thru, CHARM provides an outlet for residents to recycle or properly dispose of Household Hazardous Waste (HHW) and other hard-to-recycle items. This has become a more affordable and effective option than occasional large-scale collections because it allows the rural county to recycle difficult materials throughout the year with low maintenance, little staff time and few expenses. Although the HHW drop-off is limited to residential customers, other types of hard-to-recycle materials are accepted from small businesses, schools, farm operations, non-profit groups, churches, and governmental agencies. In 2007, Logan County passed a resolution to become zero waste by 2020. This means a 90% diversion of residential and commercial material from the waste stream. Prior to expanding infrastructure with state-of-the-art drop-off locations, a material recovery facility, and CHARM, Logan County’s diversion rate was 18%. In 2011, Logan County had a commercial and residential diversion rate of 41.77%.

PROGRAM STATISTICS
✦ 2010 Program Diversion: 24.93 tons
✦ 2011 Program Diversion: 60.40 tons
✦ Targeted Materials: Household Hazardous Wastes, electronics, batteries, scrap tires, used oil-based paints, used motor oils, and mercury devices
✦ Ownership: Publically owned and operated by the Logan County SWMD
✦ Year established: 2009
✦ Single County SWMD
✦ 2010 County Population: 46,582
✦ 2010 District Diversion Rate: 41.77%

FINANCIALS-2011
✦ Revenue: $8,280.80
  - Fees for material collection: $7,008.65
  - Lead-acid battery recovery: $854.90
  - Used oil recovery: $390.00
  - Cell phone recycling: $27.25
✦ Expenses: $15,663.59
  - HHW Disposal: $5,415.44
  - Scrap tire recycling: $2,744.00
  - Florescent light recycling: $824.36
  - Mercury Recycling: $1,175.00
  - Household battery recycling: $2,069.40
  - CHARM flyers & receipts: $482.39
  - Advertising: $375.00
  - Equipment & supplies: $450.00
  - Personnel: $2,128.00
✦ Net Cost to Run CHARM: $7,382.79
KEY PARTNERSHIPS

The primary relationships that make CHARM so successful are the connections between the District and the companies it contracts with to recycle material. A few of the companies have worked with the District since the beginning of the program, while other providers have changed due to fluctuating markets, regulations, and funding. R & R Tire Disposal of Lima supplies CHARM with a semi-trailer that is left on the premises for the entire season. By charging so much per ton of material for whatever is on the trailer, R & R Tire Disposal has allowed the District to vary the cost of tire disposal for customers based on the size of the tire. The District’s prices are approximately half of what commercial tire companies in the area charge. Halo Environmental of Springfield is contracted with the District to pick up used motor oil, for which they pay the District 20 cents a gallon, and then refine the oil to be used again. Halo Environmental is flexible and convenient, and will also take used gas and other automobile fluids at no cost. Warehouse Energy of Columbus is the District’s battery contractor. They pick up lead acid batteries from automobiles and gel batteries, and pay the District 20 cents per pound. In 2012, the District contracted with Green Star Recycling of Indiana for electronics. Green Star Recycling provides the storage space, skids, yard boxes, and transportation while paying the District 1.5 cents per pound for all electronics. The District has gone to a year-round drop-off option for electronics that has resulted in the collection of over 100,000 pounds in its first eight months. This is a significant increase from the year before. The District also stores donated construction materials for Habitat for Humanity of Logan County and will also work with customers to find outlets for materials that CHARM cannot accept.

OUTREACH

There are several components to the District’s outreach program, including a well-established and strong recycling program in the schools, a digital comment box, frequent staff interactions with the public and regular distribution of fliers. Radio ads introducing the concept to residents were particularly important at the program’s onset and continue to be a vital outreach tool. The District has included a new section on their website titled “What do I do with…” that outlines the available recycling avenues for materials the public has asked about. The District also makes sure that all of the local scrap businesses have CHARM brochures to handout to direct people in their recycling needs. The District has worked hard to make recycling a safe and enjoyable experience.

MANAGEMENT

CHARM is located on the same property as the Logan County Material Recovery Facility (MRF), leading to efficient turn-over of recyclable materials. In 2011, CHARM was open 14 days—alternating between Wednesday afternoons (4pm to 7pm) and Saturday mornings (9am until noon). Unlike most Solid Waste Districts, which focus on one to two large collections a year of hard-to-recycle materials, Logan County has created a system where at least some material is collected all year, such as electronics, and stored until ready for transport. This system provides residents with ample access to collection, is low maintenance for the District because the storage is in place, and the collection of the materials provides a small amount of revenue for the District as well. This type of system is also cheaper to operate than the one-day mass collections that take place in other districts, making CHARM an all-around benefit for Logan County.
MATERIALS COLLECTED

The Logan County CHARM is one of the most comprehensive hard-to-recycle material collection facilities in the state. HHW can only be collected from households due to Ohio Environmental Protection Agency rules. Subcategories of HHW include: cleaning and garden products, chemicals, and health care products. There is a $0.25 per pound fee for recycling HHW. Electronics, however, can be collected every day at the District Office or at CHARM during operating days and hours. The only fee associated with electronics collection is a $10 fee for televisions. All batteries are accepted at no cost. Scrap Tires are also collected, though residents may only transport nine tires at a time without an Ohio Transporter’s License. There are fees associated with tire drop-off, depending on the size of the tire, ranging from $1.50 to $25 each. Oil-based paints, including spray paints in cans, stain, varnish, shellac, turpentine, mineral spirits, linseed oil, water sealant and used vehicle fluids such as motor oil, brake fluid, antifreeze, and transmission fluid, are accepted for recycling. There is a $0.25 per pound fee for paints while used vehicle fluids are free. Rounding out the comprehensiveness of this program is the collection of mercury containing devices. These devices—such as thermometers, barometers, mercury switches, and mercury-containing batteries—are all accepted at no charge. In terms of employee management, CHARM is supervised by one, fulltime district employee. This allows for consistent workflow and supervision. For each day the facility is open, assistance is also provided by “volunteer” workers from Municipal Court and Employment Services. In 2011, 392 work hours were required to operate CHARM.

INFRASTRUCTURE AND START-UP COSTS

The drop-off process is convenient; it is open rain or shine since it is a covered drive thru facility. The building is a stand-alone, open-air unit, with CHARM covering 2,500 square feet. No reservations are necessary; one simply drives to CHARM and follows the route marked with traffic cones on the property. Workers unload the material from the vehicle, weigh materials that have associated per pound fees, receive payment (if applicable), and provide customers with receipts. While the flow of operations is important, there are other pieces of infrastructure that are required to run a smooth operation. Luckily, most of the large items, such as storage trailers and pallets, are provided by the contracted companies that pick up the materials. In order to ship any hazardous materials, they must be packaged according to standards set by the U.S. Environmental Protection Agency. The District uses polypropylene 55 gallon barrels, fiber barrels, pallets, and lined boxes for shipment of most materials.

POSSIBLE APPLICATIONS

✦ The comprehensiveness of this program could be enhanced with the collection of white goods, such as appliances. Other districts, such as Brown County, provide for the collection of appliances and include Freon removal at no charge.

✦ A large facility that has ample space for storing reuse materials could also broaden the scope of a hard-to-recycle materials program.
OF INTEREST

✦ The total number of vehicles CHARM is seeing has decreased in the first part of 2012. This is thought to be because of the new system for electronics drop-off, which includes the ability to drop-off electronics when the District office is open.

✦ In 2006, the District reports that the HHW program cost over $46,000 and captured only a fraction of the available material. With the opening of CHARM in 2009, that cost has dropped to only $7,382.79 in 2011.

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SUMMARY

The Logan County Solid Waste Management District (SWMD) operates a system of recycling drop-off locations strategically located throughout the county. Citizens can bring traditional household recyclable items and household trash to these locations for disposal. Recyclables are deposited in clearly marked roll-off containers. Specific Pay-As-You-Throw (PAYT) trash bags can be purchased at an on-site vending machine or at area grocery stores. These bags can then be used to dispose of household trash in the PAYT, on-site dumpster. These green trash bags cost $2.00 each, and over $150,000 worth of bags was sold in 2011. An on-site surveillance system monitors the site for illegal dumping. There are also local citizen monitors, who are paid $100 every three months for three visits per week, to alert management electronically about drop-off site issues or deficiencies. There are 14 drop-off locations in Logan County and each is open 24 hours a day, seven days a week. In 2007, Logan County passed a resolution to become zero waste by 2020. This means a 90% diversion of residential and commercial material from the waste stream. Prior to expanding infrastructure with state-of-the-art drop-off locations, a material recovery facility, and a Center for Hard to Recycle Material, Logan County’s diversion rate was 18%. In 2011, Logan County had a commercial and residential diversion rate of 41.77%.

PROGRAM HIGHLIGHTS

- **Program Diversion:** 2,520 tons in 2011
- **Targeted Materials:** Household recyclables and household trash
- **Jobs:** 8
- **Ownership:** Publicly owned and operated by the Logan County SWMD
- **Year established:** 2007
- **Single County SWMD
- **Population:** 46,189
- **District Diversion Rate:** 41.77%
- Program open to residential and business customers as well as tourists visiting the area

FINANCIALS-2011

- **PAYT Revenue:** $159,840 (green bag sales)
- **PAYT Expenses:** $53,362
- **Total PAYT Revenue:** $106,478
KEY PARTNERSHIPS

Logan County uses citizen monitors to keep an eye on drop-off locations, including reporting when it is time to exchange roll-off containers and if there are any other site issues such as illegal dumping, litter, or vandalism. The camera surveillance system records license plates and the general vicinity of the drop-off sites so that daily activities can be tracked. If the need arises, the SWMD has a special relationship with the county prosecutor that aids in expediting illegal dumping cases caught on camera.

OUTREACH

There are several components to the District’s outreach program, including a well-established and strong recycling program in the schools, a website comment box, staff interactions with citizens at public events, and routine fliers. Radio ads introducing the concept to the public were particularly important at the program’s onset and continue to be an important outreach tool. There is also an incentive program through which any community with a drop-off site now gets $5/ton for diverted recyclables. Encouragement from the public comes in the form of positive feedback concerning the cleanliness and attractiveness of the drop-off sites, along with appreciation for a reduced trash bill. The District has worked hard to make recycling a safe and enjoyable experience.

MANAGEMENT

The drop-off program works in concert with the MRF that is owned and operated by the Logan SWMD. Logan SWMD transports roll-off containers and processes recycled materials. The sale of processed recyclables has helped to pay for the recycling and PAYT drop-off program. A major component of the Logan SWMD management philosophy is the concept of social marketing—engaging with the community, explaining the concept of zero waste, the drop-off program, PAYT trash disposal, and listening to what the community wants. Another important factor in the success of this program is Logan SWMD’s attention to detail and aesthetics in building and landscaping each drop-off location. These sites are far from resembling tin cans in an abandoned parking lot. Each site is landscaped to resemble a park or garden, making the trip to the recycling center a pleasant and enjoyable one. The program works so well that approximately 60% of the total diverted material in Logan County comes from the drop-off locations.
MATERIALS COLLECTED
Recycled materials include paper products (magazines, newspaper, and paperboard), corrugated cardboard, #1 and #2 plastics, aluminum cans, bi-metal cans, plastic bags, and household batteries, while PAYT dumpsters collect household trash in green PAYT bags.

INFRASTRUCTURE AND START-UP COSTS
Each site is situated on a concrete pad ranging from 4,000 to 6,000 square feet and includes three 30-yard roll-off containers. Each container costs approximately $4,695. There is one for cardboard, one for all other fibers, and one for containers such as bottles, cans. Locally made signs differentiate the containers. Each site also has one to three rented dumpsters for PAYT trash bags and a PAYT trash bag vending machine in a covered shed that is also used to hold deposited batteries, plastic bags, and to house the surveillance system. The vending machine and shed cost approximately $6,700. There are also several 60 gallon recycling containers for elderly and handicap use, along with four cameras, one to captures license plates and the other three to monitor general site activity. The monitoring equipment and lighting at each site is worth $5,000 to $7,000. Each drop-off location costs approximately $60,000-65,000 to construct.

POSSIBLE APPLICATIONS
✦ Multifamily housing units and apartment complexes, which are generally underserved, could benefit greatly from in-house recycling drop-offs and PAYT vending machine for trash bags.
✦ Tourist areas without permanent waste collection are ideal locations for a PAYT system.
✦ Rural locations without access to curbside waste or recycling collection are prime candidates for PAYT drop-off sites.

OF INTEREST
✦ On average the District diverts 3,000 tons (including curbside, not outlined here), which is processed at the local MRF operated by the SWMD. The revenue from the sale of materials offsets the cost of the program.
✦ Vandalism and theft, such as broken vending machines and stolen money have been an issue. A credit-card system is now in place at eight sites to eliminate the use of cash.
✦ Residents report they save as much as $175.00 annually on waste disposal costs.
For more information please contact: Alan Hale, District Coordinator, Logan County Solid Waste Management District
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SUMMARY

Youngstown State University’s (YSU) re:CREATE program, although run independent from the Mahoning County Solid Waste Management District (SWMD) Green Team, is the brainchild of the District’s director. Seen as an innovative way to increase recycling, reduce waste, and save money, the re:CREATE program connects YSU and the community. The re:CREATE program is a materials reuse program that allows donors to give useful materials and receivers to take items that might have otherwise ended up in the landfill. This is done through a direct materials exchange that takes place between parties with the aid of the re:CREATE materials listserv, through the re:CREATE room, which is housed at the Mahoning County Habitat for Humanity ReStore and through community exchange events. This program thrives on unique collaborations and is seen as a benefit to the entire community.

PROGRAM HIGHLIGHTS

✦ 2012 Program Diversion: Residential/Commercial 591 tons, Industrial 1,775 pounds
✦ Targeted Materials: Useful, reusable materials
✦ Jobs: 2, a full-time re:CREATE Program Manager and a part-time student position
✦ Ownership: Youngstown State University through a grant from Mahoning County Solid Waste Management District Green Team
✦ Year established: 2000
✦ Single County Solid Waste Management District
✦ 2010 Population: 238,823
✦ 2010 District Diversion Rate: 32.36%

FINANCIALS-2011

✦ Green Team Grant: $40,000
  ◆ Dedicated to personnel costs of Program Manager
KeY PArtNErSHIPS

YSU’s re:CREATE is a contract program with SWMD’s Green Team. What started as a student-run endeavor that benefited only nonprofit organizations and schools has turned into a fully grant-funded program that helps the entire community. The Green Team provides the funding and the guidance while YSU provides program housing, support, and a student worker. Another key partnership is with Mahoning County Habitat for Humanity, which provides free space in their ReStore building for the re:CREATE room. The room houses the materials, which can generally be used for crafts, such as materials sought by teachers. All material is free and the room is open to the public. Also, township-level recycling coordinators, who are paid through a grant from the Green Team, join the re:CREATE program manager to organize donation and material swap events in their communities.

OUTreach

Outreach is done to inform the public about the program, such as when the re:CREATE room is open, and when there will be community donation events. Much of this outreach is done by word-of-mouth, but also through emails, online newsletters, fliers, and press releases. The individual community recycling coordinators play a large role in the outreach effort. They help to get the word out about community donation events and know first-hand how their communities get their news.

MAMEnT

The re:CREATE program is managed by a fulltime YSU employee. Moving from a student-run program to a permanent position-run program has allowed the program to expand far beyond the boundary of YSU. The overarching goal and management philosophy of the program is to divert usable materials from landfills, conserve natural resources, and save money on disposal and supply costs. All of those involved, from the program manager, to YSU’s recycling coordinator, to the Green Team, are dedicated to making a lasting, positive impact on the waste stream in Mahoning County.
MATERIALS COLLECTED

The key to the re:CREATE program is accepting materials for exchange that no other organization or group in the area takes. How the material is donated and/or distributed depends on the type of material. There are three avenues for exchange of materials. The re:CREATE program houses a materials listserv where interested parties can advertise excess materials to give away or make a request for certain needed materials. The listserv is primarily for use by industrial entities, but is open to the public. In terms of the re:CREATE room, while clothing is better placed at local thrift stores, egg cartons and other craft materials are staples. That being said, all useful, reusable materials are accepted at the re:CREATE room. Another option for materials exchange is the community donation and swap events. These events provide outlets for any working household items that community members wish to donate.

INFRASTRUCTURE AND COSTS

The main outlet for materials exchange is the re:CREATE listserv. Since most of the transfer of material is done directly from donor to recipient, there is little infrastructure and few costs. YSU provides office space for the program manager and web-space for the program’s website and listserv. Habitat for Humanity provides free space for the re:CREATE room, which is only open on Saturdays, while SWMD’s Green Team provides the grant for the program manager’s salary and benefits.

POSSIBLE APPLICATIONS

✦ A community with a university or college might benefit greatly from this program as seen in Mahoning County.

✦ It is important to tailor such a program to the specific community. The questions that need to be asked are: what are the reusable materials that are not being dealt with by other organizations, what is best for the local economy, and what organizations already exist in the area that could work together?

OF INTEREST

✦ Although students do not regularly donate to the program, the YSU end-of-the-year “Dump and Run” event supplies the program and other local reuse organizations with plenty of material each year.

✦ YSU art students are huge fans of the program, enabling them to turn unwanted materials into art.

✦ Youngstown State University Recycling and re:CREATE are funded by a $110,000 Green Team Grant.
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SUMMARY
Montgomery County Solid Waste Management District (SWMD) owns and operates a material reuse facility, or McMRF. The McMRF is a facility for Montgomery County to collect reusable materials from over 500 organizations and individuals and then redistribute them to over 600 benefactors. These benefactors must be non-profit organizations from Montgomery County—although donors do not have to be from the county. There is an application process for any 501(c)(3) organization that wants to accept materials. Although there is an application process, the program is free. In 2011, the McMRF processed 350 tons of donated, reusable material.

PROGRAM HIGHLIGHTS
✦ Program Diversion: ~ 350 tons per year
✦ Targeted Materials: Office, classroom, and building supplies
✦ Jobs: 6 fulltime positions
✦ Ownership: Publicly owned and operated by Montgomery County SWMD
✦ Year established: 1998
✦ Single County SWMD
✦ 2010 Population: 535,153
✦ 2010 District Diversion Rate: 17.07%

FINANCIALS-2011
✦ McMRF Expenses:
  ◇ Salaries & Benefits $345,000
  ◇ Supplies: $8,000
  ◇ Contractual Service: $8,000
  ◇ Maintenance: $4,500
  ◇ Communications: $6,500
  ◇ Capital Outlays: $10,000
✦ Estimated annual value of donated material: $300,000
What Makes It Work?

KEY PARTNERSHIPS

The McMRF has strong relationships with area donors. Companies use the McMRF as an alternative to throwing away useable material that cannot be sold. Over 600 non-profits in the county benefit from the program, reducing the need to purchase needed materials. Instead of competing for business with local thrift stores, the McMRF and local thrift stores work together to ensure materials go to the proper place. The McMRF also has a relationship with Wright State University that allows art students to take donated materials for free.

OUTREACH

The McMRF has a Business Outreach Specialist whose primary responsibility is to encourage businesses to participate by teaching them about the program. The McMRF’s governing body, the Solid Waste Advisory Committee, also ensures that donors are recognized for their contributions as they annually host a Top 10 Donor Celebration and award plaques.

MANAGEMENT

The District values direct customer contact and considers engaging with donors and encouraging donations to be a central component of their mission. There is also a high level of quality control that takes place in order to maintain efficient function of the McMRF. This includes a database for tracking material and participating organizations, distributing unwanted material such as clothes to local thrift stores, and requiring that only useful material may be donated.
**Nuts and Bolts**

**MATERIALS COLLECTED**

Materials are collected from individuals, businesses, and solid waste transfer stations within the SWMD. When transfer station workers see items that could be donated, they pull the material out of the waste stream and McMRF employees pick it up. Generally, all material that can still be used is accepted. However, the McMRF has some additional acceptance restrictions; materials that are better suited to other operations are turned away or re-donated.

**INFRASTRUCTURE**

The McMRF is located in a 5000 square foot warehouse containing shelving units to store the donated materials. The McMRF also has three trucks, but prefers not to pick up materials unless necessary. The McMRF employees use a forklift for moving materials and scales for calculating landfill diversion rates. The District is considering expanding the McMRF’s storage abilities—including adding more enclosed space to protect materials from the elements.

**POSSIBLE APPLICATIONS**

✦ Solid Waste Management Districts that have collaborative relationships with local trash haulers could create a similar program. Trash haulers must be committed to keeping useful material out of the waste stream as doing so lowers their tipping fees.

✦ A facility that serves multiple purposes would be the most efficient application of a reuse program. A recycling facility combined with a center for Hard-To-Recycle Materials, and a reuse donation station would serve most aspects of a district’s diversion program.

**OF INTEREST**

✦ The public appreciates the cleanliness of the facility and how well it is organized.

✦ The key to a successful reuse program is a steady stream of in-demand material. The goal is to keep useful material out of the waste stream, so it is important to have high standards for donated material in order to prevent the facility from having to dispose of unwanted goods.
For more information please contact:
Dan Graeter, Assistant Manager, Montgomery County Solid Waste District, McMRF
Montgomery County Material Reuse Facility
2450 Sandridge Drive
Dayton, Ohio 45439
(937) 496-6639

Appalachia Ohio Zero Waste Initiative
Rural Action, P.O. Box 157 Trimble, Ohio 45782
Telephone: 740.767.4938
http://ruralaction.org/programs/zerowaste/

Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University
for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.
SUMMARY

The SouthEastern Ohio Joint Solid Waste Management District’s (JSWMD) Environmental Education Program is a unique effort to educate the area’s youth in all facets of solid waste management. The program is comprehensive in nature, covering a range of recycling topics for kindergarten through 12th grade, and adheres strictly to the state proficiency standards as well as school district curriculum guidelines. Unlike traditional curriculum that focuses only on residential recycling, the JSWMD’s education program is customized to the specific education requirements of each grade level and classroom. For example, high school curriculum focuses on manufacturing, technology, and business operations of the solid waste industry while elementary curriculum focuses on litter prevention. The District has one full-time educator who is a contract employee of GT Environmental, Inc.

PROGRAM HIGHLIGHTS

✦ **Targeted Audience:** School children, grades K-12
✦ **Jobs:** 1 full-time employee
✦ **Ownership:** Curriculum produced initially by the District. Annual updates by GT Environmental, Inc., based on JSWMD’s direction
✦ **Year established:** 2007
✦ **2011 Population:** Serving 6 Counties in Southeastern Ohio for a total population of 232,280
  ◦ Guernsey
  ◦ Monroe
  ◦ Morgan
  ◦ Muskingum
  ◦ Noble
  ◦ Washington
✦ **2010 Residential & Commercial Diversion Rate:** 13.12%
✦ **2010 Industrial Diversion Rate:** 75.30%

FINANCIALS-2011

✦ **2012 Contract fee:** $38,500
✦ **School Fieldtrip costs:** $3,000-$4,000 per year
KEY CONTRACT
The JSWMD works closely with GT Environmental, Inc. in order to provide top-notch solid waste education programs in the schools throughout the six-county District. In a four-year period they have provided almost 20,000 students with educational programming. GT Environmental, Inc. is responsible for employing an educator, and tracking the required education performance standards in order to suggest changes to the curriculum. Over the course of this six-year relationship, some changes to the performance standards have affected the delivery of programs, but there has not been a significant overhaul of the program material.

OUTREACH
Fifteen years ago there were limited environmental services, such as trash hauling and recycling, available in the District. Today, residents have access to a multitude of recycling services. The education program has created a mindset change that has helped to decrease illegal dumping and has worked to inform students of the environmental services currently available. Outreach for the program is done primarily through teachers’ word-of-mouth. Since the presentations are based on the needs of their curriculum and include hands-on learning through site visits, teachers are pleased with the outcome of the program. The program has grown based on the satisfaction of the school districts.

MANAGEMENT
In order to run a six-county JSWMD, each county must receive proportionate services. The counties are entitled to a certain number of presentations a year based on population. The contract with GT Environmental, Inc. is for a minimum of 195 presentations, but the educator usually performs over 200 a year. The program benefits from the District’s reliable education performance standards data and GT Environmental, Inc.’s quality services that conform to the District’s standards and level of service in each county.
PROGRAM DELIVERY

Most of the programs are done in the classroom, but the educator also delivers some programming to civic organizations and community events—such as Earth Day—and conducts some programs at area summer camps. The educator is able to customize presentations and programming to address topics of interest as long as it continues to meet the framework of the education performance standards. The Environmental Education program usually consists of one to two days of classroom instruction followed by a one day fieldtrip to experience hands-on what they have learned.

INFRASTRUCTURE AND COSTS

The program was originally funded by a grant from the Ohio Department of Natural Resources (ODNR) and by the District’s supplemental budget. The District and ODNR provided educators and programs at a combined cost of $276,000 a year. This grant program administered by ODNR, however, ended statewide in 2006 and afterward the District was only able to fund 175 presentations a year. In 2007, to streamline efforts while maintaining quality programming, the District entered into a contract with GT Environmental, Inc. to provide one educator for the entire District. Through the contract, the District is able to provide more educational programming at a reduced cost from previous years. The contract fee is renegotiated annually and in 2012, the District’s contract with GT Environmental was $38,500. This equates to approximately a sixth of the cost from 2006 despite the addition of more programming. As a supplement to the educator, the District also provides funds for fieldtrips to recycling and waste reduction industries. This amounts to approximately $3,000 to $4,000 annually.

POSSIBLE APPLICATIONS

✦ This type of contract could work in any JSWMD’s school districts.
✦ The education and outreach contract system could include services to the broader public that would educate communities and businesses on access to programs and services that could help them reduce waste and increase recycling.

OF INTEREST

✦ Due to budget cuts, the District’s Environmental Education Program is the only program of its kind available to school districts located in the six counties. Between adherence to the performance standards and prioritizing fieldtrips, the school districts are very content with the program.
✦ In addition to school-based curriculum, the content has been modified for presentations to civic organizations.
For more information please contact:
Robert Reiter, District Coordinator
SouthEastern Ohio Joint Solid Waste Management District
515 Main Street, Caldwell, OH 43724-9124
Phone: 740-732-5493
robert.reiter@wasteabate.org
Website: www.wasteabate.org

Appalachia Ohio Zero Waste Initiative
Rural Action, P.O. Box 157 Trimble, Ohio 45782
Telephone: 740.767.4938
http://ruralaction.org/programs/zerowaste/

Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University
for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.
SUMMARY
Van Wert County, one of the most rural counties in the State of Ohio, has one of the state’s most comprehensive recycling programs. The District runs a curbside recycling program, a drop-off recycling program, a drive-thru recycling program, a yard waste compost facility, and a small, yet efficient, Materials Recovery Facility (MRF).

PROGRAM HIGHLIGHTS
✦ Program Diversion: 8 tons of material are processed per day at the MRF
✦ Targeted Materials: Household recyclables, yard waste, and Hard-To-Recycle Materials
✦ Compost Produced: 1,200 tons annually
✦ Jobs: 15 (4 full-time positions, 11 part-time positions)
✦ Ownership: Van Wert County Solid Waste Management District
✦ Year established: 1992
✦ 2010 Population: 26,081
✦ 2010 District Residential/Commercial Diversion Rate: 40.06%
✦ 2010 District Industrial Diversion Rate: 67.84%

FINANCIALS-2011
✦ 2011 Expenditures:
  ✦ Facility Operations Subtotal: $241,014
    • MRF Operation: $168,500
    • Compost Facility: $39,763
    • Recycling Center: $27,201
    • Tire Collection: $2,550
    • E-waste: $3,000
  ✦ Recycling Collection Subtotal: $243,223
    • Curbside: $180,936
    • Drop-off: $52,287
    • Com./Ind./Inst. Collection: $10,000
✦ 2011 Total Revenue: $661,492
  • Assessment Fees: $198,195
  • Designation Fees: $81,982
  • Recycling Fees (Allen Co. & Putnam Co.): $41,524
  • Recycling Revenue: $339,791
What Makes It Work?

KEY PARTNERSHIPS

The District’s Policy Committee provides the most oversight over the recycling program and makes recommendations to the County Commissioners. A local company, City Waste Paper, is also instrumental to the program. City Waste Paper, as the District’s preferred site for cardboard recovery, works closely with the District. City Waste Paper also operates a transfer station and of the recyclable material collected, whatever they cannot process, such as plastics, gets sent to the District’s MRF. As a means to provide cost effective waste reduction for neighboring rural counties, the District also provides drop-off recycling collection and processing services for Allen and Putnam Counties.

OUTREACH

The District focuses its outreach efforts on collection of materials. Their efforts include an informative website, which is maintained by a volunteer, and frequent radio advertisements. They also have an “ongoing events” banner on display, and issue many news releases. Around Earth Day every year, the District hosts an open house, at which they giveaway trees and demonstrate recycling’s impact to residents. They offer tours of their facilities for civic and school groups, but outreach is primarily targeted at the general population.

MANAGEMENT

Balancing all of the programs is a challenge, but the District manages through its fifteen staff members: a fulltime coordinator, a fulltime office support person also capable of field work if necessary, 2 fulltime employees to collect curbside recycling, and 11 part-time employees who process materials at the MRF and collect material from drop-off centers. The MRF processes material 4-5 hours per day.
MATERIALS COLLECTED

The District aims to collect as much recyclable material as possible. Household recyclables, including all plastics, #1-7, are the program’s main focus. The District also accepts yard waste at their compost facility, which produces compost and wood mulch that is sold to the public. The District also accepts Hard-To-Recycle Materials, such as used motor oil, which they use to heat the MRF. The District cannot always take what residents bring, but in order to remain customer friendly, employees try to work with the customer and explain why certain materials cannot be accepted. Of the material collected, most is brokered (sold to the highest bidder). The prices are always changing, especially with high-end materials.

PROGRAM FUNDING

The District’s programs have three funding sources: sales of processed material from the MRF, tax assessments on improved property, and a Waste Designation Fee. Taxpayers pay either $28.66/year/unit on the property for curbside recycling or $6/year/unit on the property for rural drop-off access. In terms of the Waste Designation fee, the District designates seven waste facilities as the only facilities in the United States authorized to accept solid waste generated in the District. Each of these facilities in turn pays the District $5.30 per ton for all solid waste.

POSSIBLE APPLICATIONS

✦ A small Materials Recovery Facility has the potential to defray recycling costs, by reducing transportation costs and cutting out middlemen, of any rural Solid Waste Management District’s recycling programs.

✦ If a District does not have the funds to start their own MRF, these types of programs work well on a rural, regional scale, as seen with Van Wert’s commitment to provide recycling access to its neighboring counties.

OF INTEREST

✦ The large industrial companies in the District do their own brokering of material and many have recycling rates as high as 90%. The District’s goal is to help smaller companies who cannot attract the attention of private brokers.

✦ The District is considering moving to single stream collection, which will make participation easier for customers, but it will cost approximately $300,000 to improve the MRF and possibly require an additional employee.
For more information please contact:
George Brake, Director, Van Wert Solid Waste Management District
1135 North Washington Street
Van Wert, OH 45891-9491
Telephone: 419 238-7767
Fax: 419 238-7244
Email: recyclevw@bright.net
Website: recyclevw.org

Appalachia Ohio Zero Waste Initiative
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Appendix I: Research Protocol for Semi-Structured Interviews

Informants

1. Based on the initial research, the following Solid Waste Districts will be approached for interviews:
   1. Brown County SWMD
   2. Butler County RSWD
   3. Erie County SWMD
   4. Hamilton County RSWD
   5. Lawrence-Scioto SWMD
   6. Logan County SWMD
   7. Montgomery County SWMD
   8. SouthEastern SWMD
   9. Van Wert County SWMD

2. Other Districts may be approached through a self-nomination process in response to a state-wide email invitation.

3. Directors from each of the organizations listed will be approached for interviews, formally invited to participate, and sent a list of interview question categories for preparation and a form for demographic and financial information.

Interview Script

1. A semi-structured interview script will be developed for each director. Interviewees will be provided with a general overview of the project and how the information collected will be used prior to any interview questioning.

Interview Procedure

1. Interviews will be conducted by phone.

2. For those informants unable to schedule a phone interview, responses via email will be accepted. This option will not be initially presented to the informant, but used only when all efforts to initiate a phone interview have been exhausted.

3. Participation in the interview process is voluntary. Informants may choose not to answer any question.

4. Each interview will be digitally recorded in order to supplement interview notes. Interviews will be transcribed. All informants will be alerted to this fact at the outset of the interview.

5. Graduate student research associates will conduct interviews and assist with note taking.
6. All interview responses will remain confidential. Should researchers desire to utilize a direct quote, the informant will be contacted for permission and provided with an opportunity to review their quote and the context in which it will be presented.

7. No interview will last longer than 90 minutes.

8. Informants will be given the opportunity to review case studies for accuracy and appropriate representation of their program.

### Analysis

Data analysis will be conducted by using an inquiry strategy that combines both interviewing and content analysis. Case studies will be written based on interview notes and quantitative information provided.

### Final Report

Information from the case studies will be used in the AOZWI Feasibility Study that will be presented to the Athens-Hocking Solid Waste Management District and given to the OEPA.
Appendix II: Interview Instruments

Quantifiable Data Questionnaire

Page 1:

Please complete this document and return it to us prior to your phone interview.

Name of Facility/Program:

Name of SWMD:

Contact Person:

Email:

Phone Number:

Demographics

How many people (or households with distinction noted) does this facility/program serve?

How was that figure calculated?

What percentage of your political jurisdiction’s (City, County, SWMD) population is this?

Infrastructure/Facility Operations

- Annual percentage of material your program diverts____________________

- Labor Needs: #Full time: ____ #Part time: ____ # Seasonal ____

  Volunteer Labor used: ________________________________
  (ex. Jobs and family services, Correctional)
  Average hourly rate (w/benefits):______ Average hourly rate (w/o benefits):______
  Hours of operation/frequency of program:
## Financials

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## Operating Costs

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<tr>
<td>Utilities</td>
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<td>Supplies</td>
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<tr>
<td>Contracted Services</td>
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<td>Advertising/promotion</td>
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<td>Debt Maintenance</td>
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<td>Leases (specify)</td>
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<td>Equipment Costs/Maintenance</td>
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<td>Legal Fees</td>
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<tr>
<td>Insurance</td>
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<td>Staff Benefits/Fringe</td>
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<td>Other</td>
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<tr>
<td><strong>Total</strong></td>
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## Revenue

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<td>User Fees</td>
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<td>Tipping</td>
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<td></td>
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<tr>
<td>Recycling</td>
<td></td>
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<tr>
<td>Special Pickup</td>
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<tr>
<td>Origination Fees</td>
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<tr>
<td>Contract Revenue</td>
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<tr>
<td>Grants</td>
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<tr>
<td>Other Transfers of $</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
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</table>
Hello my name is ________, a researcher working with Ohio University on the Appalachia Ohio Zero Waste Initiative. AOZWI is coordinated by Rural Action in partnership with the Voinovich School of Leadership and Public Affairs at Ohio University.

The Voinovich School of Leadership and Public Affairs at Ohio University has partnered with Rural Action, a community-based non-profit serving the Ohio Appalachian Region, and Ohio EPA to develop a toolkit of best waste diversion practices, with the intent of increasing waste diversion across the state of Ohio. The toolkit will be made available to solid waste and recycling program administrators.

We are here today to learn about your _____ program. Information gathered in this interview will be shared in a report with Ohio Solid Waste Management Districts (SWMDs), participants in this interview process (you), and other interested parties. The data collected from this interview will be included in a toolkit that will help guide the creation of additional successful waste diversion programs in Ohio. The results will also inform a Zero Waste Action Plan for Athens and Hocking Counties, the AOZWI’s current area of focus.

This research is timely because the state requirement for diversion of materials from the waste stream, as set forth by the Ohio EPA, is 25%. There are still many SWMDs in Ohio that are not meeting that quota. This research will be used in creation of a model that SWMDs can follow to meet or exceed this diversion rate.

Your program has been selected as an exemplary program working towards maximizing waste stream diversion. The Ohio Environmental Protection Agency supplied us with a list of programs that appear to be successful in diverting high rates of recyclables from the waste stream in your solid waste management district.

The purpose of this interview today is to learn about what makes your program such a high performing one. I will be asking you questions ranging from day to day operations, collection methods, facility infrastructure, policy that helped shape your program, best practices, and community engagement.

Thank you for your participation in the Appalachian Ohio Zero Waste Initiative.

Notes that the University asks us to mention:

We will be utilizing a structured interview format today. There are many issues that we feel are important to cover during this interview, so we may interrupt or abruptly change the topic in order to use your time with us most efficiently. We apologize in advance if this should happen and appreciate your understanding.

Your interview should take no longer than 1 hour. Your participation in this interview is voluntary and you may choose not to answer any question.

Each interview that we are conducting will be digitally recorded in order to supplement our notes. Once the study is completed all our digital files will be deleted.

A report of the information collected during this study will be available Spring 2012.
Before we get started, do you have any questions about this information?
Demographics

What political jurisdiction(s) do you serve?

Infrastructure/Facility Operations

- Type of facility:
  Drop-off ____ Curbside ____ Yard waste ____ Organics ____ Hazardous waste ____
  Electronics ____ Appliances ____ Re-useable ____ Custom or Other____________________

- Serving (Primary and Secondary): Residential ____ Commercial ____ Industrial ____
- Materials collected:
- Collection methods:
- Building Description (____ size: ______ age:_____ #bays:_____loading dock:_____)
- Major Equipment:
- Could you give us a brief narrative description of your operation? (a day in the life...)
- What are the end markets for the materials you collect?
- What could improve your current infrastructure or operation?
- What kind of public demand and support for your service is needed to make it viable?

Administration

- Organizational Structure:
  o Is your program run by:
    Public ____ Private ____ Non-profit ____ For-profit ____
    Government agency ____ Other ______________________
  o What kind of governing body provides oversight (adv. bd., bd. of dir., community org.)?
  o To whom are accountable for reporting, data, and financials?
  o What kind of relationship do you have with your Solid Waste District?
  o Are there any collaborative relationships that make this possible? (please list)

- Outreach/Public Relations:
  o Are there educational or outreach components of your program? (If not specifically an educational program)
  o What populations do you target (general public, schools, government, business)?
  o What are your most effective outreach programs and why are these the best?
  o How do you receive feedback from the customer/participants?
  o What is the most common feedback you receive?
What are people most pleased with?
In what areas do they ask for improvement?
Have you ever deployed a survey to your customer base assessing levels of satisfaction about recycling practices? If so would you be willing to share the survey and its results?

- Policies:
  - What local or state policies have assisted your program or service? An example is a City that offers free space for a monthly recycling collection program.
  - Are there any existing policies that you feel hinder your operation from fully benefiting those it serves? What are they?
  - What kind of policies could be developed to further support or increase this program’s use?
  - Who drafted the Solid Waste Management Plan under which your program runs?
    - Incentives / Disincentives:
      Are there any incentives/disincentives offered through your program?
      Examples:
      Buy backs ____ Pay-as-you-throw ____ Tax reduction ____
      Recognition ____ Economic development policies ____ Other _____________
      Are there unique local programs or policies that help your operation?

- Goals/Outcomes;
  - What targets/goals have you set for the program and how close have you come to reaching them?
  - What strategies have you developed to continue to get closer to your goals?
  - How do you envision this program evolving over time?
  - What aspects of the program are the biggest contributors to its success?
  - What do you believe is the greatest obstacle you have overcome?
  - Knowing what you know now, if you were starting this operation today what would you do differently?
  - If someone wanted to duplicate this program in another part of the state, what two or three things would you highlight as the most important to make it successful?
Interview Wrap-Up

That’s it! Thank you very much for your time today Mr./Mrs. __________. I appreciate your help with the Appalachia Ohio Zero Waste Project.

If you would be willing to share, we would greatly appreciate copies of agency documents further explaining the program. If you would be willing to provide them, please email them to Bob Eichenberg, Project Manager, at (740) 597-9030 or eichenbe@ohio.edu or direct us to a website where we might access them.

If we have any further questions or need to follow-up with you for any reason, how would you like us to contact you?
Thank you! Have a good day!