

Recycling Program Improvements

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1 PROJECT DESCRIPTION

Fayette County (County) is located in southwest Pennsylvania and has a population of about 137,000. The County consists of 42 municipalities, including the county seat of Uniontown, that range in size from a few hundred people to over 12,000. The County supports recycling in municipalities by administering a program that provides curbside collection or drop-off recycling services depending on a municipality's needs.

Municipalities that participate in the County-administered recycling program receive collection services from Goodwill Industries (Goodwill). Materials collected by Goodwill through curbside or drop-off recycling services are brought to Goodwill's material recovery facility (MRF) in Uniontown where the items are processed for market. Municipalities in Fayette County are not required to participate in the County-administered recycling program. A number of municipalities have negotiated contracts for recycling collection services with other private waste hauling companies. Of the 42 municipalities in the County, only four are mandated recycling communities by the Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101). These include the City of Connellsville, City of Uniontown, North Union Township, and South Union Township.

This recycling technical assistance project focuses specifically on the current County supported recycling drop-off program. The equipment and containers currently in use are outdated, difficult to use, and inefficient for collection. SCS explored opportunities to upgrade the drop-off recycling collection system to one that adequately serves residents, recovers increased amounts of materials, and is efficient to operate. Additional information is also provided on the education and outreach initiatives to municipalities and residents to promote and encourage proper recycling.

2 SUMMARY OF WORK

This section summarizes the tasks completed as part of this recycling technical assistance project.

Task 1 – Data Collection and Site Visit

SCS requested technical and operational information/data on the County-supported recycling program. SCS conducted a site visit on February 15, 2019 to clarify information provided, observe recycling operations, visit drop-off convenience centers, and tour Goodwill’s MRF in Uniontown. The meeting was used to obtain additional information on the successes and challenges of the recycling program to focus the recycling technical assistance project.

Task 2 – Evaluation of Container Alternatives

This task focused on identifying alternative bins or containers to be used in the County-supported drop-off recycling program. The current “haul-all” collection containers used at many drop-off sites are outdated, difficult to use, and time-consuming to collect. SCS identified drop-off recycling container types that could meet the needs of the County and evaluate the benefits and challenges of the containers. This analysis included recommending container sizes that could be procured so that adequate recycling capacity is provided to each municipality.

Task 3 – Education and Outreach

For this task, SCS reviewed the County’s education and outreach efforts and made recommendations for how it can be expanded to reach more residents. SCS provided some guidance on recycling program operational improvements designed to increase participation and accessibility that the County and Goodwill may consider.

Task 4 – Final Report

This final report includes the observations, research, and recommendations made as part of Tasks 1 – 3 as described above.



Collection vehicle for Haul-All bins



Recyclable materials ready for processing at Goodwill’s MRF



Goodwill’s curbside recycling collection vehicle

3 CURRENT PROGRAM

The County supports two types of residential recycling programs at follows:

- **Curbside** – Curbside recycling services are provided by private waste haulers that service municipalities. This includes Goodwill that collects recyclable materials curbside in two municipalities. Ten additional municipalities have separate contracts with one or more haulers for the collection of recyclable materials. The County is not involved in nor does the County support these municipal contracts. Curbside collection of recyclable materials occurs in these municipalities either once or twice per month depending on each community's arrangement with their hauler. The curbside recycling programs vary from one municipality to the next; however, most curbside programs collection materials single stream.
- **Drop-Off** – The drop-off recycling program includes locations to serve mainly residents in municipalities without access to curbside recycling services. Most municipalities participating in the drop-off recycling program have designated one location to serve as a drop-off point for recyclable materials. Some municipalities have established multiple drop-off sites. Most drop-off recycling sites include large “haul-all” bins for the collection of recyclable materials. Materials are collected single-stream by Goodwill and brought to Goodwill's Material Recovery Facility (MRF) in Uniontown for processing.

The County subsidizes the recycling programs provided by Goodwill for \$120,000 annually. Despite this support, Goodwill recently implemented a fee structure to cover the cost of providing their curbside services to residents. This caused some municipalities to withdrawal from Goodwill's curbside collection program.

4 RECOMMENDATIONS

This section provides recommendations for improving the County's recycling program.



Haul-All bins at recycling drop-off center



Drop-off recycling at Goodwill's MRF

Program Type

Many factors influence the type of recycling program a community will implement. Factors such as population density, participation levels, and cost are important considerations that must be evaluated. Adding to these conditions is the current recycling market that has resulted in reduced revenue and increasing costs to operate recycling programs. Despite the current conditions for recycling, diverting materials from disposal results in a number of community and environmental benefits. The County maintains both curbside and drop-off recycling programs. **Table 1** summarizes the type of recycling program serving each municipality in the County along with the population of each municipality based on the most recent U.S. Census Bureau's estimates.

Table 1. Summary of Municipal Recycling Programs and Population Estimates

Curbside Recycling					
Brownsville Borough	2,249	Brownsville Township	683	Connellsville City*	7,368
Connellsville Township	2,272	German Township	4,892	Masontown Borough	3,322
Newell Borough	520	North Union Township*	12,240	Point Marion Borough	1,117
Saltlick Township	3,309	Smithfield Borough	840	South Connellsville Borough	1,894
South Union Township*	10,392	Uniontown City*	9,824	Washington Township	3,453
Georges Township	6,365	TOTAL POPULATION SERVED: ~71,000			

Drop-Off Recycling					
Bullskin Township	6,714	Dunbar Borough	6,854	Everson Borough	764
Fayette City Borough	596	Belle Vernon Borough	1,054	Franklin Township	4,517
Henry Clay Township	1,943	Markleysburg Borough	284	Jefferson Township	3,671
Luzerne Township	5,943	Nicholson Township	1,331	Ohiopyle Borough	59
Perryopolis Borough	1,784	Springfield Township	2,923	Springhill Township	329
Upper Tyrone Township	1,973	Wharton Township	3,444	TOTAL POPULATION SERVED: 44,000	
No Recycling					
Dawson Borough	353	Dunbar Township	6,854	Fairchance Borough	1,902
Lower Tyrone Township	1,084	Menallen Township	3,556	Perry Township	2,458
Redstone Township	5,358	Stewart Township	703	Vanderbilt Borough	458
TOTAL POPULATION: 22,000					

*Indicates Act 101 mandated community

The focus of this recycling technical assistance projects was to improve the drop-off recycling program and expand recycling to municipalities that do not currently have a recycling program in place.

Municipalities that are not currently serviced with recycling often have a small population. Six of the nine municipalities without recycling services have less than 2,500 residents. Other municipalities without recycling programs (i.e. Dunbar Township and Redstone Township) are estimated to have populations over 5,000 people. These municipalities would trigger Act 101 recycling requirements if they have a population density of greater than 300 people per square mile. If those communities are mandated recycling communities, they need to establish a curbside recycling program where recyclable materials are collected curbside at least once per month. The municipalities can use municipal equipment and staff to collect recyclable materials or they may enter into a contract with a private entity (i.e. Goodwill) to complete collection activities. **Appendix A** contains a summary of the Act 101 requirements for mandated recycling communities.

For municipalities that are not Act 101 mandated communities, it is recommended that the County still move to implement recycling in these municipalities. Although curbside recycling is more convenient to residents, it is also more costly and takes more time to implement. A drop-off recycling program can be implemented relatively quickly and at a reduced cost compared to curbside recycling. Additionally, some municipalities with no current recycling program have participated in the County's drop-off recycling program in the past. In these cases, residents may be familiar with a drop-off recycling program that may facilitate participation.

Municipal Support

For recycling to be successful in Fayette County, the County, municipalities, and haulers must be supportive of the program and work together to execute it to serve the needs of residents. The County-sponsored curbside and drop-off recycling programs will positively affect each municipality when local governments are engaged in the program and are provided opportunities to make suggestions to improve the program.

To continue supporting recycling in all Fayette County municipalities, County staff should identify a representative in each location to monitor the program and provide feedback when necessary. This is particularly important as the County seeks to establish recycling in municipalities that currently do not have a program. In setting up the program, a municipal representative (or team of individuals) should be relied upon to provide input on how the recycling program can operate within the municipality to maximize service to residents.

Locations

In updating the County's drop-off recycling program, effort should be made to establish a program that serves all residents in each municipality. Drop-off recycling sites remain an important part of the County's recycling program. Currently, drop-off recycling sites serve the recycling needs of about 44,000 County residents. Another 22,000 residents live in municipalities without recycling services. In these communities, modifying the drop-off recycling program gives the County and municipality the opportunity to evaluate the current location of the site and placement of the bins.

Recycling drop-off sites should be centrally located and easily assessable to residents. County and municipal staff should prioritize establishing drop-off sites that are convenient for the majority of residents. This may include establishing sites adjacent to major streets or roads and in close proximity to retail establishments, schools, and other locations that are frequented by a significant number of residents. Sites will need to have adequate space to facilitate the constant flow of vehicles, accommodate recycling bins, and allow larger collection vehicles to safely and efficiently collect recyclable materials.

Containers

Types

Most drop-off recycling locations in Fayette County utilize haul-all bins for the collection of materials. These bins are outdated and create challenges for both residents and Goodwill. Residents find these bins difficult to use. Placement of materials in the bins is often slow and tedious, making a trip to the drop-off site time consuming, cumbersome, and dirty. Placing materials in the haul-all containers is also challenging as oftentimes bin openings are hard to find (at the rear of the container) and difficult to reach. Finally, because these bins are not clearly labeled it can be confusing for what materials are acceptable for recycling.



Front-load recycling container

The Haul-All bin system also poses challenges for Goodwill Industries.

Emptying of the bins requires a specialized truck and equipment. The process to connect the truck to the bin is time consuming and often requires manual force by the collection staff. Replacement truck and container parts are hard to procure and thus can lead to the suspension of the collection system for a time until new parts and equipment can be obtained.

Replacing the haul-all container collection system is important for enhancing the drop-off recycling program in the County. SCS identified two types of bins that are used at drop-off recycling convenience centers that can meet the needs of Fayette County and local governments:

- **Dumpsters** – Dumpsters come in many different sizes, generally with a capacity of two-to-ten cubic yards. These containers can be designed for service by rear-load or front-load collection vehicles. These containers may be slanted at the top or they may have a sliding door on the side for placement of materials.
- **Compartmentalized Roll-off Container (Recyclers)** - Recyclers are compartmentalized roll-off containers that are often divided to facilitate the separation and collection of different types



Enclosed compartmentalized recycling roll-off container

of recyclable materials. Recyclers are enclosed and often have sliding doors for placement of materials.

Each container type has benefits and challenges for Fayette County (**Table 2**).

Table 2. Benefits and Challenges of Recycling Collection Containers

Container Type	Benefits	Challenges
Dumpsters	<ul style="list-style-type: none"> • Simple to use • Less expensive (compared to compartmentalized roll-off containers) • Onsite collection • Reduced space requirements 	<ul style="list-style-type: none"> • Resemble trash dumpsters • Potential contamination concerns • Multiple containers required if materials must be kept separate
Compartmentalized Roll-Offs	<ul style="list-style-type: none"> • Designed for recycling • Facilitates separation of materials 	<ul style="list-style-type: none"> • Transport offsite for emptying • Emptying container when not all compartments are full • More expensive (compared to dumpsters) • Requires more space

SCS recommends that the County invest in collection containers that provide for the most efficient and flexible collection program. Our recommendation is that dumpsters are best suited for these priorities for the following reasons:

- **Onsite Collection** – The County consists of nearly 800 square miles. All materials collected through the program must be transported to Goodwill Industries MRF in Uniontown. Dumpsters can be emptied by the collection vehicle onsite at each convenience center and multiple convenience centers can be serviced on one route. Roll-off collection containers will need to be transported to the MRF to empty. Unless the County maintains an inventory of excess containers, empty containers will need to be brought back to the convenience center after dumping at the MRF.
- **Unused Capacity** – Sizing containers for recycling convenience centers can be challenging even with the best estimates for materials that will be collected. All compartments of a recycling roll-off container will be serviced at the same time even if one compartment has not reached its full capacity. A dumpster, which is not divided into compartments, can be serviced more efficiently because its fullness can be monitored and serviced when it has reached capacity.
- **Single Stream Recycling** – Although there are some efforts in Fayette County by Goodwill to have recyclable materials source-separated, residential recycling convenience centers are not one of the recycling streams where separate materials are collected. The current single-

stream program coupled with Goodwill's MRF being capable of processing single stream materials allows all materials to be collected in one container.

- **Flexibility** – Implementing a collection program that is flexible to accommodate the recycling needs for a wide number of municipalities is important. For a simple, flexible program, SCS recommends using two different sizes of dumpsters: Small four-cubic yard dumpsters and a large eight-cubic yard dumpster. Use of different size containers allows the County and Goodwill the flexibility to add or exchange smaller dumpsters with larger dumpsters to adjust the capacity needs for each of the recycling convenience center sites. These different sized containers can be serviced by the same collection vehicle so maintaining different types of collection equipment is not necessary.
- **Cost** – SCS communicated with Northeast Industrial Manufacturing, Inc. (Northeast) in Greenville, PA to obtain cost information for both dumpster and compartmentalized recycling containers. Pricing was based on manufacturing 32 containers – one container for each municipality with a current drop-off recycling program or no recycling services, and six additional containers to have on hand to replace unserviceable containers or to expand recycling services at select municipalities. Northeast indicated dumpsters could be provided at a cost of \$30,000 while compartmentalized recycling containers (one compartment for paper and one for containers) would cost the County about \$152,000. **Appendix B** includes the quotes provided by Northeast.

Sizes

It is important for the County to provide adequate recycling capacity for each municipality. Containers with not enough capacity between collections will cause residents to place materials on the ground, which contributes to increased litter and creates unsightly conditions. Oversized containers make collection inefficient as the hauler may only be collecting a half-full container. Additionally, the County should select recycling container sizes that allow for recycling program growth and the diversion of increased materials as the program matures and expands. This is a challenge considering the various demographics, sizes, and conditions of municipalities in Fayette County.

SCS analyzed data provided by Goodwill that quantified the amount of recyclable materials collected from current drop-off recycling programs in select Fayette County municipalities. Using the weight measurements from Goodwill, SCS calculated the volume of recyclable materials collected by using volume-to-weight conversion factors summarized by U.S. EPA¹. The volume of materials collected was used to calculate the annual volume of recyclable materials collected per person in select municipalities for which data was available. **Table 3** summarizes the results of these calculations.

¹ U.S. Environmental Protection Agency, Office of Resource Conservation and Recovery, Volume-to-Weight Conversion Factors, April 2016

Table 3. Materials Recovered from Fayette County Drop-Off Recycling Programs

Municipality	Population	Annual Weight Collected ¹ (lbs)	Annual Volume Collected ² (cy)	Annual Volume per Person (cy)
Dunbar Borough	6,854	8,376	48	0.01
Everson Borough	764	1,072	5	0.01
Fayette City Borough	596	320	5	0.01
Franklin Township	4,517	2,498	26	0.01
Henry Clay Township	1,943	1,296	19	0.01
Jefferson Township	3,671	12,031	92	0.02
Luzerne Township	5,943	12,814	120	0.02
Upper Tyrone Township	1,973	14,105	109	0.06

¹ Source: Goodwill Industries

² Volume-to-Weight Conversion Factors: U.S. EPA Office of Resource Conservation and Recovery, April 2016; note that volumes for different amounts of materials may be similar due to different material conversion factors.

Based on the information in Table 4, SCS calculates that on average 0.02 cubic yards (cy) of recyclable materials are collected per year per resident. This equates to 0.001 cy per person per month. This information can be used by the County to select recycling container sizes. SCS calculated the estimated monthly recycling capacity required for all municipalities in the County that currently have a drop-off recycling program or have no program in place. SCS further estimated that an updated drop-off recycling program coupled with expanded education may result in a 20 percent increase in materials recovered. Using this information and assumptions, SCS discussed recycling container sizes available with Northeast Industrial Manufacturing, Inc. The discussion focused on providing consistent recycling containers that are economical by avoiding customized containers that drive up costs. Although different standard size containers are available, SCS gives preference to selecting containers that provide the County with flexibility to expand recycling services while recognizing that different municipalities require different service levels. To that end, SCS recommends utilizing two different sizes of containers: four cubic yard dumpsters for smaller municipalities and eight-cubic yard dumpsters for larger municipalities. **Table 4** summarizes municipal recycling capacity requirements and container size recommendations by municipality.

Table 4. Recycling Capacity and Container Size by Municipality

Municipality	Population	Monthly Capacity Required (cy)	Estimated Capacity Needed - 20% Increase (cy)	Recommended Container Size (cy)	Anticipated Monthly Collections
Belle Vernon Borough	1,054	2	2	4	<1
Bullskin Township	6,714	10	12	8	1
Dawson Borough	353	1	1	4	<1
Dunbar Borough	998	1	2	4	<1
Dunbar Township	6,854	10	12	8	1
Everson Borough	764	1	1	4	<1
Fairchance Borough	1,902	3	3	4	1
Fayette City Borough	596	1	1	4	<1
Franklin Township	4,517	6	8	8	1
Henry Clay Township	1,943	3	3	4	1
Markleysburg Borough	284	<1	<1	4	<1
Jefferson Township	3,671	5	6	8	1
Lower Tyrone Township	1,084	2	2	4	<1
Luzerne Township	5,943	8	10	8	1
Menallen Township	3,556	5	6	8	1
Nicholson Township	1,331	2	2	4	<1
Ohiopyle Borough ¹	59	17	21	8	3
Perry Township	2,458	4	4	4	1
Perryopolis Borough	1,784	3	3	4	1
Redstone Township	5,358	8	9	8	1
Springfield Township	2,923	4	5	8	1
Springhill Township ²	329	7	9	8	1
Stewart Township	703	1	1	4	<1
Upper Tyrone Township	1,973	3	3	4	1
Vanderbilt Borough	458	1	1	4	<1
Wharton Township	3,444	5	6	8	1

¹ **Ohiopyle Borough** – Capacity estimates for Ohiopyle Borough are based on collection quantities reported by Goodwill, which SCS estimated to be 0.29 cubic yards per person per month. This is significantly higher because the location of the convenience center is in the Ohiopyle Campground.

² **Springhill Township** – Capacity estimates for Springhill Township are based collection quantities reported by Goodwill, which SCS estimated to be 0.02 per person per month.

Note that these estimates of recycling capacity and monthly collections are preliminary. The County and Goodwill will need to adjust container sizes and collection frequency depending on resident participation once the program has been implemented.

EDUCATION AND OUTREACH

Container Labels

Prior to placing new drop-off recycling containers at convenience centers throughout the County, the containers must be properly labeled. Residents will not know how to use the program or recycle right if information is not available on what materials are accepted for recycling. SCS recommends that the County work with a vendor to develop clear, concise, and consistent labels that are placed in a prominent location on the outside of all drop-off recycling containers in the County. Having consistent labels will help brand the County's recycling program and ensure residents see the same recycling messages no matter what convenience center they are using. Labels should be simple, graphically appealing, and contain only pertinent information, including the following:

- Designation that the container is for "Recycling Only";
- List of acceptable materials with graphics depicting each material type;
- Brief preparation guidelines if applicable (i.e. flatten cardboard or do not bag materials);
- Contact information for the County.

Appendix C contains some sample labels from municipal recycling programs that could be modified and adapted to fit Fayette County's brand.

Coordinated Messaging

The County, Goodwill, local municipalities, and private haulers all have responsibility to encourage recycling and help residents, businesses, visitors, and others recycle properly. With so many entities influencing recycling in the County, it is important that a coordinated and consistent message be provided. When recycling messages are inconsistent or unclear residents get confused. This leads to reduced participation, increased contamination, and a general apathy towards recycling. SCS recommends that the County consider establishing a recycling committee comprised of representatives from the County, Goodwill Industries, private haulers, and select municipalities to coordinate recycling program activities and messaging. The Recycling Partnership (www.recyclingpartnership.org) contains a number of resources, including a campaign builder, which can be quickly customized for use to promote recycling throughout the County.

Create Recycling Recognition Program

Recycling can be encouraged when there is a program that recognizes or rewards the behavior. Municipalities, institutions, and businesses across the country have implemented programs to create friendly competition that seeks to increase waste diversion impacts. Such a program can be simple and low-cost to operate, but have the potential to encourage municipalities throughout the County to commit to recycling and encourage resident participation.

SCS recommends starting a recognition program that identifies the municipalities in the County that achieve the highest per capita residential recycling rate. Using the per capita recycling rate is important for leveling the playing field among all municipalities in the County that have significant disparities in population. The County should recognize two types of municipalities: One among municipalities that have curbside recyclable material collection and one for municipalities that rely on a drop-off recycling program. The award could be made annually based on the quantity of recyclable materials recovered from each municipality. Winners could be publically recognized by the County Commissioners. Additionally, winners could be featured in the County's newsletter, website, and social media. For example, the Montgomery County, Maryland Department of

Environmental Protection administers their Recycling Achievement Recognition and Awards program. The program recognizes volunteers, multi-family, and business recycling achievements on an annual basis. More information about Montgomery County's program can be found at www.montgomerycountymd.gov.

Utilize Opportunities for Face-to-Face Interaction

Face-to-face interaction with the public is one of the most effective ways to promote and encourage participation in the County's recycling program. Similar to why politicians hold rallies and go door-to-door campaigning face-to-face interaction is effective at prompting people to action.

Identifying community events that County staff can participate in to share information about recycling can be useful in spreading the word about recycling in the County. This would be especially important as the County considers an overhaul of their network of recycling convenience centers. Opportunities to meet with residents and provide information on recycling might include hosting a booth at local special events such as the Fayette County Fair or the annual Salvation Army Bunny Hop 5k. The Fayette Chamber of Commerce and the Uniontown/Fayette County PA Events Facebook page lists several community events that the County might provide or distribute recycling information.

Presentations to local groups such as the Uniontown Rotary Club can also be effective at encouraging recycling and waste diversion. The County might consider hosting an annual "Recycling Day" where the community is invited to see Goodwill's recycling collection vehicles, equipment, and MRF. The event could also include entertainment, kid activities, and food. Prince William County, Virginia holds a similar event each fall at their solid waste complex. County employees lead activities on why recycling is important. Local environmental organizations are invited to have displays on how residents can live more sustainably. Ample entertainment and food is also available as well as drawings for prizes. More information on Prince William County's recycling day can be found at www.pwcgov.org.

The County should publicize their availability and interest in providing displays and presentations to groups and at events throughout the community. Planned participation in such events can be advertised in newsletters and on social media.

Partner with Penn State Fayette, The Eberly Campus

Fayette County should explore a partnership with Penn State Fayette, the Eberly Campus, to help promote recycling throughout the County. The County does not have dedicated staff and resources to promote waste diversion and recycling initiatives throughout the County. With a corporate communications program on Penn State's Fayette campus, the opportunity may exist to establish an internship program whereby students in that program can support the County's recycling and solid waste educational efforts. Such a partnership may make sense for the following reasons:

- **Local Resource** – The college is local and has a vested interest in preserving resources in the community;
- **Environmentally-Minded Students** – The College's Environmental Club includes students that are passionate about the environment and have the enthusiasm to promote and encourage recycling throughout the community.

- **Capabilities** – Public education is key to promoting and encouraging recycling in the County. Students are creative and proficient at using social media. These skill sets would benefit the County in promoting recycling.
- **Longevity** – Improving and expanding recycling in the County is a long-term initiative and will not happen overnight. An internship (or similar) program has the potential to be long term as new students need internships and the County continually needs dedicated help to encourage recycling.
- **County Staff Shortage** – As noted above, the County Recycling Coordinator oversees a number of programs servicing residents. Little time is available for dedicated support for improving recycling. Tapping into students at Penn State Fayette can fill the staffing void needed to truly promote and expand recycling.
- **Reduced Costs** – The County is not in a financial position to invest significant sums of money to promote and facilitate recycling. Utilizing students provides an opportunity to recruit individuals to support recycling at minimal cost. The County may provide a small stipend, but the real-world experience and internship requirement to graduate should suffice to make it a valuable opportunity for most students.

5 CONCLUSIONS

Recycling has long been an important part of life in Fayette County. The County's recycling program, once considered a model for other municipalities to emulate, is outdated and utilizes archaic collection equipment that is difficult for residents to use and inefficient for Goodwill to operate. The County desires to revamp their current collection program. With the awarding of a Section 902 Recycling Development and Implementation Grant and the support of their contractor, Goodwill Industries, the County has an opportunity to modify the program to make it easier for residents to use and more efficient for Goodwill to operate.

The current haul-all bin collection system and equipment should be replaced with a simple, flexible program that uses front-load recycling dumpsters at convenience centers located throughout the County. Since these recycling convenience centers serve municipalities of varying sizes, it is recommended that two different size dumpsters be used in order to accommodate the varying quantities of materials collected at each site to make the collection program more efficient. The efficiency gained through the new collection system will make it more economical for Goodwill to collect materials and provide an opportunity to establish recycling programs in municipalities that currently cannot afford to provide these services to residents. The recommendations for container sizes and collection frequency provided in this report may need to be modified as the new program is implemented and new recycling convenience centers are established.

Coupled with the implementation of an improved recycling drop-off program is the need to execute a sustained education program so residents know what options exist for recycling and how materials are to be prepared. The educational program should include providing information through traditional means such as newsletters, websites, and occasional mailers, as well as other more personal initiatives such as presentations to community organizations and displays at community events. Recycling education is an ongoing process and is more effective when it is conducted consistently and regularly. This can be difficult when the County does not have dedicated staff to complete these tasks. The County should consider partnering with Penn State Fayette, the Eberly Campus or another local institution to provide interns to help with this task. Such an arrangement benefits the student by providing real-world experience and the County through dedicated support of recycling education initiatives.

Appendix A
Act 101 Municipal Recycling Requirements

Summary of Act 101 Municipal Recycling Requirements

Overview

Chapter 15, Section 1501 of the Pennsylvania Municipal Waste Planning Recycling and Waste Reduction Act (Act 101), outlines the requirements for large municipalities to recycle. Municipalities, other than counties, with a population of 10,000 or more people or with a population of more than 5,000 but less than 10,000 people, and a population density of more than 300 people per square mile, are mandated to recycle.

Recycling Ordinance

An Act 101 mandated local government must adopt an ordinance that requires recycling. The ordinance shall require the following:

- 1) Recycling at single-family homes and apartments; commercial, municipal, and institutional establishments; and at community activities.
- 2) A scheduled day, at least once per month, when separated recyclable materials are to be placed at the curb or similar location for collection.
- 3) A collection system, including trucks and related equipment, to pick-up separated recyclable materials from the curb or similar location at least once per month from homes and businesses in the municipality. The municipality shall explain how the system will operate, the dates of collection, the responsibilities of persons within the municipality and incentives and penalties.
- 4) Provisions to ensure compliance with the ordinance, including incentives and penalties.
- 5) Provisions for the recycling of collected materials.

Residential Recycling

Residents must separate for recycling at least three materials deemed appropriate by the municipality from municipal waste generated at their homes, apartments, or other residential establishments. Separated materials must be stored at the property until collection. The three materials must be selected from the following:

- Clear glass;
- Colored glass;
- Aluminum;
- Steel and bimetallic cans;
- High-grade office paper;
- Newsprint;
- Corrugated paper;
- Plastics.

Leaf waste must also be separated from municipal waste generated at residential properties and stored for collection, unless residents have already provided for the composting of the materials (i.e. backyard composting).

Owners or landlords of multi-family rental properties with four or more units must establish a recycling collection system at each property. The collection system must include suitable containers for collecting and sorting materials, easily accessible locations for the containers and written instructions to the occupants concerning the use and availability of the collection system. Owners or

landlords that comply with these requirements shall not be liable for noncompliance by occupants of their buildings.

Commercial, Municipal, and Institutional Recycling

Occupants of commercial, municipal, and institutional establishments are required separate and store for recycling of the following materials at a minimum:

- High-grade office paper
- Aluminum;
- Corrugated paper;
- Leaf waste.

Occupants of commercial, municipal, and institutional establishments may be exempt from the requirements of this law if those persons have otherwise provided for the recycling of materials they are required to recycle. To be eligible for an exemption, the commercial, municipal, or institutional generator must provide written documentation to the municipality annually.

Community Activity Recycling

Organizers of community events must provide for the separation, storage, and collection of high-grade office paper, aluminum, corrugated paper, and leaf waste at the events. Community activities required to recycle include events sponsored in whole or in part by a municipality or held within a municipality and sponsored privately. Events include fairs, bazaars, picnics, or sporting events that will be attended by more than 200 or more people each day of the event.

Leaf Waste Diversion

Municipalities mandated to recycle under Act 101 must require residential and commercial establishments to separate and store leaf waste for collection. Leaf waste includes leaves, shrubbery, tree trimmings, and similar materials, excluding grass clippings. These materials must be collected at least monthly. In order to comply with Act 101, mandated municipalities must at a minimum:

- 1) Implement an ordinance that requires leaf waste to be separated from municipal waste for recycling at residential and commercial, municipal, and institutional establishments, AND
- 2) Establish a scheduled day, at least once per month, when leaf waste is collected curbside or similar location, OR
- 3) Establish a scheduled day, no less than two times per year and preferably in the spring and fall, when leaf waste is collected curbside or similar location from residential and commercial establishments, AND facilitate a drop-off location or other collection alternative approved by the Pennsylvania Department of Environmental Protection that allows persons to drop-off leaf waste for composting at least once per month. A leaf waste drop off site can be in a neighboring municipality or at a private establishment provided there is an agreement in place to utilize the site, and residents and occupants of commercial establishments are informed of the drop-off location at least every six months.

Municipalities are encouraged to manage source separated Christmas trees as leaf waste for processing at DEP approved composting facilities.

Public Education and Outreach

Municipalities subject to the requirements of Act 101 must implement a comprehensive and sustained public education program. This program is to provide residents and owners/tenants/occupants of commercial, municipal, and institutional establishments with information on recycling program features and requirements. The educational program includes two features:

- **Initial Education** – At least 30-days prior to the start of a recycling program notify all persons occupying residential, commercial, municipal, and institutional establishments of the recycling requirements as contained in the ordinance.
- **Sustained Education** – Every six months the municipality must inform and remind all persons occupying residential, commercial, municipal, and institutional establishments of the recycling requirements.

Numerous forms of educating the public are acceptable and include:

- Newspaper advertisement circulating in the municipality;
- Public notice posted where such notices are customarily posted;
- Notices in other official notifications (i.e. utility bills);
- Website;
- Newsletter;

A combination of forms are acceptable and at least one form must be in print annually.

Implementation

Municipalities may implement their responsibilities for the collection, transportation, processing, and marketing of recyclable materials in one or a combination of the following ways:

- 1) Collect, transport, process, and market recyclable materials themselves;
- 2) Enter into a contract(s) with other entities for the collection, transportation, processing, or marketing of recyclable materials. If contracting for recycling services, the entity being contracted is responsible to the municipality for implementing of recycling activities.
- 3) Contract with a landfill or material recovery facility, in lieu of a curbside recycling program, that guarantees by contract that at least 25 percent of the waste received is recycled. The technology utilized in this program must have prior approval from DEP.
- 4) Utilize a recycling facility that demonstrates that the materials separated, collected, recovered, or created by the facility can be marketed as readily as materials collected through a curbside recycling program. In addition, the mechanical separation technology used by the facility has been demonstrated to be effective for the life of the facility.

Exceptions

The municipality is not required to collect, transport, process, or market recyclable materials or contract for these services if all of the following conditions are met:

- 1) The municipality is not collecting and transporting municipal waste from such establishment or activity.
- 2) The municipality has not contracted for the collection and transportation of municipal waste from such establishment or activity.
- 3) The municipality has adopted an ordinance as required, and the establishment or activity complies with the provisions of the ordinance.

Act 140 Requirements for Section 904 Recycling Performance Grants

Overview

Act 101 was amended in 2006 by Act 140 to establishment requirements for the use of Section 904 Recycling Performance Grants.

Requirements:

Municipalities mandated to recycle under Act 101 and receive more than \$10,000 in funding from recycling performance grants must meet the following requirements:

- 1) Requires, through ordinance, that all residents have waste and recycling service.
- 2) Has an implemented residential recycling program and facilitates a commercial recycling program or participates in a similar county or multi-municipal program.
- 3) Has a residential and business recycling education program.
- 4) Has a program of enforcement that periodically monitors participation, receives complaints and issues warnings for required participants and provides fines, penalties, or both, in its recycling ordinance.
- 5) Has provisions, participates in a county or multi-municipal program or facilitates a private sector program for the recycling of special materials.
- 6) Sponsors a program, facilitates a program or supports an organization to address illegal dumping and/or littering problems.
- 7) Has a person or entity designated as recycling coordinator who is responsible for recycling data collection and reporting recycling program performance in the municipal or municipalities.

If these requirements are not satisfied by the municipality, then the grant funds awarded under this section must be expended by the municipality only to satisfy these requirements. If all these requirements are satisfied, then the grant funds awarded may be used for any expense as selected by the municipality.

Appendix B
Northeast Industrial Manufacturing, Inc. Recycling Container Quotes

NORTHEAST INDUSTRIAL MFG. , INC.***** QUOTATION *****640 KEYSTONE ROAD
GREENVILLE PA 16125

Phone / (724) 588-7711 Fax / (724) 588-5657

QUOTATION NO.: 37016

DATE: 04/10/19

TERMS: C.O.D.

QUOTATION TO: 11255

SHIP TO:

SCS ENGINEERS
11260 ROGER BACON DR, STE 300
RESTON VA 20190FAYETTE COUNTY
UNIONTOWN PAA DEPOSIT IS REQUIRED WITH ORDER IF CREDIT NOT ESTABLISHED.
BALANCE IN FULL PRIOR TO SHIPPING. WE RESERVE THE RIGHT TO
CHANGE SPECIFICATIONS. 4% SURCHARGE FOR CREDIT CARD

4 YD FRONT LOADS & 8 YD FRONT LOAD W/DOORS

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT-PRICE	TOTAL
	4 YD FRONT LOAD	EA	12	572.000	6864.00
	8 YD FRONT LOAD W/DOORS	EA	20	924.000	18480.00

FRONT LOAD SPECS:

*FLOOR: 10 GA

*SKIDS: 10 GA

*TOP RAILS: 12 GA

*SIDES: 12 GA

*POCKETS, GUSSETTS, AND BUMPERS: 7 GA

*1" PVC DRAIN PLUG ON REAR WALL

*LIDS: SINGLE WALL PLASTIC FLIP

*LID ROD: 1/2"

*PAINTED: ONE STANDARD NORTHEAST COLOR

*ALL YARDAGES ARE APPROXIMATE BASED ON INDUSTRY STANDARDS

F.O.B. OUR LOT GREENVILLE, PA 16125
APPROX. FREIGHT \$680 PER TRUCK LOAD
TO UNIONTOWN PA

TOTAL	25,344.00
SALES TAX	1,643.04
FREIGHT	2,040.00
TOTAL QUOTATION	29,027.04

QUOTATION VALID UNTIL 04/23/19

NORTHEAST INDUSTRIAL MFG. , INC.***** QUOTATION *****640 KEYSTONE ROAD
GREENVILLE PA 16125

Phone / (724) 588-7711 Fax / (724) 588-5657

QUOTATION NO.: 37056
DATE: 04/17/19
TERMS: C.O.D.

QUOTATION TO: 11255

SHIP TO:

SCS ENGINEERS
11260 ROGER BACON DR, STE 300
RESTON VA 20190A DEPOSIT IS REQUIRED WITH ORDER IF CREDIT NOT ESTABLISHED.
BALANCE IN FULL PRIOR TO SHIPPING. WE RESERVE THE RIGHT TO
CHANGE SPECIFICATIONS. 4% SURCHARGE FOR CREDIT CARD

CL/ 1242 RECYCLER

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT-PRICE	TOTAL
	1242 STD REYCLER	EA	32	4595.000	147040.00

STANDARD CABLE RECTANGULAR SPECS:

*FLOOR: 3/16" THICK WITH 16" CROSSMEMBER SPACING

*GREASEABLE GROUND ROLLERS: 4

*MAIN RAILS: 6" X 2" X 3/16" WALL TUBING

*HOOK PLATE: 3/4"

*SIDES & SIDE POSTS: 12 GA; 12GA 4 WAY BEND ON 24" CENTERS

*REAR CORNER POSTS: 3/16" 3 WAY BEND

*TOPRAILS: 3" X 4" X 1/8" WALL TUBING

*TAILGATE: STANDARD SIDE SWING, DESIGNED OVER FLOOR

*FLOOR SUPPORT UNDER TAILGATE: 3" X 4" X 1/8" WALL TUBING

*12 GA HIP ROOF

*1 HINGED INTERNAL DIVIDER 1/3 OF CAN IS FOR ONE MATERIAL AND 2/3 FOR ANOTHER

*2 LID OPENINGS ON ONE SIDE (WILL NEED TO KNOW WHICH SIDE OF CAN)
WILL NEED TO KNOW FLIP LIDS OR SLIDING DOORS

*PAINTED: ONE STANDARD NORTHEAST COLOR

*ALL YARDAGES ARE APPROXIMATE BASED ON INDUSTRY STANDARDS

F.O.B. OUR LOT GREENVILLE, PA 16125

APPROX. FREIGHT \$680 PER TRUCK LOAD

TO UNIONTOWN PA (4 CONTAINERS PER TRUCK)

TOTAL	147,040.00
SALES TAX	.00
FREIGHT	5,440.00
TOTAL QUOTATION	152,480.00

QUOTATION VALID UNTIL 04/30/19



Appendix C
Sample Labels for Recycling Containers

RECYCLING ONLY

EMPTY AND RINSE CONTAINERS • NO TRASH OR YARD WASTE • NO PLASTIC BAGS



For more information or for the most current list of recyclables call **804-340-0900** or visit **cvwma.com**.

Central Virginia Waste Management Authority
www.cvwma.com

RECYCLE THESE ITEMS



Aluminum and Steel Cans, Glass Bottles, Plastic Bottles and Aerosol Cans
empty



Flattened Cardboard, Food Boxes, Paper Towel Tubes and Pizza Boxes
flatten



Mixed Paper, Newspaper, Magazines, Food and Beverage Cartons
empty



Kitchen, Laundry, Bath: Bottles and Containers
empty

City and County of Denver
www.denvergov.org

What To Recycle in Arlington

All recyclable items go in the blue cart.

Items should be clean & dry. Rinse only if needed.

PAPER	PLASTIC	METAL
 <p style="font-size: x-small;">juice boxes, milk, wine & broth cartons</p>	 <p style="font-size: x-small;">plastic bottles & jugs #1-7 (with lids)</p>	 <p style="font-size: x-small;">metal cans, aerosol cans, aluminum foil & trays</p>
 <p style="font-size: x-small;">cereal & food boxes, cardboard</p>	 <p style="font-size: x-small;">containers, wide-mouth plastics</p>	GLASS
 <p style="font-size: x-small;">mixed paper, newspaper, books, magazines</p>	 <p style="font-size: x-small;">rigid plastics</p>	 <p style="font-size: x-small;">all bottles & jars</p>

NOT RECYCLABLE IN CART: plastic bags, shredded paper, paper plates & napkins, bio-based plastics



light bulbs, ceramics & glassware, styrofoam, sharps, batteries, disposable cups, diapers, wire hangers



ARLINGTON VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES

FOR MORE INFORMATION: 703.228.6570 • recycling.arlingtonva.us

Arlington County, Virginia
www.arlingtonva.us

RECYCLE

EMPTY AND RINSE ALL CONTAINERS. DO NOT BAG YOUR RECYCLABLES. DO NOT FLATTEN CONTAINERS.

 <p>PLASTICS</p>	 <p>CARTONS</p>	 <p>METAL</p>	 <p>GLASS</p>
 <p>NEWSPAPER, MAGAZINES AND BOOKS</p>	 <p>PAPERBOARD</p>	 <p>OFFICE PAPER AND MAIL</p>	 <p>FLATTENED CARDBOARD</p>

University of Colorado Boulder
www.colorado.edu