



November 15, 2004

Mr. Brian A. Watson  
Public Works Director  
Borough Hall  
140 Church Street  
Phoenixville, PA 19460

**Subject:       Converting from Private to Public Waste and Recycling Collection and  
                  Improving Recycling Education in Phoenixville Borough**

Dear Brian:

Phoenixville Borough has requested assistance to improve its recycling program in response to concern over a determination from Chester County officials that the Borough has the County's lowest recycling rate. Because of ongoing problems with its recycling hauler, the Borough has decided that it will convert to a municipal collection system, and is seeking assistance from R.W. Beck concerning routing and collection efficiency. The Borough also acknowledged that recycling education for both residents and businesses has been minimal, and believes that the low recycling rate is the result of a lack of education, leading to a general lack of awareness about program requirements and the reasons why recycling is important. This letter is to provide the Borough with the results of R.W. Beck's consideration of the Borough's proposed collection program and evaluation of its recycling education program.

## Improving Phoenixville Borough's Recycling Collection and Education Programs

This evaluation is broken down as follows:

- Collection program
- Pay-As-You-Throw
- Education and outreach
- Commercial recycling
- Recycling at Special Events
- Development of a recycling task force/advisory committee
- Grant funding

The following issues are considered:

- Routing for the Borough's municipal recycling and refuse collection
- Considering Pay-As-You-Throw as an option to encourage residents to reduce waste generated and potentially save money.
- Considering information/education needs and defining appropriate vehicles to reach the residential sector.

- Providing information designed to boost recycling in commercial and institutional entities.
- Providing information on establishing recycling at special events within the City.
- Developing a recycling task force/advisory committee to assist the City in all facets of its recycling program.

## Proposed Routing for Phoenixville’s Municipal Recycling and Refuse Collection Program

The Borough recycling and refuse collection has in the past been provided by a private sector contractor. The Borough was to begin municipal recycling and refuse collection on November 1, 2004.

The Borough will provide once per week recycling and refuse service to all residential housing units. The previous contractor provided both recycling and refuse collection service to all residents on a single collection day. The Borough will provide the once per week service by dividing the Borough into four sections, with the schedule running from Monday through Thursday.

Mark Zeleznick provided a database for the “Land Parcel Data” which included the number of units in each parcel. This database was used to divide the Borough into routes using GIS 3.3. Note that this data is not capable of generating a commercial-grade street map; rather, maps generated from this database highlight block faces that require collection service. The maps generated in this report may need to be interpreted in conjunction with a local street map to assure that route boundaries are accurately identified. However, this exercise should be simple to perform, especially for a resident of the Borough who may be driving the routes. The value of the maps as shown in this report is provided by delineating route boundaries based on customer counts contained in an accurate database of residential properties.

### Recycling Routes

The first step was to divide the Borough not using major streets but neighborhoods as boundary lines. Figures 1A through 1D (included at the end of the report) illustrate each collection route, labeled as A, B, C, and D. Days can be assigned to each route as seen fit by the Borough. The number of units per route range from 1,071 to 1,302 units, as shown in Table 1. This number of units collected per day is within the average for municipal recycling collection systems.

**Table 1  
Recycling Routes Unit Counts**

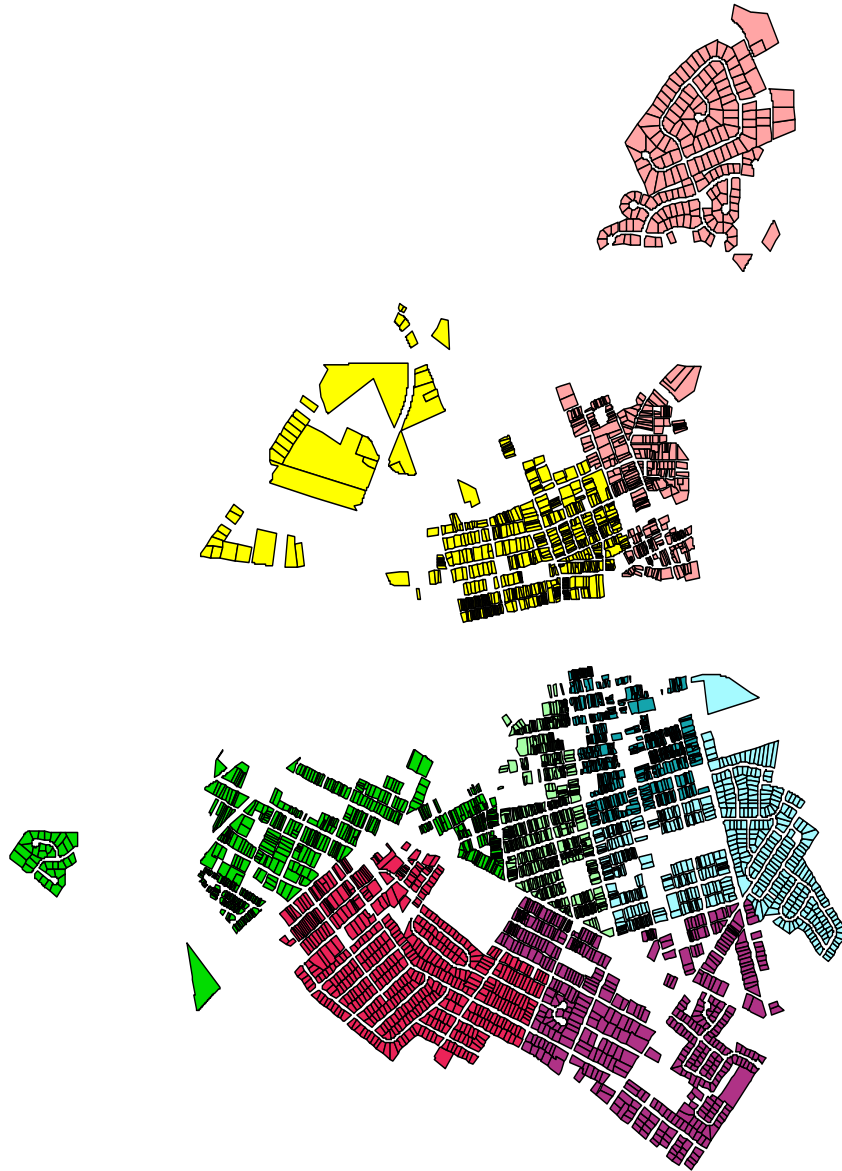
Route	A	B	C	D
Unit Count	1,071	1,271	1,302	1,069

### Refuse Routes

The new recycling routes were also used as the baseline for the refuse routes. Each of the four recycling areas was divided into two refuse routes. Figure 2 (next page) is a full map containing all routes. Each separate route, numbered A1, A2, B1, B2, C1, C2, D1, and D2, is illustrated in Figures 3A through 3H (included at the end of the report). Again, the collection days for each area can be assigned by the Borough, but should coincide with the recycling routes. Because of the difference in density and street configuration, the routes tend to vary in size. The more dense

Figure 2

# Refuse Routes



areas with multi-family housing are larger than the routes that are more spread out with single-family housing. Table 2 includes the unit count for each route.

**Table 2**  
**Refuse Routes Unit Counts**

Route	A	B	C	D
1	533	599	536	495
2	549	672	754	576

## Pay-As-You-Throw

Now that the Borough is managing its own refuse collection, it should also consider the possibility of implementing a “Pay-As-You-Throw” (PAYT) program. Also known as unit-based or variable rate pricing, customers in a PAYT system pay for municipal waste management services per unit of waste collected rather than through a fixed fee. PAYT takes into account variations in waste generation rates by charging residents or households based on the amount of refuse they place at the curb, thereby offering residents an incentive to reduce the amount of waste they generate and dispose of. More than 200 municipalities in Pennsylvania have implemented some form of a PAYT program. Most require residents to buy special bags or tags, with the cost of collection and disposal factored into the cost of these items.

### Potential Benefits of PAYT

Municipalities that have implemented PAYT programs have reported a number of benefits, including:

- Waste reduction
- Reduced waste disposal costs
- Increased waste prevention
- Increased participation in recycling and composting programs
- A more equitable waste management fee structure
- Increased understanding of environmental issues in general

PAYT programs encourage residents to generate less refuse by charging them based on the amount of waste placed out for disposal. Setting costs according to generation encourages residents to become more conscious of disposal habits and to look for opportunities to generate less waste or divert a greater portion of the waste stream through alternative management practices such as recycling and composting. The key is that residents become more conscientious, and thereby more understanding of environmental issues and the impact of their behavior on the environment. PAYT also provides a mechanism that ties the rate paid per household to the level of service, similar to other utilities. Households that generate smaller amounts of refuse pay a lower rate than those generating larger amounts.

### Potential Barriers/Issues Associated with PAYT

While there are clearly benefits associated with PAYT programs, there are also potential barriers/issues that must be overcome or addressed to successfully implement this system. These potential barriers/issues include:

- Illegal dumping

- Ensuring full recovery of expenses
- Controlling/covering administrative costs
- Perception of increased cost to residents
- Multi-family housing
- Building public consensus

While communities throughout Pennsylvania have experienced some or all of the barriers/issues identified above, most have been able to take appropriate measures to overcome them. For example, the City of Wilkes-Barre experienced illegal disposal of household refuse in commercial dumpsters. Many businesses placed locks on their dumpsters to combat this problem. Stopping other illegal dumping may require stricter enforcement of existing ordinances and greater penalties for violations. Cost issues can be resolved with careful planning, a clear understanding of total service cost and demonstrating to the public that the program is likely to reduce the cost of service for many households. Including public input early in the process can help to build public consensus and understanding of the real benefits to residents.

## Challenges to Balancing the Budget

In every program there are fixed costs that exist regardless of the amount of waste that is disposed. Collection costs are fixed because regardless of the amount of material collected, the collection vehicles must cover the route or routes in the program. Doing this requires some set number of personnel and their associated costs, as well as vehicle costs that include, among other things, maintenance, fuel and insurance. Reductions in the volume of waste may result in some saving due to fewer trips to a disposal facility, but for the most part, the collection cost is fixed.

Waste disposal is a variable cost, which is largely based on the tonnage of materials disposed.

The goal for any program is to ensure that revenues are sufficient to cover program-related expenditures. The best way to do this is to ensure that a fixed amount of revenue is generated that covers the fixed costs. Because all or part of the revenue required to operate the system is raised through a fee attached to a unit that varies with the level of usage, many municipalities/haulers have split the costs between a fixed rate and variable rate system. Fewer have assigned all the costs associated with the system to a strict variable rate fee.

Setting appropriate fees can generally be accomplished using historical data, assuming cost and revenue data contained in past budgets is complete and accurate.

## Maintaining PAYT and Balancing the Budget

It can be difficult to balance revenues with expenditures in a classic PAYT program because revenues are solely dependent on the sale of bags or on container size and/or number. If there is a significant decline in sales or container setout for any reason with no corresponding decline in disposal, there is a good probability that the program's costs will outweigh its revenues. This occurred in the PAYT program initially operated by Elizabethtown Borough in Lancaster County. Raising the cost of bags could only compound this problem—and did in the case of Elizabethtown. This is the reason that Elizabethtown and a majority of municipalities in Pennsylvania with PAYT programs have opted to implement “hybrid” systems that include a flat fee and variable rate (pre-paid bags).

There are two basic hybrid options used throughout the Commonwealth:

- Residents pay a standard base rate per household that covers fixed collection costs—i.e., administrative and personnel costs and the cost for a collection vehicle to service a given area—and purchase bags or stickers, or use specific containers at a set rate per container. The cost to residents still varies by the amount of waste they dispose, but because the fixed costs are spread equally among households, differences in cost per household are less than that of a classic PAYT system.
- Residents pay a base rate per household that includes a fixed number of bags, stickers or containers, then purchase additional bags or stickers, or use specific containers at a set rate per container. Depending on the number of containers allowed, many residents may be able to manage all their wastes without purchasing additional bags or stickers. Limiting the number of containers allowed during a given collection provides some incentive for residents to recycle, compost, or reduce waste generation as a means of avoiding additional cost for collection and disposal. This appears to be the best option for the Phoenixville Borough.

There are two additional variations on PAYT that other municipalities have employed. These include:

- Offering more than one container size option.
- Offering price reductions to low and fixed income residents.

Regardless of the PAYT scenario used, the Borough would need to implement controls that help to ensure proper disposal of wastes generated in the Borough. Improper disposal is less likely under most hybrid scenarios. If residents are required to pay a fee, even if it is only a partial fee to cover fixed costs and purchase of bags is still required, they are more likely to use the service. However, good enforcement is still necessary to ensure compliance.

## Residential Recycling Education

### Educational Materials

The Borough has noted that it currently distributes recycling information quarterly with sewer bills. Based on the County's assessment of the Borough's recycling rate and the Borough's acknowledgment that the recycling education program is inadequate, it appears that this passive system is in need of change. Given the compact size and population density of the Borough, there are numerous options for recycling education that should be reasonable and should reach virtually all residents. A quick rundown of options might include working with a local advertising publication to distribute additional materials to promote awareness and to educate residents as an insert or to print the information prominently in the publications. Other potential outlets might include grocery and/or other retail stores, churches, schools, or any other locations where such materials are likely to have good public visibility. The point is to find distribution methods that stand out so that residents cannot miss them. Mailing materials would ensure that they are received.

Many municipalities have chosen to develop brochures that describe the recycling program. Information in a brochure should include the types of materials that will be collected, how they should be prepared, how often they will be collected, why the municipality is recycling, why recycling is important, and contact information, among other things. These brochures may be a good initial investment, but brochures tend to get lost or be thrown away over time. Another method that has a better potential for being posted prominently/visibly in a residence is a refrigerator magnet. Since the kitchen is often the place where decisions are made on what

should go into a recycling bin, a refrigerator magnet can be an ideal educational method. Magnets could be kept simple, with very basic information about materials being collected and how they should be prepared, along with appropriate contact information. On the advice of its Citizens Recycling Advisory Committee, Mechanicsburg Borough, Cumberland County, and its recycling contractor, Penn Waste, Inc., collaborated on the design and production of a 3” x 5” magnet that uses images and text to convey what materials should be recycled and how they should be prepared. A suggestion could be made that residents use the magnet to hold their recycling brochure (with calendar) in place. Magnets are much less likely to be lost or disposed than brochures.

Preparation and printing of recycling educational materials is an eligible expense under DEP’s Act 101 Section 902 Recycling Grant program.

## Reminders

It is important that residents be reminded to recycle. The Borough could consider making available promotional items made from recycled materials—preferably something that would be used by residents so it remains in view as a reminder—to serve as a constant reminder about the Borough’s recycling program. The Borough could probably arrange for the distribution of these items by local merchants, at recycling events, and at other public events. Promotional items could include a range of products, from inexpensive pens, pencils, rulers, and refrigerator magnets to note pads or even tote bags. The Borough should consider partnering with local businesses as a promotional opportunity for both the businesses and the Borough, and to have these types of products funded.

## Spotlights on the Program

The Borough could also engage in other activities that are fun, inexpensive, and bring attention to the recycling program. Some potential activities for consideration might include:

- Creating a recognizable slogan, logo or mascot associated with the recycling program. Having one or more of these things that identify the program would help to increase program visibility. Some municipalities have conducted local contests to ask residents to submit a slogan, a logo, and/or a mascot to be considered, with the winning entry incorporated into future materials used by the municipality. The winner or winners are usually recognized by the municipality in some way, and given some type of reward for their effort. Prizes could be donated by local businesses, or the Borough’s contribution toward prizes could be applied as part of the Borough’s match under an Act 101 Section 902 grant.

The Borough’s name provides an obvious theme for establishing an image that fits well with recycling. Recyclables are transformed from lowly waste into useful products—similar to a phoenix rising from the ashes.

- The Borough could institute a “Recycling Household of the Month” program, with selected households featured in the local paper or similar publication, perhaps a Borough newsletter, or on the Borough’s website. Specific criteria would need to be developed to determine who might be selected for this recognition, and households could be nominated from within the community (self or by neighbors) or selected through a procedure established by the Borough. Criteria should include measures that indicate that a given household is doing more than just placing recyclables at the curb, and could potentially include: home composting; buying recycled; recycling or reuse of materials other than those collected at the

curb; use of less hazardous products; and creative uses of materials or activity in the community. Awards could be solicited through local businesses.

- The Borough could bring attention to its recycling efforts by developing a visual method of showing progress. Preparing a sign that could be placed in a highly visible location (similar to United Way) showing progress toward the goal (a thermometer, a recycling truck traveling to a materials recovery facility, etc.) will help residents to see where they are in relation to the goal and encourage them to recycle more to meet the goal. Given the compactness of Phoenixville Borough, finding a highly visible central location should not be difficult.
- Some type of recycling display could be developed that can be used during community events, and rotated among schools, churches, and businesses. This display could be used as part of any presentations made by Borough officials or a recycling committee.

## Ongoing Education

Sometimes residents forget or do not completely understand which materials are acceptable and which are not, or exactly how to prepare materials. In either case, friendly reminders may help to set these residents on the right track. Act 101 requires that mandated municipalities provide reminders about the recycling program at least once every six months. While the Borough claims that it has, in fact, been providing quarterly reminders, based on program results the reminders do not appear to have been effective. Constant—or at least more regular—reminders, and not just reminders provided semi-annually, would be more effective. This could be accomplished through many of the strategies suggested above.

## Phoenixville Borough Website

The Borough should develop a recycling page for its website. The website address could easily be incorporated on something like a refrigerator magnet, and residents could go to the site to find information about the program, special collection efforts, municipal composting, home composting, and related information. The Borough could even offer an option for residents to sign up for a list serve that provides updates and information about upcoming recycling events sponsored by the Borough, the County, or the State. This would provide a very inexpensive means of educating and informing the residents of the Borough.

## Education in the Schools

Educating students in grades K-12 may be a very effective way of reaching Borough residents both now and for the future. Students are often the strongest advocates of recycling, and will ensure that recycling is happening in their homes. The DEP has recycling curriculum materials available, and the County could work with the Borough—as it has with other municipalities in the County—to see that some type of recycling educational curriculum is implemented.

## Recycling Education Costs

The cost for the Borough's recycling education program would be dependent on the level of effort. The Borough may be able to retrieve all or nearly all of the cost to design and purchase recycling education materials through the Act 101 Section 902 grant program because the 10 percent match can include staff time and other internal expenses. Most or all "out of pocket" expenses could be covered.



The Borough can offset a portion of its costs through Act 101 Section 904 Performance Grants as well. Boosting recycling rates would boost the Borough's return from this program. Expanding the recycling education program and providing incentives for residents to participate should result in a higher recycling rate.

## Commercial and Institutional Establishments

The Borough has suggested that, like residences, commercial and institutional establishments are not doing well with their recycling programs for lack of awareness and education. As a municipality mandated to recycle under the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101), the Borough must include mandatory recycling for all commercial and institutional establishments in its recycling ordinance, and must provide ongoing education at least twice each year. The Borough reports that its ongoing education for these entities is done only annually. The Borough does report, however, that these establishments are required to recycle all Act 101 materials with the exception of steel/bimetal cans—above and beyond the Act's requirement to recycle high grade office paper, corrugated cardboard, aluminum cans, and leaf waste.

Promoting recycling in commercial and institutional establishments should be a relatively easy task in Phoenixville because the Borough reports that there are only 25 businesses. The expected return for expanding promotional efforts in businesses and institutions should be great, given the types of entities located there: several schools (including K-12), a hospital, grocery stores, and restaurants—all generally heavy generators of recyclable materials. The small number of businesses also makes the task of determining compliance relatively easy; most could be contacted directly by the Borough either by call or visit to assess compliance.

The Borough may also want to consider a survey to help in determining the best ways to promote commercial and institutional recycling in the Borough. A suggested survey is included as Attachment 1. This survey could be distributed along with the annual report that is sent each year to collect recycling data from businesses, but might get greater attention if it is distributed separate from the annual report—particularly if it is conducted as part of the Borough's assessment of compliance, or at least provided at the time of assessment.

## Basic Recycling Education for Businesses and Institutions

It is important to know who the target audiences are. Given the small number of commercial and institutional establishments in Phoenixville, this should be a relatively easy task. A basic education campaign should include the following:

- Requirements of the Phoenixville mandatory recycling ordinance including data collection requirements
- Basic program components to implement new or improve existing programs

In addition, it is helpful to be prepared to provide information more specific to the targeted sectors. Attachment 2 includes basic commercial recycling education materials, including fact sheets targeted at specific sectors or certain materials, based on the types of establishments reported to exist in the Borough.

## Educating Reluctant Commercial Establishments

Many businesses—particularly smaller ones—are reluctant to implement recycling programs because they believe that recycling will result in greater waste management costs. While it is

true that recycling does entail some cost, most businesses and institutions should find that their overall waste management costs—that is, cost for collection and disposal of waste and collection and processing of recyclables combined—should not increase, and in fact, there is significant potential for reduced cost.

Before going further, however, it should be noted that businesses and institutions in Phoenixville Borough are mandated to recycle under Act 101. It is always preferable, however, when a municipality can use a “carrot” instead of a “stick” approach to convince businesses and institutions to recycle.

There has almost always been a misconception that businesses and institutions should earn money from recycling. While this may be possible for larger entities when the market price for recyclables is high, it is usually not possible for small businesses and other small entities. The reason for this is because the revenue from sale of materials almost certainly will not cover the cost to collect and process the material. It should, however, result in a less costly service, since revenue should offset a portion of the cost.

A mistake that many businesses make is that when they implement recycling programs, they do not take corresponding measures to reduce waste collection and disposal services. Most businesses pay by the pull for waste—this means that they pay a flat amount every time a waste container is emptied or pulled based on the size of the container, regardless of how full the container happens to be. When a business implements a recycling program, depending on the amount of recyclables produced, fewer waste collections should be required. Many, if not most, businesses should be able to reduce the number of waste pickups/pulls, and this should result in a reduction in disposal cost that correlates to the reduction in pickups/pulls. The savings achieved by reducing waste collection should, in most instances, cover the cost of recycling collection and processing.

Unfortunately, it is difficult to provide any meaningful data to illustrate how recycling will affect a given business in a given community. The resulting overall cost depends on a variety of factors, including, but not limited to, rates in a given area (which varies by region, population density, cost of labor, disposal cost, and what the market will bear, among other things), the materials a business is recycling and the weight and volume of the material, and recycling markets (i.e. what the market price is for any given material, which fluctuates and often varies by region). As noted above, however, managing services efficiently should ensure that overall waste management cost, which includes recycling, should not increase.

There are also some strategies that have been used in other communities to assist small businesses with recycling. Possible options include:

- **Cooperative efforts.** Several businesses located within a given area could act cooperatively to bid for recycling collection and processing services. This would require some coordination concerning internal efforts and materials to be recycled. In this scenario, several businesses could deposit their recyclables into a common container or containers for collection, and the cost of service would be prorated among the participants. This could be a very good opportunity in the Borough given the compact size.
- **Non-profit services.** In some areas, non-profit agencies like Goodwill have developed collection programs for recyclables. Because their costs are much lower, the cost to customers is usual much lower.

- **Joint bidding by an umbrella organization.** Some business and professional groups such as chambers of commerce have acted on behalf of members to bid for services, often at a reduced price for the group.
- **Drop-off recycling.** Some municipalities have elected to provide for the drop-off of recyclables from small businesses. While this requires some initiative by the business to deliver materials to a drop-off site, it can provide a nearly no cost option for recycling. Phoenixville’s size would be an advantage in considering this option. Providing for drop-off recycling can be as simple as the program in Camp Hill Borough (Cumberland County), where containers for paper and cardboard are provided in the Borough’s parking lot, or can be as elaborate as the staffed facility in the City of Bethlehem that takes nearly every material imaginable. Obviously this kind of program does result in cost to the municipality, but any costs can be offset by (1) Section 902 grants to pay for eligible equipment or education, and (2) Section 904 performance grants that are based on the weight of material and the recycling rate that can be used to pay for operation. The amount of effort to the municipality can be kept to a minimum by doing what Camp Hill does, which is simply to contract with a local company to set containers on site, pick up materials, and process and market them.

The Borough should explore coordinating efforts with the County to provide for drop-off recycling specifically for businesses and the materials they generate in the areas of greatest concentration.

## Special Events Recycling

Recycling at special events, required for all mandated municipalities, presents a significant challenge. These are events that in most cases involve hundreds or thousands of people, numerous activities, and are spread over a wide area. There is little or no opportunity for advance education in most cases.

Most special events can be broken into three major categories: (1) street or large area activities spread over a large area; (2) contained activities (i.e. located in a specific facility, but which may differ significantly from event to event); and (3) sporting events (usually in a stadium or arena).

Phoenixville Borough reports that it has three annual events—the Dogwood Festival, the 4<sup>th</sup> of July, and the F.A.M.E. Festival—where recycling is mandated. Other events, such as school sporting events, should provide opportunities for recycling as well.

### Strategies for Special Events Recycling

Because no two events are exactly alike, there is no one strategy that will work for all special events. Contained events such as sporting events or those that take place within a single facility may be somewhat easier, but recycling at special events is never a simple activity. Several basic strategies are discussed below.

#### Street or Large Area Activities

Planning for large-scale annual events should ideally begin just after completion of the event, while the experience is still fresh in the minds of planners and participants and to give sufficient time to prepare for the next year’s event. Once recycling is carried out at one of these events, the basic strategy can be used and “fine tuned” for other similar events.

This kind of event cannot be managed adequately by a single recycling coordinator. Planning and implementation will require the cooperation and experience of all those who have a stake in the event, so it is best to establish a planning committee that has representation from all of the major groups and activities that will be represented at the event. For Phoenixville, a special events planning committee might consist of the following:

Borough special events representative	Vendor representatives
Public Works Dept. representative	• Food
Sponsor representatives (major sponsors)	• Arts
Organizations	• Other
• Environmental	Recycling processor or end market (who will accept recyclable materials)
• Volunteer	

Having representation from all sectors will help in identifying the types of materials generated and in projecting the tonnage/volume of materials that might be expected.

In general, planning should consider the following:

- **Layout**—While there may not be a final layout until much closer to the event, it helps to begin with a general layout/schematic that will help in determining basic placement of containers. These events are usually structured quite similarly from year to year, so there is no need to wait until a final layout is developed to design the recycling program. The layout will play a large role in dictating where containers should be placed, the number and size of containers for different materials, type of containers, how collection will be undertaken, and how to place volunteers and educate the public.
- **Containers**—The choice of containers for special events is extremely important, and can help greatly in determining the success of the program. Some considerations for container selection include: (1) size—large enough to manage large amounts of material without needing to be serviced constantly to prevent overflowing, but small enough that they are easily accessible to the public and do not inhibit the flow of people; (2) restrictive—openings should be designed for the intended recyclable materials so as to reduce the incidence of contamination; (3) attractive—recycling containers should be clearly labeled, easily recognizable and designed to attract attention, inviting event participants to use them; (4) simple to service, transport and store—because these containers will probably need to be serviced regularly throughout a several day event, and because it will often need to be done in the presence of crowds, emptying them should be quick, simple, and require little additional space; and, 5) recycling containers should be co-located with trash containers. Also, because most or all of them will not be needed once the event has ended, the containers should be lightweight enough to move easily, designed to maximize the number that can be moved at one time and minimize storage space required, and sturdy enough to withstand regular movement.

Descriptions of a variety of containers are included in the section on Sporting Events and Multiple Use Facilities.

- **Collection/Hauling**—The placement of containers should be planned with collection in mind. The space available will dictate the method that must be used to collect the materials from the event site. The method chosen for managing materials from special events would need to be compatible with whatever entity is used for the processing and marketing of materials.

One strategy to consider is to get such a facility to become an event sponsor and contribute the processing and marketing of recyclables in exchange for recognition at the event.

- Education—While the public will certainly need to be educated on how to recycle at special events, generators (vendors) will need to be educated about how to manage the materials they generate and to assist the public. With the vendors, information/ education materials can be distributed with permits/materials supplied to them when they register for the event.

With vendors, educational materials provided with permits also present an opportunity to present waste reduction concepts. For example, vendors could be encouraged to serve beverages in recyclable rather than disposable containers, serve condiments in refillable containers rather than single serve packets, or give discounts to members of the public who supply their own containers for beverages.

Separate flyers or other recycling-specific stand-alone documents are not very practical for special events. The best methods for educating the public include providing recycling information in programs and other materials that are handed out to everyone, good signage, and having volunteers to assist and instruct persons attending the event. Volunteers have been used in such events with good success. For example, the Boy Scouts/Girl Scouts assist in Penn State's successful tailgate recycling program.

### **Sporting Events and Multiple Use Facilities**

In sporting and multiple use facilities, it may be best to consider placement of permanent containers for the collection of recyclables from the public. Any containers placed in these locations must be of sufficient size to accommodate the amount of material expected, and must be of a design to minimize contamination. They must also be conveniently placed to maximize use and well labeled and attractive to discourage confusion with waste containers. It is probably easier to place one container for commingled recyclables (metals, glass and plastic containers) at these types of locations.

Signage is extremely important for any containers of this type. "Rules" for usage should be simply and clearly stated and the information should be placed strategically with any containers used. It may also be beneficial to work with individuals and organizations that use these facilities to obtain cooperation and assistance in getting spectators/attendees to recycle at these locations. Assuming that there is some type of contract for users of the facility, recycling requirements should be made a provision within the contract.

Because space will probably be an issue, as noted above, it may be best to plan for the use of a single container for commingled materials. The basic options are cluster or multiple material style containers, and Toters or Toter-type containers. A newer option is now available from Resourceful Bags and Tags that provides foldout holders for clear plastic bags, making it easier to see that containers are for recyclables. Another option would be specially fabricated containers using 55-gallon drums with lids having openings that will only accommodate bottles and cans easily, though these are not as attractive and many may equate them with garbage or burning garbage.

- Cluster/Multiple Material Containers—The cluster-style and special multi-material containers are very attractive, compact and designed to minimize contamination. They are relatively easy to service, though they must be serviced manually. The greatest drawback is probably cost, though capacity is somewhat limited as well.

- Toter or Toter-style Containers—Toter/Toter-style containers are attractive and compact, and can accommodate reasonable volumes of material. They may not protect as well against contamination as the clusters, but can be configured in ways that should minimize contamination. These containers are easy to move and service, and can be serviced either manually or using a vehicle designed to lift and empty them.
- Resourceful Bag and Tag Containers—Resourceful Bag and Tag’s containers are simple metal foldout frames that hold clear plastic bags. Lids can be designed to suit materials being collected. These are easy to move, bags can quickly be lifted out and replaced, and they should reduce contamination because it is easy to see inside the clear bags, plus they are clearly different from waste containers.
- Specially Fabricated Drums—Fifty-five gallon drums that are specially outfitted for the collection of recyclables may be a reasonable option for collection in heavy use areas. Assuming they are designed properly, they can be attractive, and they are compact and can accommodate reasonable volumes of material. If the lids are designed properly, they can also minimize contamination. These containers would need to be serviced manually. They should be sturdy enough to withstand heavy usage.

The drawback is that they may be perceived as waste containers, since they are often used for waste. An advantage, however, is cost—55-gallon drums can usually be obtained at a very reasonable cost, and can be modified as necessary to be used for recycling.

It should be noted, however, that the public is not the only generator of recyclables at sporting events and conventions. As is true for large-scale street events, vendors and event organizers usually generate significant amounts of corrugated cardboard. The advantage is that permanent collection areas can be established within the facility for the collection of cardboard, and users can be instructed on preparation and placement of these materials. Management of this material as a recyclable item rather than as disposable should not place a heavy burden on the vendors or organizers.

## Recycling Task Force

Many municipalities find it may be useful to form a recycling task force or advisory committee to assist with planning and implementation efforts. Such a group, consisting of personnel who have a stake in recycling in the community, may provide the best option to assist the municipality in expanding and improving its recycling program. This group should contain a cross-section of people representing a wide range of interests in order to address recycling issues in a manner that considers and meets the needs of all involved. Representatives should have an interest in recycling, and should be, to the extent possible, known and respected in the community. One community that recently established a recycling task force is Mechanicsburg Borough (Cumberland County). They have held several meetings and their activities have already served to raise awareness of recycling in the community.

The following is a list of the organizations that should be considered for representation on a task force or advisory committee:

- Borough administration official
- Elected official
- Borough hauling official
- Recyclables processor

- End user of recycled materials
- Business organizations such as:
  - Chamber of Commerce
  - Rotary
  - Business and professional associations
- Service organizations such as:
  - Kiwanis
  - Lions
  - Jaycees
- Environmental organizations
- School district
- Media
- Major businesses that recycle or are able to contribute time/funds to program
  - Property management companies (for multifamily facilities)
  - Hospitals or other major facilities
  - Banks
  - Respected professionals such as lawyers, doctors, etc.
- Citizens/volunteers

There may be other organizations or individuals that the Borough is able to identify who could make valuable contributions to this type of effort as well. Having representation from all sectors can help in: (1) identifying the issues that need to be addressed; (2) identifying businesses and institutions that may require assistance; (3) identifying types of materials generated and in projecting the tonnage/volume of materials that might be expected; (4) recycling education; and (5) data collection.

Perhaps more significant, a task force or committee may be able to make additional contributions beyond those identified above. For example, a task force or committee may want to implement a technical assistance program to help businesses and institutions that are having difficulty with their recycling programs or that have not implemented a program. Representatives from businesses that are doing well could be paired with other businesses in a sort of “peer match” approach to help those that are struggling. This kind of group may also want to consider cooperative efforts among businesses that would improve collection efficiency and achieve cost savings for businesses that participate.

Finally, a task force or advisory committee spreads the workload over a larger group, and a group where members are affected directly by the decisions of the group. This approach should help to reduce burnout and boost commitment.

## Conclusions

- Phoenixville Borough has a lower than average recycling rate for municipalities of its size and type, and is said to have the lowest recycling rate in Chester County.
- The Borough is moving from contracted to municipal collection of refuse and recycling as a means to improve collection and recycling rates.
- There is a general lack of awareness about Phoenixville’s recycling program requirements and why recycling is important.
- The Borough could boost its recycling rate by expanding and improving its recycling education program both for residences and businesses.

- The Borough could benefit from the establishment of a recycling task force to assist Borough officials involved in the program.
- The Borough has the potential to qualify for significantly more funds through the Act 101 Section 904 Performance Grant if it boosts its recycling rate.

## Recommendations

- The Borough should review and implement the routing recommendations contained in this report for both recycling and refuse collection to achieve efficient collection.
- The Borough should consider implementing a Pay-As-You-Throw program as a means of reducing waste and reducing the cost of disposal and recycling for residents. This would provide a direct incentive for residents to increase their recycling efforts. It should also enforce the provision of its solid waste ordinance that requires all residences to properly dispose of waste in order to ensure that this happens.
- The Borough should improve its recycling education program by providing materials and implementing activities that reach residents through a variety of vehicles and that meet the requirements of Act 101.
- The Borough should promote recycling of additional materials through participation in special collection programs (at the county or regional level) and through its recycling education program.
- The Borough should use the survey provided in Attachment 1 to collect information from commercial and institutional facilities as a means of determining the status of recycling in commercial establishments.
- The Borough should implement a comprehensive recycling education program for commercial establishments and institutions, beginning with the use of materials provided in Attachment 2. Ideally, the Borough should assign some employee time to improving the Borough's recycling program, tasking that employee to provide information and technical assistance to commercial establishments. This assignment of time could be justified given the potential for additional grant awards as illustrated in this report.
- The Borough should implement recycling program at its three annual special events, and should require all who sponsor special events in the Borough to provide for recycling as part of the event.
- The Borough should establish ways to boost recycling from residences and businesses as a means of increasing the award available through the Act 101 Section 904 Performance Grant program.
- The Borough should establish a Task Force or Advisory Committee consisting of key persons from all sectors of the Borough to assist the Borough in expanding and improving its recycling program.



Phoenixville Borough is mandated to recycle, but because of lack of attention to the program, poor collection and poor education, the recycling rate has been the lowest in Chester County. The Borough stands to benefit financially from an expanded and improved residential recycling program (through grants that offset costs), as well as increases in commercial recycling efforts. It is for these reasons that the Borough should strongly consider implementing the recommendations listed above.

Sincerely,  
R.W. BECK, INC.

Sandra L. Strauss  
Environmental Analyst

cc: Carl Hursh, DEP  
Nancy Fromnick, Chester County Recycling Coordinator

Figure 1A

# Area A



Figure 1B

# Area B

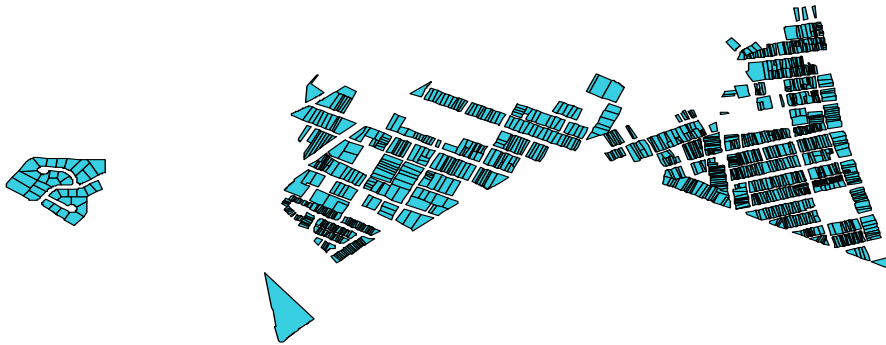


Figure 1C

# Area C



Figure 1D

# Area D



Figure 3A

# Route A1



Figure 3B

# Route A2

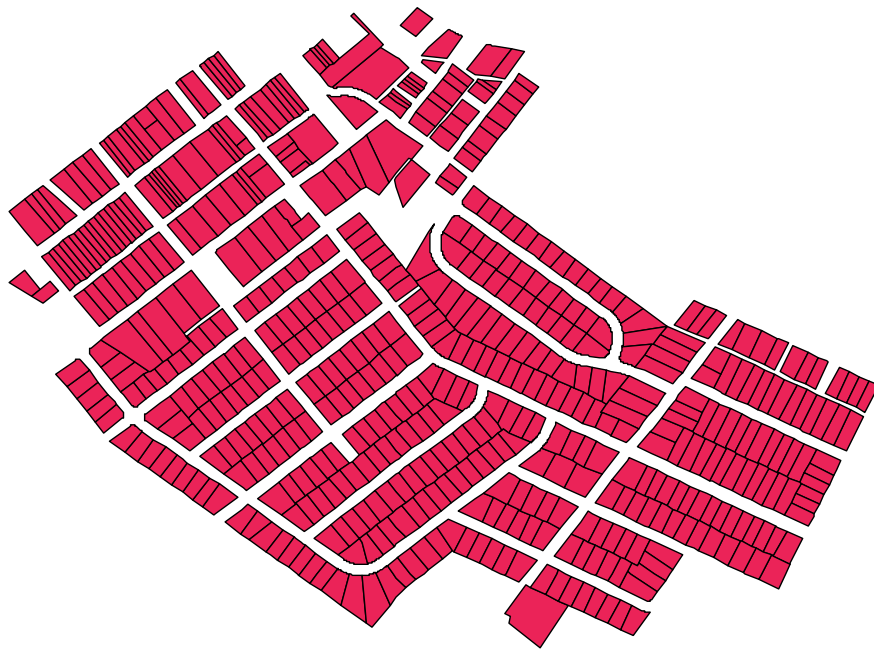


Figure 3C

# Route B 1

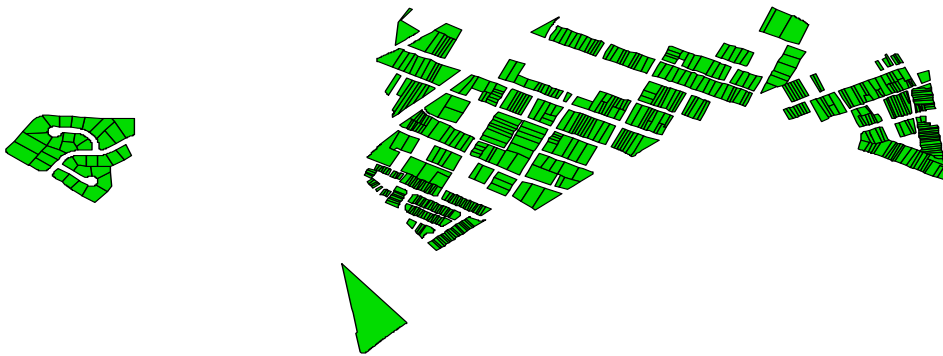




Figure 3D

# Route B2



Figure 3E

# Route C1

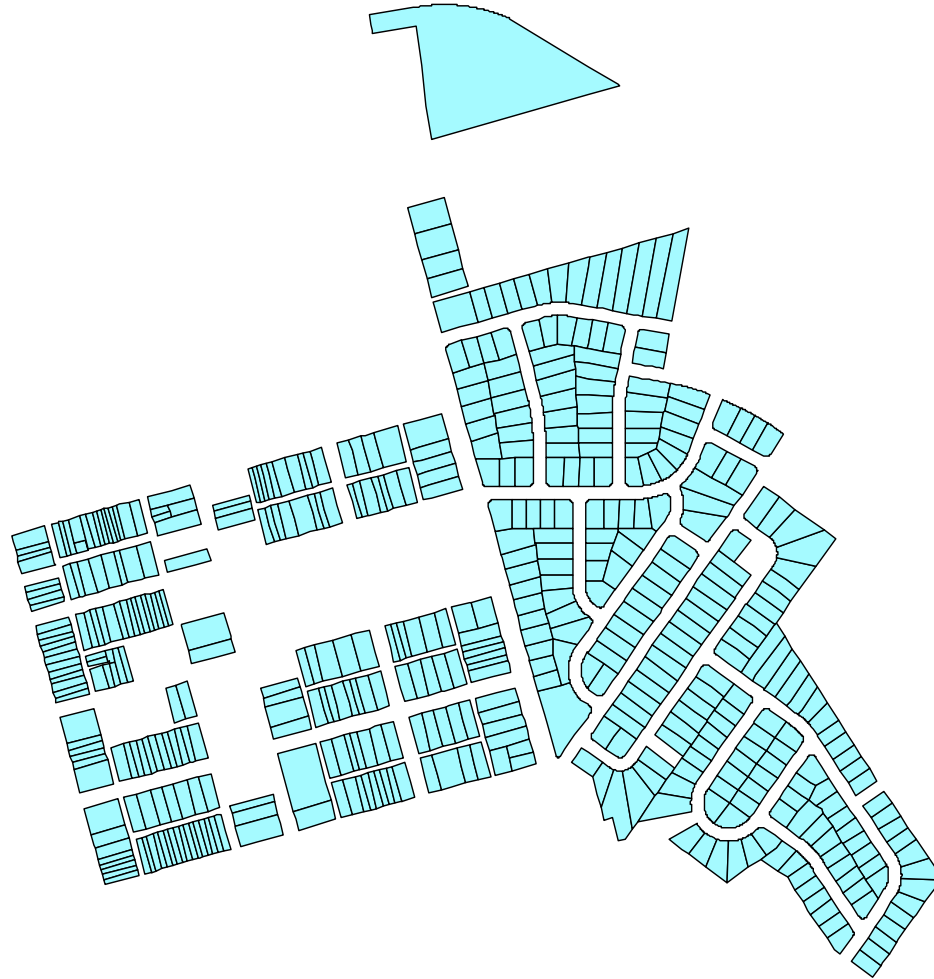


Figure 3F

# Route C2

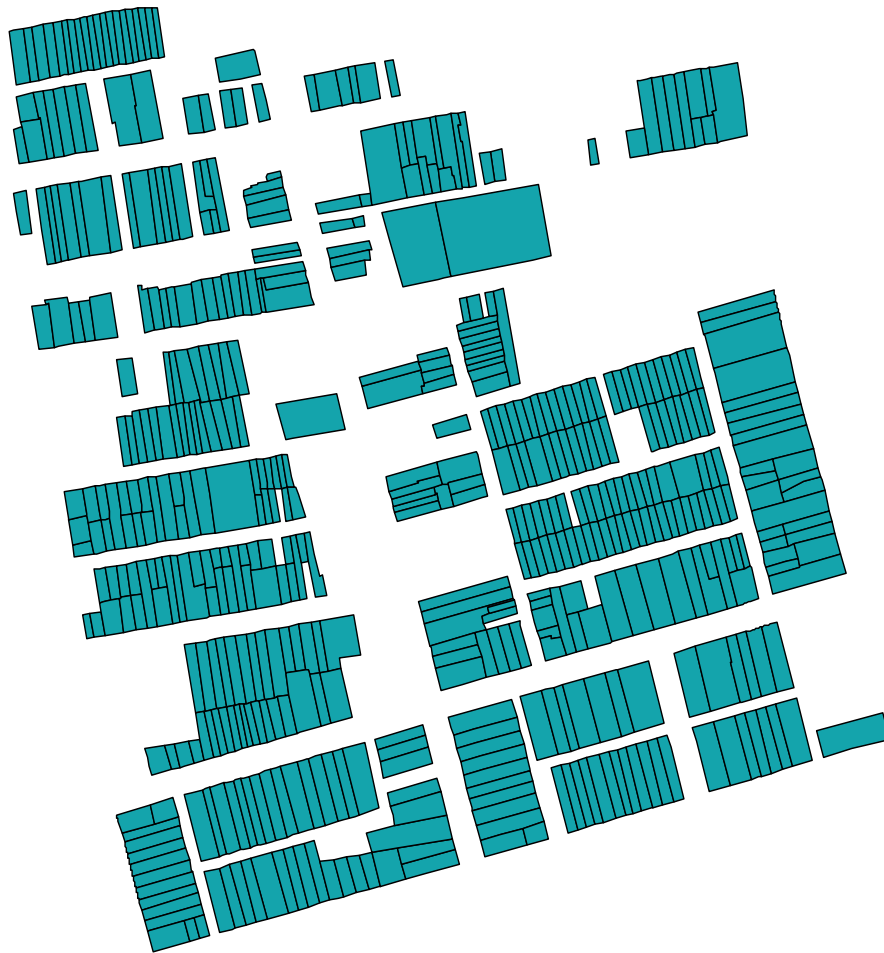


Figure 3G

# Route D1

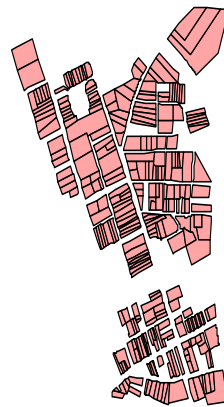
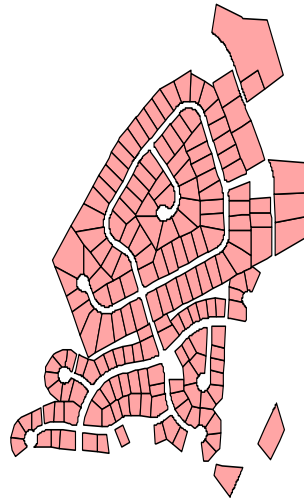


Figure 3H

# Route D2

