

June 23, 2003



Mr. Ronald Hood
Blairsville Municipal Authority
203 East Market Street
Blairsville, PA 15717

Dear Ron:

This letter summarizes the findings of our evaluation of implementing collection programs in Blairsville Borough for a range of recycling programs. The evaluation was performed as part of a Recycling Technical Assistance grant from the Pennsylvania Department of Environmental Protection (DEP).

Details of the recycling program options and of our analysis are provided in the sections below.

Current Recycling Program

The Borough provides refuse collection service via municipal collection crews through the Blairsville Municipal Authority. Each resident receives weekly curbside collection limited to three bags or 35 gallon cans, although it is reported that crews currently provide unlimited collection. This collection service is funded through a user fee included as a separate line item on the water bill.

The Authority operated an un-staffed drop-off program that started in 1998 and was comprised of three wooden sheds stationed in the Borough office parking lot. The program collected newspaper, glass, aluminum cans, metal cans, and plastic bottles. Residents would throw recyclable material into these sheds and Borough employees would separate the materials into drums for shipment to the Indiana County Recycling Center. This program collected average of 148 tons per year from 1998 to 2001. This program was discontinued in September of 2002 due to increased contamination and high labor costs.

After the program was discontinued, a concerned citizen group organized an every other month drop-off program. The Indiana County Recycling Center provides bins at the local BiLo grocery store. This program accepts newspaper, magazines, glass, aluminum cans, metal cans, and plastic bottles. An average of 3.2 tons is collected every other month, or 19 tons annually. This program, although a good effort by the concerned citizen group, represents an 87 percent decrease in total recyclables diverted from the waste stream as compared to the unstaffed drop-off program.

The Borough currently desires to revisit a municipally sponsored recycling program to increase material diversion. This project provides the Borough with multiple options for implementing a new recycling program.

Comparison of Recycling Program Options

Five major recycling collection program options were evaluated available for municipal recycling collection. Those collection options include:

- **Municipally-operated curbside collection (weekly):** Under this option, the Borough would purchase a recycling collection trailer and hire a crew (or redeploy existing Borough staff) to provide weekly collection.
- **Contracted curbside collection (weekly):** This would entail procuring private recycling collection from a private hauler.
- **Staffed Drop-off (permanent):** Includes establishing a permanent location where recyclables could be dropped off, and assuring that the location is staffed. With the oversight of on-site staff, the Borough would assure minimal contamination of recovered recyclables.
- **Un-staffed Drop-off (permanent):** Same as the above option, except the drop-off location would not be staffed. Studies have shown that recyclables left at un-staffed drop-offs are higher in contamination.
- **Mobile Drop-off (every other month):** This option would station a mobile recycling truck/trailer combination at select locations in the Borough on a rotating, but regularly schedules basis.

Table 1 estimates the amounts of recyclable materials that could be collected by each recycling program option. Estimated tonnage is based on the collection of newspaper, glass, aluminum cans, steel cans, and plastic bottles. Recycling rates are based on average recovery rates for similar programs across Pennsylvania and the U.S.

Table 1 Estimated
Generation Rate for Recycling Program Options ^[1]

| Options | Participation Rate | Est. Annual Tonnage | Est. Annual Tons/Total Unit | Est. Annual Tons/ Participating Unit |
|---------------------|--------------------|---------------------|-----------------------------|--------------------------------------|
| Curbside Municipal | 75% | 284 | 0.16 | 0.21 |
| Curbside Contract | 75% | 284 | 0.16 | 0.21 |
| Staffed Drop-off | 45% | 149 | 0.08 | 0.18 |
| Un-Staffed Drop-off | 45% | 149 | 0.08 | 0.18 |
| Mobile Drop-off | 10% | 28 | 0.02 | 0.16 |

^[1] Based on 1,823 residential units in Blairsville Borough

Table 1 shows that a curbside collection program will produce the highest participation rate and tonnage. A mobile drop-off program performed on a consistent once per month basis could increase the tonnage from the current program being operated by the concerned citizen group.

The capital costs for each recycling program option are shown in Table 2.

Table 2
Estimated Capital Cost

| Options | Bins | Drop-off Containers | Recycling Trailer | Total Capital Cost | DEP Grant Funding | Borough Contribution |
|---------------------|---------|---------------------|-------------------|--------------------|-------------------|----------------------|
| Curbside Municipal | \$8,204 | N/A | \$26,000 | \$34,204 | \$30,783 | \$3,420 |
| Curbside Contract | \$8,204 | N/A | N/A | \$8,204 | \$7,383 | 820 |
| Staffed Drop-off | N/A | \$43,000 | N/A | \$43,000 | \$38,700 | \$4,300 |
| Un-Staffed Drop-off | N/A | \$43,000 | N/A | 43,000 | \$38,700 | \$4,300 |
| Mobile Drop-off | N/A | N/A | \$26,000 | \$ 26,000 | \$23,400 | \$2,600 |

N/A = Not Applicable

Specific notes about the capital costs for each option are described below.

- For all options, DEP grant applications may be submitted for purchases of all recycling equipment, with grant funding assumed to reimburse 90 percent of the total purchase price;
- Municipally-provided Curbside option: 1,823 recycling bins will be purchased and delivered to all residences, a compartmentalized recycling trailer will be purchased, with the trailer towed by a dump truck already owned by the Borough;
- Contract Curbside option: 1,823 recycling bins will be purchased and delivered to all residences, with all other collection responsibilities born by (and fees for collection charged by) a private hauler;
- Staffed Drop-off option: Capital costs reflect a formal quote for six recycling bins to be purchased from VQuip. The recycling bins require servicing by special trucks. Figures 1 and 2 show examples of the VQuip drop-off container system;
- Un-staffed Drop-off option: six recycling bins will be purchased from VQuip;
- Mobile Drop-off option: A compartmentalized recycling trailer will be purchased, and will be towed by a current Borough dump truck

Assuming that recycling grants remain available through the DEP to cover the cost of capital purchases, the capital cost for new recycling equipment will be minimal for the Borough. It is expected that the Borough's contribution will be no greater than \$5,000. This capital cost will offset buy a reduction in landfill fees from the diverted recyclable materials. Assuming a minimum of 149 tons recycled (based on the 1998 to 2002 annual average), and a landfill disposal rate of \$30 per ton, the annual net saving to the Borough in disposal fees is \$3,900. This savings offsets most of the Borough's cost of capital equipment.

Figure 1: Haul-All Recycling Bins from VQuip



Figure 2: Haul-All Recycling Bins from VQuip—Close-up



Table 3 shows the estimated annual operating cost for the recycling program options.

Table 3
 Estimated Operating Cost

| Options | Weekly Labor Hours | Labor Rate | Benefit Rate | Total Labor Cost | Truck Op Cost | Total Op Cost | Annual Contract Cost | Total Annual Cost |
|---------------------|--------------------|------------|--------------|------------------|---------------|---------------|----------------------|-------------------|
| Curbside Municipal | 24 | \$14.00 | 35% | \$23,587 | \$13,819 | \$37,406 | N/A | \$32,800 |
| Curbside Contract | N/A | N/A | N/A | N/A | N/A | N/A | \$40,000 | \$40,000 |
| Staffed Drop-off | 48 | \$13.10 | 35% | \$47,820 | N/A | \$47,820 | \$1,500 | \$49,320 |
| Un-Staffed Drop-off | 2 | \$13.10 | 35% | \$1,839 | N/A | \$1,839 | \$1,500 | \$3,339 |
| Mobile Drop-off | 1 | \$13.10 | 35% | 920 | \$1,310 | \$2,229 | \$1,501 | \$3,661 |

N/A = Not Applicable

The following assumptions were used to generate the results in Table 3:

- For all options, the wage for collection crews is assumed to be \$14 per hour for drivers and \$13.10 for laborers with a 35 percent benefits rate, based on existing Borough data. Total labor costs assume a full 52 weeks per year;
- Municipal Curbside option: This would require one driver/collector working three days per week to collect the 1,823 residences in the Borough. Recycling truck/trailer operating cost is calculated at an annual rate of \$18,000 prorated for 3 days per week of service, with fuel costs calculated at 20 gallons per day at \$1.29 per gallon;
- Contract Curbside option: We estimate the cost of contracted recycling collection based on the April 24, 2002 proposal from Indiana County Solid Waste Authority;
- Staffed Drop-off option: This option is estimated to employ one full time laborer working six days per week to help unload material from cars, oversee quality control, and keep site clean. Additionally, the Cambria County Solid Waste Authority has provided a quote to service the drop-off bins once per week.
- Un-staffed Drop-off option: This option assumes vastly reduced labor costs, with one part-time laborer working two hours per week to keep site clean. The Cambria County quote for collection also applies to this option.

- **Mobile Drop-off option:** In this option, one driver/laborer working one day per week will be required to staff the drop-off center and empty trailer. The truck/trailer operating cost is calculated at an annual rate of \$1,000, with fuel cost calculated at 20 gallons per day at \$1.29 per gallon working 12 days per year

It is important to note that the Borough may be able to operate a curbside program cheaper than a contractor can provide the service only if a driver is available to perform the service for three days per week, and can provide other services for the remaining two days (i.e., if the driver has other responsibilities and can be funded from other governmental departments). If the Borough must hire a dedicated driver to perform recycling collection—and must in effect pay that driver for five days per week while only needing three days per week of collection—then it is likely that a private contractor could provide service more cheaply (i.e., the private hauler will re-deploy the collection truck/crew to other municipalities on days not servicing the Borough).

Table 4 illustrates the cost differences for the five proposed recycling program options. The total costs are shown on an annual basis, on a per household basis and on a per ton basis.

Table 4
Comparison of Recycling Program Costs

| Options | Est. Tons | Annual Capital Cost ⁽¹⁾ | Annual Operating Cost | Total Annual Cost | Annual Cost per Household | Annual Cost per Ton |
|---------------------|-----------|------------------------------------|-----------------------|-------------------|---------------------------|---------------------|
| Curbside Municipal | 284 | \$544.54 | \$37,406 | \$37,950 | \$20.82 | \$133.45 |
| Curbside Contract | 284 | \$105.15 | \$40,000 | \$40,105 | \$22.00 | \$141.02 |
| Staffed Drop-off | 149 | \$551.16 | \$49,320 | \$49,871 | \$27.36 | \$334.03 |
| Un-Staffed Drop-off | 149 | \$551.16 | \$3,339 | \$3,890 | \$2.13 | \$26.06 |
| Mobile Drop-off | 28 | \$439.39 | \$3,730 | \$4,170 | \$2.29 | \$146.62 |

⁽¹⁾ Borough portion only

As shown in Table 4, both of the curbside collection options, as well as the staffed drop-off option, are the most costly on both a per-household and a per-ton basis. This is consistent with recycling programs across Pennsylvania and the country. Both the un-staffed drop-off and the mobile options are relatively very cheap to operate on a per household basis. However, the un-staffed drop-off option is the cheapest on a per-ton basis, as well as on a per-household basis.

Public Education

This section discusses public education considerations. Ultimately, well-educated citizens will recycle more material regardless of the system selected.

There is no specific “recipe” for public education that is guaranteed to work for every municipality. The variety of programs is just about as numerous as the number of recycling programs in the state. Factors to consider include, but are not limited to: community 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.

The Borough of Blairsville is small—only 1,823 housing units according to the 2000 Census—and needs a targeted approach to build enthusiasm that will boost participation in the recycling program. To accomplish this, R. W. Beck researched a variety of educational, promotional, and advertising alternatives and recommends the following approach.

- Limited newspaper advertising;
- Refrigerator magnets;
- Public outreach; and
- Education in the schools.

Limited Newspaper Advertising

Newspaper advertising is a traditional component of most outreach initiatives and should be used to promote Blairsville’s curbside recycling program. However, the daily newspaper, *The Indiana Gazette*, serves all of Indiana County, and therefore the Borough will be paying to inform non-residents about the new recycling program. Consequently, R. W. Beck recommends purchasing a ½ page ad at the outset of any new program to announce its establishment and to prompt reporters to generate articles about the program. The cost for purchasing a ½ page ad is \$980.00.

Refrigerator Magnets

After the initial notification stage, residents will need to be constantly reminded about what to recycle and how materials should be prepared to facilitate the success of Blairsville’s program. R. W. Beck recommends that the Borough use 3” x 5” refrigerator magnets to accomplish this because they are:

- 1) Durable;
- 2) Large enough to provide material and preparation information; and

3) Regularly seen by the intended target audience.

R .W. Beck estimates the cost for two-color 3"x 5" refrigerator magnets to be approximately \$2,500 for 2,000 magnets.

Public Outreach

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

Obtain Commitments

Research has shown that individuals who make either a written or oral commitment to recycle will recycle more frequently and in larger quantities than those who were merely informed of the recycling program. To illustrate, one study asked individuals to sign a pledge to recycle newspapers during a two-week period. Not only did the majority of individuals who signed the commitment recycle their newspapers during that time frame; but these same individuals continued their recycling behavior after the two-week period.

It may not be possible for the Borough to individually solicit written commitments to recycle from every household. Therefore, the Borough may want to target venues where large numbers of residents gather, such as the Diamond Days Festival.

Link to Borough Website

The Borough currently has a web site www.blairsvillepa.net. Establishing a recycling page on this web site could serve as a cost-effective mechanism for informing large numbers of Borough residents about its programs and events. For the recycling page to be effective, it should be professional in appearance and easy to locate.

To increase the potential for individuals to access the site when they do not know the exact name of the web site or its address, the Borough could link with other sites that the proposed target audience would view. Individuals and/or groups that the Borough may want to target include:

- Individuals interested in public services;
- Individuals moving to Blairsville; and
- Individuals interested in environmental issues.

Conduct Slogan/Logo/Mascot Contests

The Borough may want to have a contest to create a slogan, logo or mascot to be associated with its recycling program. Having one or more of these things that identify the program would help to increase program visibility. The Borough may want to consider a contest to ask residents to submit a slogan, a logo, and/or a mascot to be considered for use by the Borough,

with the winning entry incorporated into future educational materials used by the Borough. If the Borough is unsure of which vehicle might be preferred, it could solicit entries in all three categories and choose a single winner from one category, or one from each category. This way, there is an option of using any of the winners' submissions, such that the most appropriate one can be selected for a given situation. The winner or winners would be recognized by the Borough in some way, and given some type of reward for their effort. Prizes could be donated by local businesses.

Establish Block Leader Programs

The Borough could establish a "block leader program" to enlist community support to promote recycling throughout the Borough and to engage in friendly competition designed to boost recycling. In this program, individuals could be identified either by block or within established zones. These individuals could be responsible for setting an example for the rest of their area, visiting neighbors to personally encourage recycling and other waste reduction activities, and to distribute materials on behalf of the Borough.

Promote Goals

The Borough could bring attention to recycling goals by developing a visual method of showing progress. The Borough could create a sign that could be placed in a highly visible location (similar to United Way). The sign would show progress toward the goal (a thermometer, a recycling truck traveling to a materials recovery facility, etc.) will help residents see where they are in relation to the goal and encourage them to recycle more to meet the goal.

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.

Because other communities in Indiana County also provide curbside recycling programs, the Borough may want to work cooperatively with other communities to educate students and promote recycling. Of course, teachers often struggle just to teach their traditional curriculum, so the Borough must be sensitive to this and be willing to assist in school-based efforts. Activities that have been used in other areas include:

- A community sponsored art show and/or "inventions" using recycled materials. This could also take a seasonal form, such as recycled Christmas ornaments. Student creations could be displayed at a local shopping center or other heavily traveled location. It would be particularly helpful to have a local sponsor or sponsors—including a media outlet—to provide funding, awards, and publicity. A jury of art teachers and community leaders could be used to judge the entries, and could determine what is actually shown to the public if there are too many entries.

- Several performing groups have delivered the recycling message very successfully to schools throughout the Commonwealth. These groups include The Illusion Maker, Timothy Wenk Magic, and the KidsMatter National Theatre. These groups will come into the schools and perform at student assemblies. These programs are eligible for funding through the Section 902 Recycling Program Grants. Application must be made through a municipality or county.
- If the schools are not recycling or if the in-school recycling programs have been struggling, school recycling programs are also eligible for Section 902 grants for containers and educational materials. Some districts have benefited from establishing student committees to promote recycling and help manage the programs. Some have used revenue from materials as incentive for students to participate. The Millcreek School District in Erie County, for example, has used revenue to purchase materials that support class projects. Some schools have used recycling as an opportunity to promote exchanges between older and younger students. In Plum Borough (Allegheny County), high school students were trained to teach primary school students about recycling and waste reduction

Conclusion and Recommendation

The Borough is charged with balancing the objectives of high material diversion with controlling the costs needed to recycle. Curbside programs are the most effective at diverting material, because they are the most convenient. However, they are also the most costly. Given that Blairsville Borough has only 1,823 households – which could be served in under a full five-day work week – curbside recycling costs would be relatively high.

Drop-off programs vary drastically in cost depending on whether they are staffed or un-staffed, and whether they are permanent or mobile. Staffed programs and mobile programs both require labor, pushing the costs of these programs up. The un-staffed drop-off program, while not diverting the most, does divert material at a low per-household and low per-ton cost relative to all other options.

R. W. Beck recommends that the Borough pursue the un-staffed drop-off option. There is little risk for the Borough financially in choosing this option. The VQuip/Haul-All recycling bins are easy to install and require little site preparation. Cambria County currently operates the same system and would empty the loaded bins on a weekly basis at a reasonable cost. This is not an operational problem for Cambria County as they utilize the Indiana County Recycling Center for processing their recyclables. If the Borough decided to implement a different program option at a later date the equipment could be sold back to Cambria County for fair market value.

By implementing this option the Borough would have time to consider other options such as a curbside recycling program in conjunction with a pay-as-you-throw refuse collection system, while diverting a significant percentage of the waste stream from disposal in the landfill. This

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effort would also appease the concerned citizen's group in the interim, while continuing to consider an expansion to curbside recycling.

While we cannot recommend a specific public education program, we advocate the implementation of public education and marketing of the program at a heightened level upon program initiation, followed by regular reminders for the duration of the program. If possible, the Borough should also track public education expenditures against monthly recycling quantities to determine the effectiveness – both short and long term – of such efforts.

We have appreciated the opportunity to work with the Borough on this project. Please contact me at (301) 607-6428 should you have any questions.

Sincerely,

R. W. BECK, INC.

A handwritten signature in cursive script that reads "Walt Davenport". The signature is written in black ink on a white background.

Walt Davenport
Special Projects Director