June 2, 2008

Mr. Robert Aungst
Director, Planning Commission
Columbia County
702 Sawmill Road, Suite 104
Bloomsburg, PA 17815

Dear Bob,

This letter summarizes the findings of our evaluation of permanent, trailer-based drop-off recycling program options to service 10 municipalities in Columbia County, Pennsylvania. The evaluation was performed as a Recycling Technical Assistance Program project, which is a cooperative program of the Pennsylvania Department of Environmental Protection (DEP) and the Solid Waste Association of North America (SWANA).

Executive Summary

Columbia County is on the eastern end of the PA Department of Environmental Protection (DEP)'s Northcentral Region. The County has a population of 64,939 (2005 estimate) and a land area of 490 square miles. Columbia County is home to one Town, Bloomsburg, the County seat, as well as nine Boroughs and 24 Townships. It also hosts 23 unincorporated villages or other census designated places.

Columbia County would like to offer recycling services in 10 of these municipalities or places that do not have recycling. The County envisions a network of drop-off sites that would be permanent but easily serviced, using recycling trailers that could be towed with existing County heavy-duty pick-up trucks. The Town of Bloomsburg has indicated to Columbia County that it will accept recyclables collected in the drop-off program at the Bloomsburg Recycling Center.

R. W. Beck estimated the weights and volumes of potential recyclables from these municipalities, based on a total number of sites and potential municipal locations provided by Columbia County staff. From these weights and volumes, and assuming trailer capacities of 20 cubic yards to extend the time between servicing the sites, a potential site servicing schedule was developed. Based on these estimates, R. W. Beck identified three manufacturers that provide recycling trailers of the type that could be suitable for the program, and researched their products, then provided a summary of the features and costs of a number of trailers with various capacities, configurations, unloading systems and prices. The potential capital cost of 10 trailers was estimated, both with and without Pennsylvania DEP Section 902 grant funding. Total program costs for both purchasing the trailers and servicing them, were estimated based on the mileage between the municipalities and the Bloomsburg County Recycling Center. Recommendations regarding public education and promotion of the new drop-off sites were also developed.

R. W. Beck recommends that Columbia County purchase sufficient recycling trailers of suitable capacity and design to provide recycling services in municipalities that choose to

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partner with the County on a drop-off recycling program. The County should apply for PA DEP 902 grant funding to cover most of the costs of the trailers. Each municipality that hosts a trailer drop-off site should be responsible for the costs of hauling the materials to the Town of Bloomsburg Recycling Center. A kick-off public education program should be implemented, to introduce the public to the new recycling center and encourage participation. Public education should also be ongoing. Funding for the educational program should also be sought from a Section 902 grant.

Background

Columbia County is on the eastern end of the PA Department of Environmental Protection (DEP)'s Northcentral region. The County has a population of 64,939 (2005 estimate) and a land area of 490 square miles. Columbia County is home to one Town, Bloomsburg, the County seat, as well as nine Boroughs and 24 Townships. It also hosts 23 unincorporated villages or other census designated places.

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Table 1 presents these places and their populations, along with the number of drop-off centers that Columbia County would like to establish:

Table 1
Potential Columbia County Drop-off Locations

Municipality	Population	Proposed number of drop-offs
Briar Creek Township/Mifflinville Township	5,312	2
Roaring Creek Twp/Locust Twp/Franklin Twp	2,502	2
Elysburg (Northumberland County)/Numidia	2,321	1
South Centre Township	1,972	1
Hemlock Township	1,874	2
Benton Township	1,216	1
Millville Borough	957	1
TOTALS	16,154	10

Recycling Generation and Disposal

To determine the number and type of recycling trailers needed for these drop-offs, their size, configuration and capacity, and the frequency of service, the quantities of recyclable materials expected to be generated in these communities was needed. According to DEP reports of solid waste tonnage generated and recycled, in 2003 Columbia County generated 55,811 tons of solid waste, or approximately 0.86 tons per person per year. The 2005 PA DEP Recovered Materials Composition Study estimated the tonnages of each targeted recyclable material in the waste stream for rural, north central Pennsylvania. These figures were correlated to determine the tonnage of each recyclable material in the waste stream. Next, standard conversion factors were used to obtain volume figures (cubic yards) of each material. A 10 percent participation rate was assumed, based on similar types of programs across Pennsylvania and the U.S., and used to calculate the volume of each desired material that can be expected to be recycled at each of the proposed drop-off locations on a weekly basis.

Since portable recycling trailer compartments have a minimum of one cubic yard capacity, each volume has been rounded to the nearest quarter of a cubic yard.

Table 2 presents the results of these calculations.

Table 2
Anticipated Cubic Yards Generated Weekly per Location and Material Type

Municipality (Number of Locations Proposed)	Newspaper (ONP)	Magazines (OMG)	Steel Cans (ST)	Aluminum Cans (AL)	Plastic Bottles #1 & #2 (PL)	Clear Glass (GL)	Total Weekly Capacity Needed
Briar Creek/Mifflinville Twps, Location 1	.75	.25	1.0	1.75	6.5	.5	10.75
Briar Creek/Mifflinville Twps, Location 2	.75	.25	1.0	1.75	6.5	.5	10.75
Roaring Creek/Locust/Franklin Twps, Location 1	.5	.25	.5	.75	3.0	.25	5.25
Roaring Creek/Locust/Franklin Twps, Location 2	.5	.25	.5	.75	3.0	.25	5.25
Elysburg/Numidia	.75	.25	1.0	1.5	5.5	.25	9.25
South Centre Twp	.5	.25	.75	1.25	4.75	.75	8.25
Hemlock Twp, Location 1	.75	.25	.5	.5	2.25	.25	4.5
Hemlock Twp, Location 2	.75	.25	.5	.5	2.25	.25	4.5
Benton Township	.5	.25	.5	.75	3.0	.25	5.25
Millville Borough	.5	.25	.5	.5	2.25	.25	4.25

Based on these calculations, if each location used a 20-cubic yard trailer, the frequency that each would need to be emptied is presented in Table 3.

Table 3
Frequency of Service for 20-cubic Yard Recycling Trailers

Location	Frequency
Briar Creek/Mifflinville Twps, Location 1	Bi-weekly
Briar Creek/Mifflinville Twps, Location 2	Bi-weekly
Roaring Creek/Locust/Franklin Twps, Location 1	Every 3 to 4 weeks
Roaring Creek/Locust/Franklin Twps, Location 2	Every 3 to 4 weeks
Elysburg/Numidia	Bi-weekly
South Centre Twp	Bi-weekly, or possibly every three weeks
Hemlock Twp, Location 1	Every three weeks, possibly monthly
Hemlock Twp, Location 2	Every three weeks, possibly monthly
Benton Township	Every three weeks, possibly monthly
Millville Borough	Every three weeks, possibly monthly

These estimated service frequencies are approximations. Factors that will influence the rate at which the trailers reach capacity and require removal will include actual participation rates, the configuration of the bins or containers, seasonality, and other factors that are unpredictable. The suggested frequencies are meant to be used for planning purposes only. It is always wise to collect and empty any recycling container or receptacle before it overflows. However, collecting them before they are full reduces efficiency and increases costs per ton. With experience, the personnel that service the trailers will learn the optimal service frequency, or adjust compartment sizes, as described below.

Recycling Program Equipment

The greatest advantage of using recycling trailers for permanent drop-off locations is that the units can be towed by a heavy-duty truck, rather than requiring specialized equipment such as a roll-off truck or front-end loader. Other advantages include:

- Site preparation is usually easier and less expensive, and easier to relocate, if necessary;
- Trailers are clearly different in appearance from “dumpsters,” and thus may be more successful at deterring contamination by garbage;
- The separate compartments on trailers, usually holding one or two cubic yards, provide flexibility in adjusting capacity to more efficiently accommodate the actual volume of recyclables; and

- Trailers provide the flexibility of establishing temporary drop-off locations for specific purposes – for example, a trailer could be towed to a community event such as a festival to provide attendees with a recycling option.

Several companies manufacture recycling trailers in various sizes. Three of these manufacturers, and descriptions of their trailers, are provided below.

1. Dempster Industries, Beatrice, Nebraska (800/777-0212)

Dempster Industries makes four models of recycling trailers under the AlleyCat brand name. The general features of their trailers include:

- Frames are made of galvanized steel;
- Bins are made of heavy-duty, post-industrial LDPE regrind plastic in either one or two cubic yard capacity depending on trailer size;
- The bins are removed and dumped using a forklift.

The specifications for the two largest AlleyCat trailers are presented in Table 3.

Table 3
Dempster AlleyCat Recycling Trailer Specifications

Model	RSWT-3000	RSWT-5000
Axles	2 - 3500 lb. capacity each	3 - 3500 lb. capacity each
Brakes	Hydraulic surge w/ emergency breakaway	Hydraulic surge w/ emergency breakaway
Lights	Rear stop/turn, side/rear clearance DOT approved	Rear stop/turn, side/rear clearance DOT approved
Bins	10 individual units Heavy duty roto-molded 4-way forklift entry Nestable Stackable w/ optional lid	14 individual units Heavy duty roto-molded 4-way forklift entry Nestable Stackable w/ optional lid
Capacity	10-12 cubic yards	14-16 cubic yards
Curb Wt.	2960 lbs.	4200 lbs.
Tongue Wt.	360 lbs. empty	520 lbs. empty
Gross Wt.	6000 lbs.	9200 lbs.
Price (excl. freight)	$13,342	$17,475

Pennsylvania counties using Alleycat trailers include Armstrong County and Greene County. A representative of Greene County's recycling processor, GreenArc, reports that the Townships

that use and haul the trailers are satisfied with them. They use the largest model trailer to minimize the number of collections required. The trailers are pulled by dump trucks owned by the individual townships where the trailers are located. The GreenArc representative had one caution about the trailers: to unload the bins, they must be slid along the frame rails to either end of the trailer, then lifted. To manage the process, the bins are arranged so that the heavier compartments – glass and newspaper – are positioned on the ends of the trailers and the lighter materials such as aluminum and plastic are in the middle. The lighter bins can then be pushed by hand to the ends for forklift access. The reason is that the wheel wells extend over the edge of the middle bins, as shown in Figure 1 below.

This user also reported that a forklift with a rotating head was very helpful for removing and tipping bins easily, and also allowed the material in the bins to be tipped into a hopper or onto a sorting table, not only onto the floor, if that were desired.

Figure 1 below shows a photograph of an AlleyCat trailer, and Figure 2 shows the process of unloading it.

Figure 1
Dempster AlleyCat 5000

Figure 2
Unloading Bins from AlleyCat Trailer

2. Pro-Tainer, Alexandria, Minnesota (800/248-7761)

http://www.protainer.com/products/progravity.cfm

Pro-Tainer manufactures five types of recycling trailers: Pro-gravity, Pro-side dump, Pro-bin, Pro-tilt and Pro-roll off. For Columbia County's purposes, the Pro-gravity, Pro-side dump and Pro-bin designs would all be appropriate.

Pro-Gravity – These trailers are fabricated of steel and painted. The compartments for the recyclables are integrated into the structure of the trailer – they are not removable. Each compartment features a sloping floor and a locking door in the front. When brought to the processing center, the door is opened and the material slides out onto the floor – no forklift is necessary. While this is easier and potentially time-saving over the need to use a forklift, it also prevents dumping the load onto any other surface except the floor, such as into a hopper. Pro-gravity trailers are available a in range of capacities, from 9 to 20 cubic yards.

The specifications for the Pro-gravity trailer are provided in Table 4. The company estimates that shipping costs would be approximately $1,500 per unit.

Table 4
Pro-Tainer Pro-Gravity Recycling Trailer Specifications

Model	PGT-18T-3	PGT-20T-3
Axles	2 – 6,000-lb Torflex	2 – 6,000-lb Torflex
Brakes	Electric with Breakaway Kit (Optional Hydraulic)	Electric with Breakaway Kit (Optional Hydraulic)
Lights	N/A	N/A
Bins	Built-in to structure. Can be customized to a degree at factory.	Built-in to structure. Can be customized to a degree at factory. Is 5 inches taller than 18 cubic yard model
Capacity	18 cubic yards	20 cubic yards
Curb Wt.	4650 lbs.	4800 lbs.
Tongue Wt.	N/A	N/A
Gross Wt.	9,350	9,200
Price (excl. freight)	$10,500	$11,000

Figure 2 below shows a photograph of a Pro-gravity trailer.

Figure 2
Pro-Tainer Pro-Gravity Recycling Trailer

Pro-Side Dump – These trailers feature four five-cubic yard hoppers, which can be configured to provide either four or up to eight recycling compartments (using dividers in one or more of the hoppers) with a total capacity of 20 cubic yards. The trailers use built-in hydraulic motors to tilt and dump the containers to the side. While these self-dumping trailers don't require forklifts to empty, the weight and complexity are increased with the hydraulic motors. Increased headroom and attention to safety procedures would be needed with such trailers.

The specifications for the Pro-side dump trailer are provided in Table 5.

Table 5
Pro-Tainer Pro-Side Dump Recycling Trailer Specifications

Model	PRH-20
Axles	2 – 7,000-lb Torflex
Brakes	Electric with Breakaway Kit (Optional Hydraulic)
Lights	N/A
Bins	2 – 8 compartments, depending on customer's needs
Capacity	20 cubic yards
Curb Wt.	6,650 lbs.
Tongue Wt.	N/A
Gross Wt.	7,350
Price (not incl. freight)	$ 20,000

Figure 3 below shows a photograph of a Pro-Side dump trailer, and Figure 4 shows the emptying process for this model.

Figure 3
Pro-Tainer Pro-Side Dump Recycling Trailer

Figure 4
Pro-Side Dump Trailer Unloading Process

Pro-Bin – The design of these trailers is similar to the AlleyCat trailers. Removable bins, fabricated of steel, are strapped on to the trailer. Featuring sloping floors, the bins are removable using a forklift and empty through rear doors that are accessible only when the bins are off the trailer. Inserts for the forks are built in to the bins, so a rotating head forklift is not needed. The bin contents could be dumped on the floor, or into a hopper or other location, provided care was taken in lifting a heavy steel bin to any height. Figure 4 shows a photograph of a Pro-bin trailer. On the 12, 16, and 20 cubic yard trailers, bin capacity is 2 cubic yards each.

Specifications for the Pro-bin trailer are presented in Table 6.

Table 6
Specifications for Pro-Tainer Pro-Bin Trailer

Model	PRTB-16	PRTB-20
Axles	2- 7,000-lb Torflex	2 – 7,000-lb Torflex
Brakes	Electric with Breakaway Kit (Optional Hydraulic)	Electric with Breakaway Kit (Optional Hydraulic)
Lights	N/A	N/A
Bins	8 – 2-cubic yard	10 – 2-cubic yard
Capacity	16 cubic yards	20 cubic yards
Curb Wt.	5500 lbs.	6800 lbs.
Tongue Wt.	N/A	N/A
Gross Wt.	7,500	8,200
Price (not incl. freight)	$14,700	$16,700

Figure 4
Pro-Tainer Pro-bin Recycling Trailer

3. Haul-All, Ontario, Canada (888/428-5255)

http://www.haulall.com/english/default.asp

Haul-All manufactures a line of full-service drop-off centers and recyclables transfer stations. Several counties in Pennsylvania use their equipment, including Schuylkill, Blair, Cambria, Carbon, Dauphin, Pike, Wyoming and Monroe Counties. The Haul-All recycling truck that

services their drop-off equipment has a “wet line” that enables the drop-off center bins to be plugged into the truck and dumped hydraulically on-site.

Haul-All also manufactures a recycling trailer that can be plugged into the specialized truck in the same way, enabling its bins to be tilted and dumped hydraulically. For communities that don’t use Haul-All’s specialized drop-off equipment and service truck, the company offers an innovative solution that enables them to still use the recycling trailer – a portable hydraulic pump. Such a system avoids the need for each trailer to carry a hydraulic pump, saving weight, complexity and cost. When the trailer arrives at the MRF, the portable electric motor is plugged into a power outlet and the hydraulic line is plugged into a fitting on the trailer and the bins are then tipped. A photograph of the Haul-All trailer is provided in Figure 5, and Figure 6 shows the tipping procedure for the Haul-All trailer..

Figure 5
Haul-All Recycling Trailer

Figure 6
Haul-All Tipping Procedure

The Haul-All trailer has a 16-cubic yard capacity. The bins can be fabricated at the factory into specific configurations, but they are then non-adjustable. The entire trailer is made of steel.

Wyoming County uses the Haul-All recycling trailers in a stand-alone program without the permanent drop-off system. The County recycling coordinator reports that the townships hosting the drop-off sites deliver the trailers to the MRF using one-ton dual-wheel trucks. Once at the MRF, the portable electric/hydraulic pump unit is used to dump the bins. This trailer comes with side jacks that are put in place to stabilize the trailer as the bins are extended for dumping, to compensate for the weight of the bins and the material. Overall Wyoming County reports that they and their townships are satisfied with the system.

Evaluating Equipment Options

Portable trailers for drop-off recycling have the advantage of being able to be pulled by an existing truck owned either by the County or by the individual municipalities hosting the sites.

In general, the largest trailer possible that can be pulled by the vehicles available is most cost-effective, as the capacity will reduce the required service frequency. Below in Table 7 is a comparison of some of the features and costs of the trailer models described.

Table 7
Comparison of Recycling Trailers

	Dempster Alleycat 3000	Dempster Alleycat 5000	ProTainer PGT 18T3	ProTainer PGT 20T3	ProTainer PRH 20	ProTainer PRTB 16	ProTainer PRTB 20	Haul-All
Capacity (cubic yards)	10-12	14-16	18	20	20	16	20	16
Gross (loaded) Weight Pounds	6,000	9,200	9,350	9,200	7,350	7,500	8,200	N/A
Bin Configuration	Plastic, 1-cu yd each, non adjustable	Plastic, 1-cu yd each, non adjustable	Built-in to Structure. Can be customized to an extent at factory	Built-in to Structure. Can be customized to an extent at factory	Up to 8 compartments, fixed size	8 bins, 2 cubic yard each, removable	10 bins, 2 cubic yard each, removable	3 bins, varying sizes depending on needs
How Bins are Emptied	Forklift, rotating head helpful	Forklift, rotating head helpful	Gravity	Gravity	Hydraulic lift	Forklift, then gravity	Forklift, then gravity	Hydraulic
Price w/o Freight	$13,342	$17,475	$10,500	$11,000	$20,000	$14,700	$16,700	$25,000

Program Costs and Funding Options

Costs for the drop-off recycling sites include both initial start-up costs for capital expenditures and ongoing operations costs. Section 902 of Act 101 allows municipalities to receive up to 90 percent funding for eligible start-up costs for the following:

- Development of a drop-off site;
- Planning and implementation to establish a recyclables collection program;
- Purchase of recycling education materials, including brochures, flyers, etc.; and
- Containers and equipment required to operate a collection program or drop-off site.

Table 8 includes a summary of the estimated capital costs for all of the trailer options described above. These options are not recommendations for one trailer over another, but intended to provide comparisons of trailers of different sizes and manufacturers for planning purposes only. Any of the trailers presented in this report would meet the needs of Columbia County and its municipalities as they have been set forth. The cost table assumes that 10 identical trailers would be purchased and one placed at each drop-off site. The total costs are shown, with or without a DEP Section 902 grant. Annualized costs are also presented, assuming a seven-year depreciation schedule.

Table 8
Capital Costs for Recycling Trailer Options

Trailer Options	Total Capital Cost to County, No Grant	Total capital Cost to County, 90 pct DEP Grant	Total Annualized Cost to County, no Grant	Total Annualized Cost to County, DEP Grant
AlleyCat 3000	$133,420	$13,342	$19,060	$1,906
AlleyCat 5000	$174,750	$17,475	$24,964	$2,496
Pro-Tainer Pro-Gravity	$77,000	$7,700	$11,000	$1,100
Pro-Tainer Pro-Side Dump	$200,000	$20,000	$28,571	$2,857
Pro-Tainer Pro-Bin	$165,000	$16,500	$23,571	$2,357
Haul-All	$250,000	$25,000	$35,714	$3,571

The operating costs for the drop-off centers are expected to be minimal, as it is assumed that they will not be staffed. Costs will include a driver/operator's time to travel to each site at the proper frequency, bring the full trailers to the Bloomsburg Recycling Center, then return them to the sites. Additionally, it is assumed that each site will require one to two hours per week for clean-up and maintenance. The estimated annual labor and fuel costs to service each site are presented below in Table 9. It is assumed that travel to and from the sites would be covered by the municipality responsible for the drop-off, or the County, and that the driver/operator's hourly rate is $13.00 with 35 percent benefits (total of $17.55 per hour). The labor costs also include two hours per week for each community that a staff person will spend keeping each site clean and maintained. It is also assumed that the vehicles collecting the trailers get 10 miles per gallon, and that fuel costs $3.00 per gallon.

For communities or groups of communities with two drop-offs, mileage from both is assumed to be the same, and it is assumed that the sites are five miles apart. Costs are combined for these communities. It is assumed that they would be working together to coordinate servicing,

but it is not known how the municipalities would divide the costs or exactly where the trailers would be located.

Table 9
Cost Estimates to Service Drop-offs – Labor and Fuel

Drop-off Site	Mileage to Bloomsburg Recycling Center	Pick-Up Frequency	Annual Labor Costs to Service	Annual Fuel Costs	Total Annual Costs
Briar Creek/ Mifflinville Twps (2 sites)	13	Bi-Weekly	$5,475.60	$1,333.80	$6,809.40
Roaring Creek/ Locust/ Franklin Twps (2 sites)	12	Bi-Weekly	$4,212	$1,097.10	$5,309.10
Elysburg/Numidia	11	Bi-Weekly	$3,650.40	$514.80	$4,165.20
South Centre Twp	5	Bi-Weekly	$3,194.10	$234	$3,428.10
Hemlock Twp (2 sites)	5	Every 3 Weeks	$3,018.60	$517.50	$3,536.10
Benton Township	18	Every 3 Weeks	$3,615.30	$745.20	$4,360.50
Millville Borough	10	Every 3 Weeks	$3,018.60	$414	$3,432.60

Drop-Off Site Location and Design

Drop-off sites are most cost-effective when:

- Participation rates for the site(s) are as high as possible;
- Residents recycle as much material as possible at the sites; and
- Residents prepare recyclables properly.

In order to ensure that these conditions are met, the drop-off sites must be appealing to the public and easy to use. To make sure the drop-off centers meet the needs of the public and are cost-effective, the following steps should be followed:

- Ensure that site is well lit, clean, vermin-free, and safe;
- Provide adequate education/outreach;
- Provide clear signage to the site;
- Ensure that signage on recycling containers is clear, uses graphics, and is multi-lingual in areas where this is appropriate;

- Ensure that site is easy to use – no high steps or heavy lids, good traffic flow and management;
- Consider providing a small, secured lidded trash can for used plastic bags residents bring their recyclables in. Signage should clearly indicate that these trash cans are for this purpose only, for the convenience of the public.
- Consider placing the sites next to a municipal building that is usually staffed, or other high-traffic area, to discourage littering and vandalism; and
- Consider installing surveillance cameras at each site, or a sign indicating that a surveillance camera is in operation.

Sites that are located on major thoroughfares with the greatest vehicle counts obtain higher participation than do less heavily trafficked roads. Sites that are located at destinations that many people frequent also result in higher levels of participation. Sites closest to population centers also tend to obtain better participation than do sites that may be centrally located but are not near to potential program participants.

Drop-Off Site Design

Sites should be designed and laid out to enable users to enter, deposit their materials, and exit the site quickly, without causing traffic jams and potential liability for accidents. With only one trailer at each site, this is not a big issue, but the fact that sites may be busy at times should be factored into the site choice and design. Waste dumpsters should not be provided at the sites as they may attract illegal dumping of solid waste and bulky discards. Some programs have found that painting the containers a bright color, such as blue, can help draw attention to the site.

The site should be well lit to discourage illegal dumping and provide for the safety of program participants. The containers should be placed on a paved surface or well-drained gravel surface so that participant's vehicles do not get stuck in soft or muddy soils and shoes remain clean.

Roadside signs should be installed to direct people to the location of the new drop-off site and continually advertise the importance of recycling to the public.

Periodic upkeep of the sites is important because keeping the sites clean helps to promote the idea that recyclables are valuable resources, not trash, and that proper separation of materials and proper disposal of trash and non-accepted items are important practices. Similarly, the drop-off containers themselves should be cleaned and painted in order to keep the sites attractive.

Public Education

The success of the Columbia County drop-off recycling program will depend on its utilization by the public, the amount of material recycled, and the quality of the material delivered to the Bloomsburg recycling center. The public must become interested and invested in recycling

enough to change their behavior. Successful public education programs combine three approaches:

- **Promotion** – Promotion makes the public aware that recycling services are available in the area, and in general what they are and where they can be found. Promotion includes encouragement to use the program as well. Example: "Recycling is easy in any town with the new recycling drop-off."
- **Instruction** –The public needs instruction or training in order to take specific actions to participate correctly in the recycling program. Example: "Remove metal caps from glass bottles before recycling" or "Recycle magazines with newspaper." Pictures are often helpful in providing instruction.
- **Education** –The benefits of recycling in a larger sense should also be communicated, to connect recycling to the community and the environment in terms non-professionals can understand. Example: "Recycling creates jobs in Pennsylvania," or "Recycling can help reduce the need for landfills."

Promotion, instruction and education each have their own roles within a recycling program, but all three components should be used in a communications strategy with the overarching goal of motivating residents to take a particular action and sustain that new behavior over time until it becomes a habit.

Act 101, Section 902 Recycling Grants reimburse, which counties and municipalities 90 percent of eligible recycling program development and implementation expenses, should be considered for funding education costs. Pre-application conferences with DEP Regional Planning and Recycling Coordinators are required. The application deadline for the next round of grants is June 20, 1998. Grant applications are available in PA DEP's e-library. Further, the County will be eligible for Act 101, Section 904 Recycling Performance Grants after implementing their program. Performance grants are awards based on the total tons recycled and the applicant's recycling rate. Columbia County and its partner municipalities should consider developing a substantive initial education and awareness campaign to inform residents of the new program and build enthusiastic participation, and should consider applying for a Section 902 Grant to cover the costs, and Section 904 grants to help fund education on an ongoing basis.

Tools available to publicize the message can be grouped into five broad categories:

- Print (calendars, brochures, newsletters, paid advertising in print media);
- Broadcast (public-service advertising (PSAs) on television or radio, local cable channel programs, or, less frequently, paid advertising);
- Electronic (web sites, e-mails, discussion boards, blogs);
- Outreach (special events, presentations to schools and community groups, recycling competitions); and

- Icons and incentives (recycling bins with program logo and instruction, refrigerator magnets, bookmarks and other give-aways).

Initial public outreach should be focused on bringing attention to the recycling program. This would include reaching out to local media for short articles about the new program by using a press release or individual phone calls, depending on the community and its relationship with local media channels. A ribbon-cutting ceremony at each new site may provide an opportunity for a photograph that can be included in the newspaper or short mention on evening television news. Temporary banners and other temporary signage can help bring awareness to the new site as well.

For ongoing promotion, mail inserts in periodic local mailings, such as a local newsletter, property tax bill or utility bill are more cost-effective than other types of mailings because they are included in mail of interest to the household and are less likely to be viewed as an "advertisement" mailing that is discarded without being looked at. If a more substantive brochure is desired, a dedicated mailing at higher cost may be needed. Electronic outreach can be very low-cost, as can public appearances at local events featuring recycling staff interacting personally with residents and program users, possibly providing reminders and prompts in the form of inexpensive give-aways.

Figure 7 provides a picture of magnets that Mechanicsburg Borough distributed to residents to provide them instruction about their recycling program. Magnets are beneficial because they are more permanent than flyers, and provide instruction where most recycling decisions take place – in the kitchen.

Figure 7
Mechanicsburg Borough's Recycling Information Magnet

Conclusion

Columbia County, along with its partner municipalities would like to provide the opportunity for its citizens to recycle in 10 of these municipalities or places that do not have recycling. The County envisions a network of drop-off sites that would be permanent but easily serviced, using recycling trailers that could be towed with existing County heavy-duty pick-up trucks. The Town of Bloomsburg has indicated to Columbia County that it will accept recyclables collected in the drop-off program at the Bloomsburg Recycling Center.

Recycling trailers by three different manufacturers were investigated and evaluated for cost, design and the capacity to handle recyclables generated in these 10 municipalities. Based on an evaluation of the features of these trailers, the amount of material to be hauled, the hauling distances and costs, R. W. Beck recommends that Columbia County purchase a sufficient number of trailers from one of these manufacturers that meet its needs in terms of balancing cost, capacity and ease of service. Columbia County should seek Pennsylvania DEP Section 902 grant funding to help with the capital costs of setting up these drop-off centers. R.W. Beck also recommends that Columbia County work with these municipalities to develop a system where each partner municipality bears the cost of regularly hauling its trailer(s) to the Town of Bloomsburg Recycling Center.

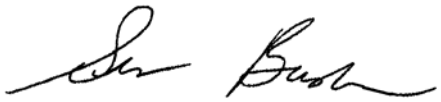
R. W. Beck recommends Columbia County and the partner municipalities provide for a robust education and awareness effort for the new program. Development and Implementation grants Periodic reminders should follow the initial education and awareness campaign for the duration

of the program (between quarterly to annually), otherwise recycling participation has a tendency to decline.

We have appreciated the opportunity to work with Columbia County on this project. Please contact me at (508) 935-1807 should you have any questions.

Sincerely,

R. W. BECK, INC.



Susan Bush
Consultant

SB:ls