



January 6, 2003

Mr. Jonathan Stough
Borough Manager/Secretary
Mechanicsburg Borough
2 West Strawberry @ N. Market
Mechanicsburg, PA 17055

Subject: Improving Recycling in Mechanicsburg Borough

Dear Jonathan:

Mechanicsburg Borough has requested assistance to develop methods to encourage residents to recycle and increase the Borough's recycling rate. This letter is to provide the Borough with the results of R.W. Beck's evaluation of the Borough's overall recycling program.

EVALUATING MECHANICSBURG BOROUGH'S RECYCLING PROGRAM

This evaluation is broken down as follows:

- Residential recycling
- Commercial recycling
- Leaf collection and composting
- Pay-As-You-Throw
- Education and outreach
- Recycling at Special Events
- Data collection
- Grant funding
- Development of a recycling task force/advisory committee

The following issues are considered:

- Identifying areas for improvement in the residential and commercial recycling programs
- Identifying the major establishments or categories of establishments in the commercial and institutional sectors to facilitate development of strategies to promote recycling in these facilities.
- Considering Pay-As-You-Throw as an option to encourage residents to reduce waste generated and potentially save money.
- Collecting information/data from commercial and institutional facilities, possibly through a survey, as a means of assessing the status of recycling in these facilities, real

and potential barriers to recycling, and determining what is needed to improve recycling programs.

- Considering information/education needs and defining appropriate vehicles to reach both the residential sector and commercial and institutional entities.
- Providing information on establishing recycling at special events within the Borough.
- Considering methods to streamline and simplify the reporting process to: (1) make it easy for businesses to report using a “user friendly” form; (2) get more data from haulers and processors, rather than individual businesses, and from larger businesses and property management companies that manage their recyclables at a corporate level; (3) get data on more materials that can be counted toward the Commonwealth’s recycling goal; and (4) get as much of the commercial Act 101 data as possible to take advantage of changes to the Section 904 Performance Grant formula to maximize the grant award to the Borough.
- Analyzing the potential for greater return on Section 904 Performance Grants by making improvements and/or changes/additions to the Borough’s recycling program.
- Developing a recycling task force/advisory committee to assist the Borough in all facets of its recycling program.

RESIDENTIAL RECYCLING

The state’s average generation rate, based on municipal waste generated statewide, is 0.8 tons per person per year, and this is the figure used to estimate total waste generation in the Borough. Assuming a population of 9,042 (as of the 2000 Census), municipal waste generation is approximately 7,230 tons per year. This is the figure used in Table 1 to estimate the amount of Act 101 recyclable materials that are potentially available in Mechanicsburg Borough.

It should be noted that the “Tons in MSW” has not been adjusted to account for recycling throughout the state. In other words, the total tons of Act 101 recyclables available in the waste stream for Mechanicsburg is probably greater than 2,293, as indicated above. Assuming that this is the case, Mechanicsburg’s “Capture Rate”—the percent of materials available collected—is less than the 35 percent indicated.

As for the overall recycling rate, assuming that the total generation is approximately 7,230 tons (as noted above), the recycling rate for the Borough is only 11.1 percent. Again, if recyclables available is greater than 2,293, the recycling rate would also be lower. Table 3 (next page) attempts to break this down by residential and commercial tonnages.

The breakdown is based on data supplied by the Borough. The Borough reported approximately 4,300 tons disposed, which was primarily residential, but did include some municipal and commercial tonnage. Tonnages for newsprint and commingled materials were added to arrive at the total residential tonnage generated. The remainder is assumed to be commercial/institutional.

TABLE 1
ESTIMATED RECYCLABLE MATERIALS AVAILABLE IN MECHANICSBURG BOROUGH

| Material | Percent of MSW¹ | Tons in MSW |
|---------------------------|-----------------------------------|--------------------|
| Corrugated Paper | 6.3% | 455.72 |
| Newsprint | 3.6% | 260.41 |
| Magazines | 2.6% | 188.07 |
| Glass (Clear and Colored) | 2.4% | 173.61 |
| Office Paper | 10.7% | 774.00 |
| Plastic (PET, HDPE only) | 2.1% | 151.91 |
| Steel and Bimetallic Cans | 1.2% | 86.80 |
| Aluminum Cans | 0.5% | 36.17 |
| Yard Waste | 1.7% | 122.97 |
| Grass | 0.6% | 43.40 |
| TOTALS | 31.7% | 2,293 |

The Borough reported a total of 801.23 tons recycled from both residential and commercial sources in 2000. The breakdown is as follows:

TABLE 2
ACTUAL RECYCLING IN MECHANICSBURG BOROUGH

| Material | Tons in MSW² | Actual Recycling | Capture Rate³ |
|-----------------------------------|--------------------------------|-------------------------|---------------------------------|
| Corrugated Paper | 455.72 | 82.55 | 18% |
| Newsprint | 260.41 | 371.96 | 143% |
| Office Paper | 774.00 | .97 | .1% |
| Commingled Materials ⁴ | 448.48 | 345.75 | 77% |
| Yard Waste | 122.97 | 0 | 0 |
| TOTALS | 2,293 | 801.23 | 35% |

TABLE 3
PERCENT RECYCLED IN MECHANICSBURG BOROUGH BY SECTOR

| Sector | Total Tonnage | Tons Recycled | Recycling Rate |
|--------------------------|----------------------|----------------------|-----------------------|
| Residential | 4,999 | 699 | 14% |
| Commercial/Institutional | 2,231 | 102 | 4.6% |

¹ Based on preliminary data from suburban sources, PA Waste Characterization Study (2001-2002)

² This is what was still found in the waste stream and has not yet been adjusted for actual recycling. Once adjusted, this number is expected to be greater. This would probably account for the discrepancy in newsprint recycling.

³ This is percent of materials available only, not of entire waste stream.

⁴ Includes total percentage for glass, plastic, steel and aluminum cans.

If the percentages in Table 1 are reasonably accurate, it would be impossible to reach a 35 percent recycling rate with Act 101 materials alone. What this means is that the Borough needs to encourage the recycling of additional materials at the residential level, but it should be noted that the greatest potential exists for encouraging additional recycling by commercial/institutional establishments.

One more thing to note is that the reported recycling is almost certainly lower than what is actually being recycled. Based on information reported by the Borough, attempts to collect commercial/institutional reporting data have been minimal, and simply improving data collection would probably result in a higher recycling rate. And while the recycling rate is almost certainly higher than indicated above, it will take significantly more effort to provide education and assistance in order to realize any dramatic increases in the Borough's recycling rate.

OTHER RECYCLING OPTIONS

Yard Waste. Composting or land application of leaf and yard waste has the potential to divert large volumes of waste. The Borough does provide for the collection of yard waste from residents, and reports that the material is delivered to a farmer for land application. No records have been kept as to the amount of leaf waste diverted from the waste stream through the Borough's program. While weighing may not be an option, the Borough could track volumes of leaves diverted and convert the volume to weight. A rule of thumb is that one ton is approximately four cubic yards of leaves. While leaves may not be claimed for Section 904 Performance Grant funding, tracking the tonnage of leaves would help to boost the Borough's recycling rate.

The Borough reports that there has been some discussion with Silver Spring Township concerning development of a leaf composting site. The Borough could provide personnel to help operate such a site, or could pay a tipping fee for the use of the site. Regardless of how the Borough manages collection and processing of yard waste, it should consider promoting home composting by residents. The Borough could work with the County Recycling Coordinator and/or County Cooperative Extension office or garden clubs to provide an educational program, and purchase of home compost bins is eligible for funding under Section 902 Recycling Program grants.

Other Materials. As noted above, it would be difficult, if not impossible, to reach a 35 percent recycling goal with Act 101 materials alone. Many municipalities encourage recycling of other items as well in order to boost their recycling rate and limit the waste that must be sent for disposal. There are usually other opportunities throughout a county or region for recycling of this type. The Borough could increase tonnage at the curb by adding magazines to its mix. A number of haulers—including Waste Management, the Borough's current hauler, whose contract is to be extended—accept magazines. It would be worth exploring other materials that could be added to the curbside mix.

Other materials that can be recycled include, but are not limited to, used oil, tires, automotive batteries, textiles, and appliances. There may also be opportunities to partner with other municipalities to sponsor periodic events to collect some of the larger, more difficult to recycle items. The Borough should consult with the County Recycling

Coordinator to determine what other options exist and provide the information to residents.

PAY-AS-YOU-THROW (PAYT)

Also known as unit-based or variable rate pricing, customers in a Pay-As-You-Throw (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. Well over 100 municipalities in Pennsylvania have implemented some form of a PAYT program. In fact, the City of Wilkes-Barre has operated a PAYT program for a number of years and reports a significant reduction in the cost of waste management services. A representative from Wilkes-Barre reported the reduction to be approximately 50 percent of the cost prior to implementing the program.

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

- Waste reduction
- Reduced waste disposal costs (as suggested above by the City of Wilkes-Barre representative)
- 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 the residents.

Challenges to Balancing the Budget. In every program there are fixed costs that exist regardless of the amount of waste that is disposed. These include municipal salaries, administrative costs, and collection costs. Municipalities have personnel who manage the program—some full time, some as part of a range of duties, so their entire salary and benefits or portion of the salary and benefits attributable to these duties should be assigned to the program. 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.

Variable costs include waste disposal and processing of recyclables, which are largely based on the tonnage of materials disposed and/or processed.

All the costs associated with the program must be factored into the rate system. For instance, the costs associated with recycling and composting collection and processing must be factored into the PAYT rate unless a separate fee is charged for these services. Because they supplement the refuse program it is advisable to keep the fees in the rates charged for the overall program.

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 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 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 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 such as that used by Elizabethtown.
- 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.

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 PUBLIC EDUCATION

There is no specific "recipe" for public education that is guaranteed to work for every municipality. The variety of programs and vehicles is just about as numerous as the number of recycling programs in the state. Factors to consider include, but are not limited to size, demographics, geographic location, whether the area is urban, suburban or rural, type of program, mix of housing (single/multi-family, permanent vs. transient) proportion of residences to businesses/institutions. What works for a given area is a function of matching the type and size of effort to the target audiences in that area.

There is a need for a heavy focus on education in the implementation phase of a program in order to promote participation and train program participants about how to recycle. Most municipalities do this relatively well. As programs mature, however, some level of educational effort must continue, though the effort can probably continue at a more moderate level. The typical citizen will do his or her duty, but usually needs regular reminders about the hows and whys of a program.

Brochures. The Borough should probably develop a recycling brochure or similar publication that explains how the program works, including when and where, materials collected, preparation of materials, and why the program is important. This should be distributed to all residents of the Borough, and the distribution is probably best accomplished by mail. However, it may also be possible to work with a local advertising publication to distribute the materials as an insert or to print the information prominently in the publications. Mailing the brochures would ensure that they are received, though there is still no guarantee that they will be kept.

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 events like Jubilee Day. Promotional items could include a range of products, from inexpensive pens, pencils, rulers, and refrigerator magnets to note pads or even tote bags. Any items purchased are eligible for funding through the Section 902 Recycling Program grants.

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 could potentially be funded through Section 902 Recycling Program Grant.
- The Borough could institute a “Recycling Household of the Month” program, with selected households featured in a 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.
- 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 two times a year, and this has not been happening in the Borough. Reminders could be provided through production of a new brochure that is distributed annually and joint efforts with a local publication to include ongoing recycling information for residents.

Mechanicsburg Borough Website. The Borough should include a recycling page on its website. The website address could easily be incorporated on something like a fridge magnet, and residents could go to the site to find information about the program, special collection efforts, home composting, and related information. The Borough could even offer an option for residents to sign up for a list serve that provides 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 often become 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 Recycling Coordinator usually has resources available to assist with education in the schools as well.

COMMERCIAL AND INSTITUTIONAL ESTABLISHMENTS

IDENTIFYING COMMERCIAL AND INSTITUTIONAL ESTABLISHMENTS

Assessing the status of commercial recycling in Mechanicsburg Borough is not an easy task. 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. A review of the Borough's ordinance shows that the Borough has done this, with the required materials for separation being those required by Act 101—high grade office paper, corrugated cardboard,

and aluminum cans—plus glass bottles. These establishments are also required to separate leaf waste where it is generated, and this is not covered in the ordinance.

Commercial and institutional establishments have received little information from the Borough concerning their obligation to implement recycling. It is not clear whether or not most businesses know that recycling is mandatory. The Borough has also identified a problem that makes notification of all businesses and institutions difficult. There is no complete listing of all the businesses and institutions located in the Borough. Therefore, one of the issues that must be addressed before substantial improvements can be made is that businesses and institutions operating in the Borough must be identified in some way.

The Borough may 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. However, prior to distributing any survey, the Borough should attempt to develop a list of businesses and institutions in the Borough that will make it possible to target efforts to promote, implement, and improve commercial and institutional recycling efforts.

There are several ways to approach developing such a list. One is to look at various directories that already exist, from telephone directories (particularly the “business-to-business” type directories) to chambers of commerce and business association memberships. Churches, schools, government offices, hospitals and large businesses should be simple to gather. More difficult will be retail establishments and professional offices such as lawyers, doctors, accountants, etc. The only way to get a reasonably good list of all commercial and institutional establishments may be to do a street-by-street assessment of the Borough and record findings. Volunteers could do this. A useful part of this kind of survey is to also identify those that are stand-alone entities, and those that are located within leased space operated by a property management group that is responsible for waste management for the entire facility, along with the name of the management entity. For the future, it may also be helpful to find a method that would make it possible for the Borough to receive information on new businesses as they locate in the Borough. This is information that may turn out to be useful for other purposes as well, and is something that should be explored.

It should be noted that the Borough has identified some of the larger commercial and institutional entities. These include:

- Keefer’s IGA
- CVS Pharmacy
- Frye Communications
- U.S. Post Office
- 4 schools (2 elementary, 1 intermediate, 1 high school)

The Borough also noted that there is one apartment complex, the School House Apartments.

The street-by-street survey suggested above could be used to gather the initial information about businesses and institutions in the Borough. This effort could be followed up by telephone survey to get specifics concerning the mailing address and recycling/waste

contact. All this information could be entered into a database that would make it simple for the Borough to contact these entities when necessary, and to update when changes are required.

PUBLIC EDUCATION FOR BUSINESSES AND INSTITUTIONS

It is important to know who the target audiences are. The Borough should have a pretty good idea of the major sectors that would need to be addressed. A basic education campaign should include the following:

- Requirements—state, county, and local, 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 public education materials, including fact sheets targeted at specific sectors or certain materials.

Educating Reluctant Commercial Establishments. Many small businesses 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 Mechanicsburg are mandated to recycle under Act 101. The Borough must require them to recycle by ordinance. 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.
- **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 usually 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. This can be as simple as the program in Camp Hill Borough, 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 any 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.

Recycling Task Force. In a municipality like Mechanicsburg Borough, where size and budget limit the ability to hire personnel to manage a recycling program or time that existing personnel can dedicate to recycling, it may be useful to form a recycling task force or advisory committee to assist with planning and implementation efforts. A recycling task force or advisory committee, 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. The following is a list of the organizations that should be considered for representation on a task force or advisory committee:

- Mechanicsburg Borough administration
- Elected official
- Waste/recycling hauler
- 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 (that manage complexes with multiple businesses)
 - 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 should be recycling or may require assistance; (3) identifying types of materials generated and in projecting the tonnage/volume of materials that might be expected; (4) public 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 have not implemented a program. Representatives from businesses that are doing well could be paired with similar 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.

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 no opportunity for advance education in most cases.

Mechanicsburg has one major event, Jubilee Day, where recycling is mandated. The Borough reported that no program has been established for this event. Other events, such as school sporting events, should provide opportunities for recycling as well.

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).

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 like Jubilee Day 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 Mechanicsburg, 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 | End market (who will accept 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 will not be a final layout until much closer to the event, it helps to begin with a general layout/schematic which 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 materials so as to reduce the incidence of contamination; (3) attractive—recycling containers should be easily recognizable and 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. 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.
- **Collection/Hauling**—It is assumed that the Borough’s hauler manages collection of waste from these events, and it is expected that these crews would also be responsible for collecting recyclables. 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, 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. 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.

There has been a recent development that may be of interest. There are now containers available that carry advertising space. The advertising revenues are used to fund placement and servicing of the containers.

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.

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.

DATA COLLECTION

The Borough is required to obtain recycling information from commercial and institutional entities to prepare an annual recycling report for Cumberland County. This report is due to the County by February 15 of each year. The Borough can continue to solicit and collect information throughout the year, however, to be used to develop an annual Section 904 Performance Grant application, which has been due on or around September 30 for the last few years. Of course, any additional information collected should be provided to the County to be used toward the County's recycling rate. While the governor's goal of 35 percent recycling has been met, Mechanicsburg Borough is far from reaching its potential recycling rate.

R.W. Beck has developed a "user friendly" reporting form to collect commercial and institutional recycling data. Collecting comprehensive data in light of the revised Section 904 Performance Grant formula can benefit the Borough, since there will now be financial return for all Act 101 materials collected by businesses, not just those that make up a one-to-one match with materials collected from residences.

Attachment 3 is a proposed annual reporting/data collection form. It is simple, gathers basic information about respondents to ensure accurate accounting, and requests data on a range of recyclable materials that could potentially be managed in the commercial/industrial sector.

While this form is designed to be mailed to all commercial and institutional establishments, the Borough would be better served by undertaking a strategy that would result in more data per contact. This is a strategy that has been recommended for several years by the Professional Recyclers of Pennsylvania (PROP), and involves targeting the following entities for information:

- **Haulers.** In Mechanicsburg Borough, there are only a handful of haulers that collect recyclables from commercial and institutional establishments. These haulers can report on all commercial, institutional and industrial establishments located in the Borough on a single form, so the data is collected even if many individual businesses don't report.

These haulers should also be required to provide a list of the customers they serve for two primary reasons: (1) it gives the Borough information on who is in basic compliance with recycling requirements, which will help as the Borough works toward gaining compliance from all commercial and institutional establishments; and (2) it helps to prevent double counting of data if it is reported by both the hauler and the individual business.

- **Brokers.** In some cases, brokers may be collecting recyclables directly from commercial and institutional establishments in the Borough. Similar to haulers, they can report for all customers on a single form, and should provide a list of their Borough customers.
- **Corporations and others that manage their own recyclables (including property/rental management companies).** Some larger companies manage their recyclables at the corporate level and they collect and market materials directly. This is usually true for larger retailers like WalMart and for large grocery store chains like Giant. These entities sometimes report to county recycling coordinators only, and sometimes to both the county and municipalities where their facilities are located. The county recycling coordinator should be contacted to determine whether or not there is any data reported to the county that has not been reported to the Borough.

Property/rental management companies are usually responsible for managing all the waste in multi-story buildings or complexes that house a number of businesses. They can provide aggregate data for entire buildings, and should be required to provide a list of tenants, similar to haulers providing customer lists. Many—probably most—may be using one of the haulers operating in the Borough, however, so this should be ascertained in order to avoid double counting of data.

It should be noted that haulers, including brokers that collect recyclables, are sometimes reluctant to provide customer lists because they consider it to be proprietary information. The Borough should find a strategy that ensures that this information is provided. An assurance that the information will be kept confidential has often been enough for some municipalities and counties, since it is only a list and does not provide specific data for each customer—information that could be valuable to competitors. If haulers refuse to provide this information, the Borough should contact the county recycling coordinator to find out about any hauler licensing requirements the county might have. Many counties include provisions that haulers (1) submit annual recycling reports and (2) provide lists of customers with the reports. If this is the case, the Borough should be able to collect the desired data citing the county's requirements.

GRANT FUNDING

The Borough has the potential to qualify for significantly more funds through the Section 904 Performance Grant. Improvements in the residential recycling rate, plus improved collection of commercial (and institutional) data, could potentially result in the level of grant awards illustrated in Table 4.

The recycling rate used to prepare these estimates is based on waste generation of 0.8 tons per person per year. At 9,042 population, the waste generation rate is 7,230 tons per year.

As illustrated, boosting the commercial recycling tonnage reporting by 100 percent alone—which should be achievable given the low level of data collection currently—would boost the Section 904 grant award under the new formula by nearly \$3,000. Collecting data at triple the current commercial tonnage, plus a 50 percent improvement in the residential recycling rate, would cause the grant award to nearly double. And doubling the residential recycling rate, plus quadrupling the commercial rate, would more than quadruple the grant award. While it would take some work to improve the residential rate this dramatically, the materials are available to make this possible. Reaching the higher commercial rate is probably achievable by better data collection alone.

Any activity that helps to increase curbside collection of recyclables will help in the bottom line. In particular, newsprint should receive attention because it is the most significant recyclable material by weight in the residential waste stream. Newsprint generally makes up 40 to 50 percent of the tonnage collected in curbside programs. A higher recycling rate means more paid per ton collected under the Section 904 grant formula. For example, in Table 4, the Borough gets \$5.00 per ton for its total of 801.23 tons of residential and commercial recyclables. The estimated recycling rate using these figures is 11.08 percent, so

TABLE 4
ESTIMATED 904 GRANT AWARD WITH EXPANDED COMMERCIAL AND RESIDENTIAL TONNAGE

| Category | 2000 Tonnage | 2000 Tonnage + 100% More Commercial | 50% More Residential + 200% More Commercial | 100% More Residential + 300% More Commercial |
|----------------------------|---------------------|--|--|---|
| Residential ⁵ | 698.90 | 698.90 | 1,048.35 | 1,397.80 |
| Commercial ⁶ | 102.33 | 204.66 | 306.99 | 409.32 |
| Total Recycling | 801.23 | 903.56 | 1,355.34 | 1,807.12 |
| Recycling Rate | 11.08% | 12.5% | 18.75% | 24.99% |
| Estimated 904 Grant Award* | \$12,884 | \$15,812 | \$25,413 | \$54,196 |

**Calculated as follows: \$5 plus \$11.08 (or \$12.50, \$18.75, \$24.99) (based on 904 recycling rate) times residential tonnage plus 1:1 match with commercial tonnage, plus \$10 times the remaining commercial recycling tonnage (0 in this case); totals for additional commercial tonnage include the greater balances of commercial tonnage after the 1:1 match*

an additional \$11.08 is paid per ton for the total tonnage cited above (for a total of \$16.08 per ton).

If the Borough were to boost curbside diversion of recyclables by 50 percent, the Borough could then claim a significantly greater recycling rate, which would increase the grant award considerably. The Borough would receive \$5.00 per ton for all residential recyclables plus \$5.00 per ton for the equivalent amount of commercial recyclables. The Borough would then receive an additional \$18.75 and \$24.99 per ton respectively under the scenarios

⁵ Includes newsprint and commingled containers.

⁶ Includes corrugated cardboard, office paper, and some commingled materials.

presented above. This is not only a higher rate per ton, but it is paid on more tonnage, so the grant award grows exponentially.

CONCLUSIONS

- Mechanicsburg Borough has a lower than average recycling rate for municipalities of its size and type.
- Public education among residents has been minimal.
- Volume/tonnage of leaves has not been reported.
- Recycling is mandatory for businesses and institutions in Mechanicsburg Borough, and it is not clear how many businesses are aware of this.
- There is no method available to identify all the businesses and institutions located in the Borough.
- It appears there have been no comprehensive education efforts to assist the commercial and institutional sectors in either implementing or improving their recycling programs.
- While all known commercial and institutional establishments are sent annual reporting forms to submit recycling and waste data to the Borough, many do not respond and there have been no enforcement activities to encourage greater compliance.
- The Borough has the potential to qualify for significantly more funds through the Section 904 Performance Grant.

RECOMMENDATIONS

- Mechanicsburg Borough should address shortfalls in its recycling public education program by implementing materials and activities that reach residents through a variety of vehicles and that meet the requirements of Act 101.
- The Borough should track volumes of leaves collected to be converted to tonnage and included in the Borough's annual recycling report to the County. The Borough should also promote home composting by residents.
- The Borough should promote recycling of additional materials through participation in special collection programs (preferably at a county or regional level) and through its public 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 develop a comprehensive list of commercial establishments and institutions that it can use for the purpose of recycling data collection.
- The Borough should use the annual reporting form provided in Attachment 3 in future years to collect annual recycling data and to obtain more complete information from commercial establishments in the Borough.
- The Borough should enforce submission of annual reports by commercial establishments and institutions, but should also implement a data collection program that helps to streamline the process and allow for more complete collection of data. The Borough should request data directly from haulers, brokers, and property managers, and should require that they submit customer lists with the data. The Borough should

consider changes to its ordinance to require these entities to submit both data and customer lists.

- The Borough should implement a comprehensive 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 and to establish a comprehensive data collection program. This assignment of time could be justified given the potential for additional grant awards as illustrated in this report.
- The Borough should implement a recycling program for Jubilee Day, and should require all who sponsor special events in the Borough to provide for recycling as part of the event.
- The Borough should improve commercial data collection and/or establish ways to boost recycling from residences as a means of boosting the award available through the 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.
- 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.

Mechanicsburg Borough is mandated to recycle, yet recycling is barely visible. The Borough stands to benefit financially from an improved commercial recycling program, and for that reason, the Borough should strongly consider implementing the recommendations listed above.

Sincerely,
R.W. BECK, INC.

Sandra L. Strauss
Environmental Analyst

cc: Carl Hursh, DEP
Recycling Coordinator, Cumberland County