

March 28, 2006



Ms. Judy Fowler
Grants Administrator
Borough of Media
301 North Jackson Street, 2nd Floor
Media, PA 19603

**Subject: SWANA Technical Assistance Project
Strategic Plan for Commercial Recycling**

Dear Judy:

This letter report summarizes R. W. Beck's evaluation of ways to increase commercial solid waste recycling in Media Borough. The objective of the project was to develop a strategic plan for the Borough to identify possible options. The strategic plan presents the Borough's vision and goals for commercial waste reduction and recycling, various collection strategies that could serve local businesses, and education and outreach strategies to help increase recycling in the commercial sector.

This evaluation was performed as part of the Recycling Technical Assistance program sponsored by the Pennsylvania Department of Environmental Protection (DEP) and the Solid Waste Association of North America (SWANA).

The strategic plan is divided into the following sections:

- Media Borough's vision and goals relative to commercial recycling;
- Background on the Borough's setting and recycling ordinance;
- Identification and discussion of strategies for businesses to analyze their options;
- Evaluation of possible commercial recycling options; and
- Conclusions and recommendations.

Vision and Goals

Figure 1 below illustrates the established hierarchy for solid waste management that has a preferred option of avoiding or reducing solid waste and a least preferred option of landfill disposal. Since the early 1990s, the residents have steadily increased solid waste recycling in the Borough. Due to insufficient data reporting, progress in recycling by commercial businesses has not been measurable. In 1991, the Borough enacted a recycling ordinance and the commercial establishments have not met its intent.

The Borough of Media has the following vision and goals for recycling by commercial establishments.

Figure 1
Solid Waste Management Hierarchy



Vision Statement

Commercial entities in Media Borough will achieve compliance with Media Borough's Recycling Ordinance by fully participating in a recycling program. In addition, the commercial entities should follow the hierarchy in Figure 1 in managing their solid waste.

Goals

- Achieve compliance with the recycling ordinance;
- Achieve maximum participation by commercial businesses;
- Measure program outcomes;
- Maximize Section 904 performance grants received from DEP by the Borough; and
- Attain higher sustainability in the community through the businesses reducing and recycling solid waste at an increased level.

Background

Setting

The Borough of Media is located in central Delaware County in the Philadelphia Metropolitan Area. Covering an area of 0.75 square mile, Media is situated approximately 12 miles west of downtown Philadelphia and is bounded by the Township of Upper Providence on the west, northwest, and southwest and by the Township of Nether Providence on the east, northeast, and southeast. Founded in 1850, The Borough's location and name was selected due to its central point in the County. In addition, the Borough serves as the county seat for Delaware County.

The population of Media Borough is 5,533 according to the 2000 US Census. The Borough is the most densely populated of the 49 municipalities in Delaware County. During the workweek, the functional population of the Borough is significantly higher due to its large, flourishing business district. The composition of the Borough's activities is:

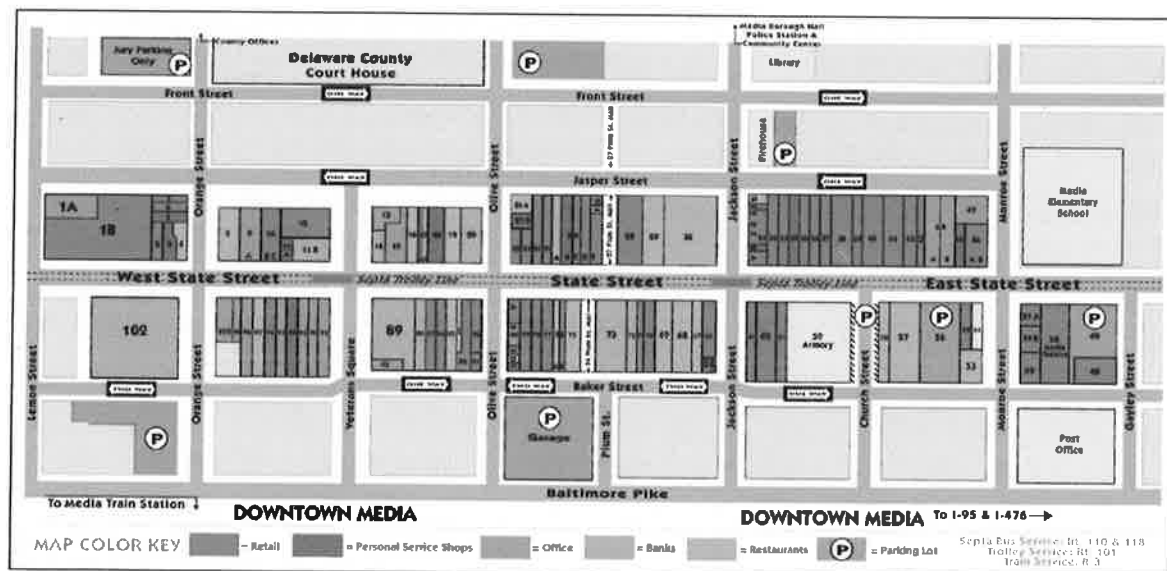
- Residential – 68 percent;
- Commercial – 30 percent; and
- Industrial – 2 percent

Residents proudly call Media "Everybody's Hometown." This is much more than a slogan – it also describes a very real state of mind. Media is one of the last suburban towns in America with a trolley running down the main street. The brick sidewalks and tree-shaded streets encourage walking. The commercial business district is located in the State Street and Baltimore Pike areas. The centrally located business district hosts a variety of stores, restaurants, and services, while the central location of the library, parks, churches, and theatre place them all within walking distance for the residents. The shops and stores fall into the following categories:

- Antiques;
- Cards and Gifts;
- Clothiers;
- Florists
- Food and Beverage;
- Hair and Nails;
- Hardware;
- Jewelers;
- Photography and Framing;
- Printing;
- Sporting Goods;
- Travel; and
- Variety/Specialty.

The Delaware County Courthouse and associated government offices are located on the north side of Front Street and a number of offices, particularly law firms, are located along the south side. Over 55 restaurants are located in the commercial business district. Figure 2 below provides a map of the commercial business district in downtown Media Borough.

Figure 2
Media Borough Commercial Business District Map



Solid Waste and Recycling Services

The Public Works Department provides many services to the Borough residents including, but not limited to, solid waste collection twice weekly, monthly bulk waste collection, and leaf waste collection through the fall and winter months. With 48-hour advance calls from residents, the Borough collects bulk items on the last Wednesday of the month. A residence receives one free bulk collection per year and pays for any additional ones. In the fall, the Public Works Department begins collecting leaves placed curbside by residents. The Delaware County Solid Waste Authority provides one-day household hazardous waste collection events for residents several times per year. The Borough provides a drop-off box to collect dry cell batteries on the first floor of the Media Municipal Center.

Media Borough contracts with a private hauler to collect recyclables curbside weekly from residents. The collected recyclables include paper or fibers (newsprint, magazines, junk mail, office paper, and cardboard); No. 1 (HDPE) and No. 2 (PET) plastic bottles; glass bottles and jars; steel and bimetal cans; and aluminum cans. The single set out day for recyclables collection coincides with one of the two days for solid waste collection. If residents miss curbside collection, they can take recyclables to the Media Borough Recycling Drop-Off Center, which is located at the municipal garage off Brooke Street.

Private haulers provide solid waste collection and recycling services for commercial businesses in the Borough.

Recycling Ordinance

On August 15, 1991, Media Borough enacted a recycling ordinance (No. 838) to establish a program for residential, commercial, municipal, and institutional establishments, as well as community activities. Pennsylvania Act 101, known as the Municipal Waste Planning, Recycling, and Waste Reduction Act, empowered the Borough to enact the ordinance. The ordinance includes the following sections:

- Separation of recyclables and leaf waste and placements for collections;
- Public information and education program;
- Collection by unauthorized persons;
- Enforcement and administration;
- Violation;
- Franchise of license; and
- Alternative collection of recyclable materials.

As follow-up to the ordinance, the Borough can establish regulations to implement a recycling program. In addition, the Borough may enter into an agreement with public or private organizations to collect recyclables curbside or elsewhere as designated.

Strategies for Increasing Commercial Waste Reduction and Recycling

Act 101 of 1988 requires commercial, institutional, and municipal establishments located in Pennsylvania's mandated municipalities¹ to recycle high-grade office paper, corrugated paper, aluminum cans, and leaf waste. In addition, establishments must recycle any other materials included in the municipality's recycling ordinance.¹

This section discusses the various strategies to establish commercial recycling at businesses in the Borough.

Surveys

In April 2005, the Borough mailed a recycling survey to gain an understanding of how many commercial establishments were participating in recycling programs, what they were recycling, and what barriers prevented them from recycling. The response rate from the survey was essentially nil.

The Borough should attempt to conduct the survey again and limit the initial form to not more than two pages. The purpose of the survey is to identify existing recycling activities by businesses and to raise awareness of potential recycling benefits. The Borough should use the staff from the Code Enforcement Department to complete the survey form during routine visits to the businesses. The survey results should assist the Borough to gauge the level of effort required for increasing commercial recycling. In addition, the survey results may cause the Borough to target certain categories of businesses, which could result in more immediate progress.

Establish Advisory Committee

horizontal business owners? An advisory committee comprised of various stakeholders can serve as a champion of activities, such as a commercial recycling. Media Borough Council approved the creation of an Environmental Advisory Committee to work on public education and outreach to residents and businesses. Some areas the committee may address include storm water education; promotion of practices that reduce generation of air pollution and solid waste, including promoting and recognizing a higher level of recycling; promotion of property maintenance practices by interfacing with the Shade Tree Commission; wind energy; proper handling of toxics; and other topics related to the environment. The Environmental Advisory Committee is the likely committee to lead and monitor the commercial recycling efforts in the Borough. In most programs that rely on volunteers, usually a dedicated core group of dependable volunteers exists, and finding others willing to commit is difficult. Often, as volunteers discontinue their participation, new volunteers can replace them.

¹ * Reference Act 101 of 1988. Pennsylvania's Municipal Waste Planning, Recycling and Waste Reduction Act, Sec. 1501 (c)(1)(iii)

Solid Waste Audits

Building Waste Reduction Teams

how? encourage? request? require? time?
How do you get businesses to do this?

The Borough may want to **help** larger businesses internally organize teams of individuals responsible for planning, designing, implementing, and maintaining waste reduction programs. The team approach will enable dividing tasks among several employees from different departments within companies. Teams with varied perspectives are better able to develop creative ideas for waste reduction.

Waste reduction teams should represent the size and departmental organization of businesses or companies. Small businesses may use teams of one or two people that are familiar with their overall operations. Large businesses and corporations might consider teams comprised of many employees from different departments to encourage widespread input and support. Team members may be appointed or volunteer, but it is important that the teams are enthusiastic about the programs and have time to commit to the effort. The teams or management should also appoint leaders to direct team efforts and to plan, implement, and operate the waste reduction programs. It is also helpful to include custodial staff or contractors, and to ensure at least that someone on the team is responsible for communication with the head custodian or custodial supervisor.

Waste reduction teams are typically responsible for the following tasks:

- Working with the company's management to set the preliminary and long-term goals of the waste reduction program;
- Gathering and analyzing information;
- Promoting the program and training coworkers;
- Measuring progress of the program and making needed changes;
- Periodically reporting program status to management; and
- Publicizing and celebrating success.

After businesses have established waste reduction teams, its members should meet regularly to develop a plan and begin program implementation. The planning stage can range from two or three weeks to several months based on the size and complexity of the companies and its waste streams.

Assessing the Waste Stream

Before implementing a reduction and recycling program, it is important to assess the waste stream generated on-site, since it is not always obvious which types of waste should be targeted. A waste assessment is an organized study of a business's waste stream. The **waste assessment** will provide baseline information about a business's purchasing activities, waste generation, and waste management practices. Use of this data will help in developing a waste reduction strategy and will identify problem wastes to target for reduction and recycling. In addition, knowing the volume and

type of recyclable materials generated is important when contacting recycling haulers and recyclables buyers.

Effective waste assessments include one or more of the following tasks:

Analyze Facility Records

A thorough examination of certain records can reveal sources of solid waste that may not be apparent. Specific records to analyze include:

Purchasing and inventory records: Look for duplicity in purchasing and over-ordering of dated material; look for over-packaging and opportunities to buy non-dated material in bulk. To complete the recycling loop, the review should identify products purchased or available with recycled content and ways to increase purchasing more products with higher recycled content.

Equipment service contracts and repair invoices: Identify equipment that is not operating efficiently and possibly generating excess waste.

Waste hauling and disposal records and contracts: These records will show the amount of waste disposed and disposal charges. Examine 12 months of records to identify any seasonal fluctuations of waste generated over a year.

Contracts with recycling haulers/facilities and records of recycling revenues and expenditures: Take note of the amount and types of material recycled and any changes in charges or revenues.

Characterizing Waste Flows

While conducting recycling surveys, the Borough may want to conduct a "walk through" of each area of the businesses and take notes of the following:

- The types and amounts of waste produced;
- Waste-producing activities and equipment;
- The flow of waste through the facility;
- The layout and operation of departments;
- Existing space and equipment that may be used for storage, processing recyclables, and other activities associated with waste reduction;
- Any current waste reduction efforts;
- Additional information gathered through discussions with supervisors and employees. – Make a special point to talk with housekeeping or cleaning crews, as these employees often have an accurate picture of the waste generation situation; and
- Status of containers and compactors. – Specifically, are haulers generally pulling the containers when full or partially empty?

Process flow diagrams are particularly useful in identifying areas for waste reduction. In theory, the weight of all materials entering a process should equal the weight of materials leaving the process.

Document the materials entering a business by reviewing purchasing and inventory records. Identify all outputs, including products, by-products, materials recycled, and waste disposed. The process flow diagrams can identify the operational areas that need the more attention when starting waste reduction and recycling programs.

Performing a Waste Sort

A waste sort is the physical collection, sorting, and weighing of a representative sample of a business' waste. A waste sort gives a more precise picture of the types and amounts of waste generated by a business. The waste sort can be as simple as team members obtaining a sample of the mixed waste stream (i.e., several bags from each department) and sorting it into categories (i.e., office paper, cardboard, glass, metal, etc.). Then, each category is weighed to obtain percentages of the waste stream. The business may also target one specific department or material. For example, the waste sort may separate all office paper to determine the volume generated for a week and then to estimate the amount discarded for a month or year. Materials are often further grouped within each category. In the case of a fiber sort, the team members may subdivide materials into high-grade, low-grade, newsprint, magazines, and others.

A crucial factor in conducting an effective waste sort is assuring that the sample is representative. Businesses should assess all variables affecting waste generation. Waste generation may vary with seasonal, operational, or environmental factors. If the potential exists for a high degree of inaccuracy, a multi-day sampling may be necessary. Daily, weekly, and seasonal operational variations that affect waste generation must also be considered. Using the data gathered through the waste sort will form the basis for decision-making and program evaluation. An inaccurate sample can skew calculations of waste generation, waste composition, and waste removal costs.

Many businesses implement waste reduction and recycling program to reduce waste disposal costs. After implementing recycling programs, businesses need to conduct a second waste audit to see if their programs have significantly reduced the amount of waste generated. If it has, businesses should consider reducing their collection frequency or sizes of container, which will save in collection and disposal costs.

Once the targeted materials to recycle are identified, haulers will generally help businesses determine the preferred methods to sort recyclable materials, and provide indoor and outdoor recycling containers and labels.

Technical Assistance

To obtain assistance in recycling and pollution prevention, businesses could contact the Pennsylvania Small Business Development Centers' Environmental Management Assistance Program (EMAP) for free and confidential service at <http://www.askemap.org/>. Environmental specialists are available to assist in the following areas:

- On-site environmental management, regulatory compliance, pollution prevention, and energy efficiency opportunity assessments;
- Assistance for understanding environmental permit and compliance requirements;

- Assistance for incorporating environmental considerations within strategic business management and planning activities;
- Environmental training seminars;
- Liaison to regulatory enforcement agencies; and
- Additional sources of technical and financial assistance.

Developing an Effective Program

Businesses should take five steps when designing a waste reduction program. These steps are setting realistic goals; identifying strategies; evaluating options; motivating and training employees; and monitoring results. Each of these elements is important to successful waste reduction programs, but the relative importance of each will vary based on a company's size, personnel, flexibility, and other underlying factors.

Step 1: Set Program Goals

Goals set by the company's management and the waste reduction team will provide a framework for program evaluation and specific waste reduction efforts to follow. Preliminary goals should be flexible and subject to re-examination and adjustment as needed. Some suggestions for developing goals are:

- Set waste reduction goals for both the company as a whole and for individual departments;
- Make sure goals are compatible with overall company goals;
- Ensure that goals are measurable; and
- Ensure that goals are achievable with available resources, personnel, and time.

Step 2: Identify Strategies

Using the information gathered through the waste assessment results, the company's management and the waste reduction team should hold a brainstorming meeting to generate ideas for reaching waste reduction and recycling goals. Ideas should also be solicited from other managers and employees. In some cases, a company may develop a competition between different departments or shifts to promote program participation and enthusiasm. Convincing individuals to participate from the onset will help develop good habits.

Step 3: Evaluate and Choose Options

After all the potential waste reduction and recycling options have been identified, the company's management and the waste reduction team should evaluate the options based on the company's reduction and recycling goals. Some other areas to consider when reviewing reduction or recycling possibilities include:

- **Technical Considerations**
 - Effect on product or service quality, and product marketing;

- Operating and maintenance requirements;
- Compatibility with existing operations;
- Equipment requirements; and
- Space or storage requirements.
- **Economic Considerations**
 - Potential to reduce waste disposal costs;
 - Reductions in purchasing costs;
 - Implementation or start-up costs; and
 - Revenue from sale of recyclables.
- **Effectiveness and Impact on Business Environment**
 - Potential to reduce waste generation;
 - Potential to increase recycling;
 - Effect on community relations, employee morale, and environmental awareness; and
 - Implementation feasibility and timeframe.

The relative importance of various evaluation criteria for waste reduction and recycling ideas will change according to the program goals. Immediate cost effectiveness may not always be the key factor in selecting waste reduction strategies. For example, businesses should examine and identify the long-term economic effects of reduction strategies while weighing start-up costs. The measure may result in impressive cost savings or improved productivity over several years. Impacts on other factors, such as employee morale and community relations, may be equally important and must be examined along with financial considerations.

Step 4: Educate Employees

The business can assist the waste reduction team and build employee enthusiasm for the waste reduction and recycling programs by distributing or posting an announcement from the executive management stating their full support of the effort. This statement will impress upon employees that waste reduction and recycling is a high priority for the company. The management announcement should:

- Introduce employees to waste reduction;
- Explain how waste reduction and recycling can benefit the employee, the company, and the environment;
- Outline the design and implementation stages of the program; and
- Provide the team leader's name and encourage employee suggestions.

Seeking employee input can also build program support. Posting of memos, updates, and announcements regularly in centralized locations is an effective communication tool. At the same time, employees should have various opportunities for involvement. Monthly or other regular meetings, suggestion boxes, e-mail communication, and informal surveys are some possibilities. If action is taken because of employee input, the company's management should recognize the source and encourage others to participate.

The waste reduction or recycling programs will almost certainly require the efforts of numerous employees outside of the waste reduction team. At the least, employees will need to change some daily habits. Training and informing the employees most affected by the program is important.

Step 5: Monitor Results

The Borough should encourage businesses to monitor the program results to eliminate problems and to quantify successes. Mechanisms to track a recycling program include:

- Comparing waste disposal records from before and after program implementation can demonstrate waste reduction and cost savings;
- Requiring recycling companies to provide weight reports regularly of material recycled;
- Checking containers for accidental disposal of materials that should have been recycled; and
- Tracking statistics such as decreases in disposed material, avoided collection costs, recyclable revenue, and employee participation.

Promoting Success

Internal Communications

The employees that make waste reduction programs work should hear about the successes. Businesses should announce program accomplishments to build enthusiasm for the program and boost employee morale. When giving numbers and statistics, help employees understand the environmental and business significance by relating numbers to tangible materials. For example:

- Tons of paper reduced $\times 17$ = Number of trees saved
- Tons of paper reduced $\times 7,000$ = Number of gallons of water saved
- Tons of waste reduced $\times 3.3$ = Number of cubic yards of landfill space saved

Award Programs

The Borough may also want to work with businesses to recognize individual employees and departments. Perhaps departments exceeding targeted participation or recycling rates receive a catered lunch or some other small token of appreciation. Individual awards could include a certificate, plaque, a "We Recycle" t-shirt, a pass to a local entertainment event or restaurant, a half day off, or any other small recognition. It is important to make the awards program a secondary

motivation for participation. Employees should be motivated to participate primarily because it is good for the company, the environment, and themselves as employees and citizens.

Education

Promote Waste Reduction and Recycling

The Borough could use the following mediums to communicate information and assist business with commercial solid waste reduction and recycling: publicity materials, press releases and briefings, trade journals, newsletters, website, advisory committee meetings, public speaking, and traveling exhibit for schools and public events.

Raise Recycling Program Awareness

First, to raise awareness of the commercial recycling program in the commercial business district, the Borough could select a slogan to focus on waste reduction and recycling. This slogan could serve as the centerpiece of a media campaign to promote the commercial recycling program.

Second, the Borough could provide recyclable collection containers along Baltimore and State Streets for collecting specific materials (i.e., newspaper, and glass and aluminum beverage containers). The Borough's Public Works Department or a contracted private recyclables hauler could collect the materials. The Public Works Department could combine the materials with the residential recyclables collected at the municipal garage off Brooke Street. In addition, the Borough could encourage and arrange for public recycling at large community events.

Firms like DP Enviro (<http://www.dpenvyro.com/adpenvyro.html>), provide recycling containers to businesses and communities located throughout the United States. They have established several national programs with our media partners to provide revenue for program funding to communities, school districts, nonprofits, and companies. Clients receive free high quality recycling containers for their recycling programs. Each container has space for two advertisements that generate revenue. The firm would share part of this revenue with the Borough to provide funds for programs and recycling. As another option, the Borough could apply for Section 902 grants for 90 percent reimbursement of the purchase cost for the containers. Figure 3 shows an example of a multi-material container.

Third, the Borough should prepare a series of brochures to educate the commercial businesses about the recycling ordinance, Act 101 requirements, pilot program activity, local solid waste reduction and recycling programs, commercial solid waste disposal and recycling services available, potential recyclable materials, and other related topics.

Figure 3
Multi-Material Recycling Container for Downtown Area



Source: Busch Systems International, Inc.

Develop a Commercial Recycling Webpage

The Borough could develop a webpage for the Environmental Advisory Council, which can serve as a reference for residents and commercial entities. The webpage could provide programmatic details regarding residential and commercial solid waste recycling, as well as the benefits of recycling and updates regarding progress in the Borough. The new webpage could also advise businesses on how to start commercial recycling efforts, and include successful results from pilot recycling programs or businesses that have initiated their own recycling programs. In addition, the new webpage could provide internet links to other sources of information pertaining to commercial recycling.

Publicize Case Studies

Successful results from pilot recycling programs or businesses that have initiated their own recycling programs may persuade other businesses to participate in commercial recycling. The Borough could print and post case study summaries on the website to inform other businesses.

Recycling Recognition Program

The Borough could establish a recognition program for businesses that actively recycle and report the data regularly. For example, the recognition program could simply provide annual decals for the participating businesses to display at their entrances. In addition, the commercial recycling page on the Borough's website could list the commercial businesses that are members of the recognition program, and perhaps provide links to their websites, which may serve as an incentive.

Options Evaluation

Storage and Collection Methods

Indoor Containers and Outdoor Container Locations

Placing bins for collecting recyclable materials in accessible locations is important to the success of a recycling program (e.g., small bins at each workstation are ideal for an office environment). The waste assessment or informal evaluation will identify areas in the businesses that generate large and small amounts of recyclable materials. This will dictate the size of collection bins or containers needed in those areas. Many of the recyclers or haulers will provide containers as part of their services.

Employees can empty their small workstation containers into large, centrally located collection bins, or custodial staff can empty recycling containers when waste receptacles are emptied. The waste reduction teams for businesses should brainstorm ideas for effective recyclable collection methods. Figure 4 illustrates a recycling and waste sorting cart for use in an office.

Figure 4
Office Recycling and Waste Sorting Cart



Source: Busch Systems International, Inc.

Recycling Containers

Businesses with available space outdoors and significant generation could use recycling container or dumpsters, which typically store 2 to 8 cubic yards of materials. Containers are generally made of steel, are flat-bottomed, and have flat or sloping hinged steel or plastic lids. Front-end loader collection trucks typically empty the containers. These containers are primarily suitable for businesses generating large amounts of recyclables. These businesses may already use containers for solid waste storage. The container can store fibers and commingled materials separately or mixed, provided the materials recovery facility (MRF) accepting the material has the appropriate processing equipment. Fibers would include bagged or loose paper (mixed office paper, newspaper, magazines, and junk mail) and cardboard. Commingled or mixed materials may include glass bottles, steel and aluminum cans, and plastic bottles. Recycling of commingled materials is likely to occur at food service establishments, such as restaurants and bars. Single-stream recyclers will

accept storage of fibers and commingled materials in one container. If two-stream recyclers collect the materials, the recycling containers (one for fibers and one for mixed materials) should be visually distinct to avoid cross-contamination. By far, container service is the most cost-effective approach to collection; however, not all businesses can accommodate recycling containers in the alleys behind their establishments. In addition, a small number of businesses in the Borough may generate a sufficient volume to warrant larger roll-off containers (10 cubic yards and larger) with wheels. Figure 5 depicts a typical outdoor recycling container collected by a front-end loader truck.

Figure 5
Outdoor Recycling Container



Source: Wastequip, Inc.

Recycling Curb Cart

Use of 95-gallon plastic curb carts with hinged lids remains the most efficient approach for many smaller businesses, such as small shops and attorney's offices. Side loader collection trucks typically empty the carts. Carts also can accommodate a wide variety of materials collected in a two-stream (separated fibers and commingled containers) system. Businesses should use two types (color-coded or labeled) curb carts. One cart would be designated for fibers and another designated for commingled materials. This option is best suited for smaller businesses with lower generation or limited storage space. Increased collection frequency would reduce the number of carts needed. Figure 6 illustrates a typical recycling curb cart.

Combined

If businesses generate a large amount of fibers to recycle and a small amount of commingled containers, the best solution may be a combination of storing fibers in recycling containers and commingled containers in recycling curb carts.

Questions to Ask Potential Buyers of Recyclables

When meeting with recycling companies interested in purchasing your collected materials, some issues to discuss include:

What types of recyclables will the company accept and how must they be prepared?

What contract terms will the buyer require?

Who provides transportation?

Is there potential for revenue sharing?

Who will provide containers for recyclables?

Can "escape clauses" be included in the contract?

What are the maximum allowable contaminant levels and what is the procedure for dealing with rejected loads?

Are there minimum quantity requirements?

What is the schedule of collections?

Figure 5
Recycling Curb Cart



Source: Busch Systems International, Inc.

Contamination of Material

A common pitfall of newly implemented reduction and recycling programs is contamination of recyclable materials with non-recyclable waste. Continuing education and awareness campaigns are the best solutions to the problem. Recognizing contamination as a potential problem during training and program development can minimize the problem.

Recycling Collection Services

Every waste hauling or recycling company operates uniquely. Carefully compare the available options to find the firm that provides the best range of services. Some haulers handle solid waste and recyclables while many others handle only one exclusively. It may or may not be beneficial to have the same company handling both waste and recyclable materials. Cost is an important factor in choosing recycling haulers. However, several other important factors need to be weighed such as the scope of available services or collection schedules.

Be aware that, while recycling markets are growing and the value of materials is generally increasing, recycling markets fluctuate greatly over short periods. A recycling program that earns revenue today may not do so in the future if the markets for the materials change.

Private and Volunteer Services

Abitibi Paper Retriever Program

The Borough could contact Abitibi Consolidated, Inc. to place strategically multiple fibers recycling containers or roll-off containers throughout the commercial business district. Businesses could transport their recyclable fibers to the nearest container. To stimulate fiber recycling, the Borough could donate the money to a highly visible nonprofit program or activity. The businesses that generate a significant amounts of commingled materials would need to contract for collection.

Open Competition Service

Under open competition service, the businesses will contract directly for recycling collection services. This option offers the Borough the least control over commercial recycling and data reporting. This option also results in more trucks traveling on the Borough's streets, which is generally less efficient and potentially resulting in higher collection rates for customers. Under this option, since many recycling haulers would service commercial establishments, the Borough will need to register haulers for establishing data reporting to customers as a requirement for haulers under a revised recycling ordinance. Pennsylvania Act 90 and recent court decisions do not support establishing new hauler licensing programs with fees. The registration requirement will provide more control the recycling haulers serving commercial businesses in the Borough.

Multiple Pod Service

Under multiple pod service, a group of adjoining businesses (a "pod") would contract for shared recycling services. The businesses would share containers and the collection cost proportioned to recycling volumes generated. This approach relies on the businesses taking the initiative to form the pods and agree on the shared billing. Without initiative and input from the Borough, the pods are unlikely to form on their own. The Borough could conceivably work with property owners (such as owners of strip malls) to try to implement such a program, with the input and cooperation of the businesses operating in the strip mall.

Franchise Services

A franchise agreement between a municipality and one or more haulers gives private haulers in a zone the right to provide collection services to the customers within that territory. This would result in fewer trucks traveling on Borough streets, and could potentially increase efficiencies for haulers.

Franchise systems include the following characteristics:

- Franchises may be awarded through negotiation or competition;
- Franchises may be exclusive (i.e., the franchise hauler has the sole right to provide service in the entire jurisdiction or serve a designated zone) or non-exclusive (multiple franchise holders may serve the same territory and compete against one another);
- Franchises are typically established for a relatively long period of time (10-20 years is not uncommon);
- Franchises typically place the burden of billing and collections on the franchise hauler, who is required to collect fees directly from their customers;
- If the government issuing the franchise transfers the responsibility for billing to the franchise holder, it typically results in a loss of control over the materials collected. In other words, the franchise holder and not the government may determine the end markets for the recyclable materials; and

- For the right to hold the franchise, a franchise fee is customarily paid to the municipality and may be calculated based on the number of businesses served, a percentage of gross revenues, or on the number of vehicles operated by the franchisee.

Franchising agreements would result in the Borough not having the burden of purchasing, operating, and maintaining additional collection equipment and marketing the collected recyclables. The costs to the Borough are limited to those incurred in managing the agreements, monitoring performance of the recycling haulers, and depending on the contractual arrangement, billing the businesses. To provide a more integrated solution to businesses, franchises can provide solid waste disposal and recycling services.

Municipal Provided Services

Under these two options, the Borough will provide recycling services with its own forces and equipment, or contract with a private hauler to provide the services. Both options offer the following common strengths:

- Ensure and promote recycling;
- Do not require hauler registration to ensure data reporting;
- Provide reliable data reporting from one source; and
- Minimize recycling collection vehicle traffic.

To provide a more integrated solution to businesses, the Borough can provide solid waste disposal and recycling services directly or through a contracted hauler.

Municipal Collection Recycling Services

Under this service, the Borough's Public Works Department would purchase additional equipment and hire additional staff to collect recyclables from commercial establishments. As an alternative, the Borough may provide solid waste and recyclable materials collection. The Borough would establish a franchise and provide the services exclusively. The additional staff is required to operate and maintain the collection vehicles, provide customer service and billing to the commercial businesses, and supervise the additional employees. Under this option, the Borough has the highest level of responsibility, risk, and control over the commercial recycling program.

Municipal Contract Recycling Services

Another strategy is for the Borough to contract (through a procurement process) with a single or multiple private hauler(s) to collect commercial recyclable materials from all businesses. As an alternative, the Borough may contract for solid waste and recyclables collection.

By contracting for recyclables collection, the Borough would ensure each business the opportunity to recycle. The Borough or the hauler(s) could handle the billing. Many governments choose to handle the billing to retain more control of the program. The governmental jurisdiction would pay

the contracted hauler(s) according to the number of businesses served and the levels of service provided.

Many governments contract with private haulers to provide a specific, contractually defined set of services with associated performance criteria. The list below describes contract collection followed by its strengths and weaknesses.

- Contracts typically last for a base period (usually between three and seven years), and have one or two optional renewal periods(generally of one, two, or three years);
- Contracts are most often the result of a competitive selection process;
- With most contracts, the governmental jurisdiction typically has the responsibility for billing and collections. By retaining billing responsibility, the local jurisdiction remains a “market participant” and therefore can require the contract holder to deliver collected materials to a specified MRF (i.e., the government retains control of the collected recyclables); and
- Usually, the governmental jurisdiction pays the hauler(s) directly based on the number of customers and/or the type of services provided. Because billing and collection risks are borne by the local government, contracting sometimes results in lower fees paid to the hauler.

Contracting with a private hauler would result in the Borough not having the burden of purchasing, operating, and maintaining collection equipment marketing the collected recyclables. This method would limit the Borough’s costs related to managing the contracts, monitoring the hauler’s performance, and depending on the contractual arrangement, billing the businesses.

Comparison of Service Options

Table 1 lists the strengths and weaknesses of various volunteer and private commercial recycling service options. Table 2 compares the strengths and weaknesses of municipal provided commercial recycling service options, including municipal collection and municipal contract collection.

Table 1 Strengths and Weaknesses of Volunteer and Private Commercial Recycling Service Options

Abitibi Paper Retriever	Open Competition	Multiple Pods	Exclusive Franchises	Non-Exclusive Franchises
Strengths				
<ul style="list-style-type: none"> No cost and minimal involvement by the Borough Provides revenue for a highly visible program or activity in the Borough Reliable data reporting from one source Reduced recycling collection vehicle traffic versus multiple haulers 	<ul style="list-style-type: none"> Businesses select their preferred recycling haulers and levels of service 	<ul style="list-style-type: none"> May reduce space needed for shared containers Reduced recycling collection vehicle traffic 	<ul style="list-style-type: none"> Borough has high control over the recycling program Requires minimal administrative effort by the Borough Provides franchise fees to Borough Does not require hauler registration to ensure data reporting Reliable data reporting from one source May reduce space needed by possible sharing of containers Lower recycling collection vehicle traffic 	<ul style="list-style-type: none"> Borough has medium control over the recycling program Requires low administrative effort by the Borough Provides franchise fees to Borough Does not require hauler registration to ensure data reporting Relatively reliable data reporting from few sources May reduce recycling collection vehicle traffic
Weaknesses				
<ul style="list-style-type: none"> Borough has limited control over the fiber recycling program Not a solution for recycling commingled containers Not convenient drop-off locations for every business 	<ul style="list-style-type: none"> Program will require very high administrative effort by the Borough Borough has very limited control over the recycling program Limited space for many containers Requires hauler registration to ensure data reporting Higher recycling collection vehicle traffic 	<ul style="list-style-type: none"> Adjoining businesses have to agree on recyclables haulers Program will require high administrative effort by the Borough Borough has limited control over the recycling program Shared hauler billing requires oversight by businesses Requires hauler registration to ensure data reporting 	<ul style="list-style-type: none"> May prohibit small recycling haulers from competing Borough commits to long-term franchise to one hauler. 	<ul style="list-style-type: none"> Limited space for many containers

Table 2 Strengths and Weaknesses of Municipal Provided Commercial Recycling Service Options

Municipal Collection Service	Municipal Contract Service
Strengths	
<ul style="list-style-type: none"> ■ Borough has very high control over the recycling program 	<ul style="list-style-type: none"> ■ Borough has considerable control over recycling program ■ Will not require a large capital investment for new collection vehicles, vehicular maintenance facilities and staff, and recycling containers ■ Will not require effort to market or contract marketing the collected recyclables
Weaknesses	
<ul style="list-style-type: none"> ■ Will require very high administrative effort by the Borough, including billing and data reporting ■ Will require a large capital investment for new collection vehicles, vehicular maintenance facilities or contract service, and recycling containers ■ Will require additional staff to operate and maintain the equipment. ■ Will require effort to market or contract marketing the collected recyclables 	<ul style="list-style-type: none"> ■ May require additional staff to administer the program and possibly billing

Conclusions and Recommendations

The strategy to increase commercial solid waste recycling in Media Borough should address the following elements:

- Revise the recycling ordinance;
- Implement the pilot commercial recycling program;
- Increase staff resources;
- Establish an advisory committee;
- Require data reporting and add waste audits;
- Establish public recycling in the central business district;
- Develop an education program; and
- Establish an exclusive franchise for commercial solid waste disposal and recycling service.

Revise Recycling Ordinance

The Borough should retain the Borough's solicitor and special legal counsel to update the recycling ordinance. The revisions to the ordinance should include:

- Mandatory periodic reporting requirements by the commercial businesses;
- Fines for the commercial businesses not recycling in accordance with Act 101; and
- Establish the exclusive franchise area for solid waste disposal and recycling service.

Implement Pilot Commercial Recycling Program

R. W. Beck suggests the Borough consider implementing a pilot program for a limited period (three to six months) with voluntary participation. The Borough's Public Works Department could collect the recyclable materials or the Borough could contract for the collection of the materials. The Borough could apply for Section 902 grants from DEP for 90 percent reimbursement of the equipment needed for the pilot program. The Borough believes the ideal location would be a street or block between the following secondary streets:

- Orange Street;
- Jasper Street;
- Monroe Street; and
- Baker Street.

Steps to implement the pilot program include:

1. The Borough should contact the businesses in the selected area to determine their willingness to participate in the pilot recycling program.
2. The Borough should define the pilot program and apply for a Section 902 grant from DEP for 90 percent reimbursement of the equipment needed.
3. The Borough should determine who would collect the recyclable materials and set a collection schedule. For example, the Borough should arrange placing an Abitibi Paper Retriever container to serve the target area for use by businesses. The contracted hauler should collect other commingled materials in carts.
4. The Borough should monitor the performance of the pilot recycling program and report the progress and reduced disposal costs to promote other businesses in developing recycling programs. The educational activities should incorporate the pilot program results to inform commercial businesses of the benefits of recycling.

Establish Advisory Committee

The Environmental Advisory Committee should lead and monitor the commercial recycling efforts in the Borough. Solid waste recycling is already established as one of the oversight areas for the committee. The Environmental Advisory Committee should identify initially the objectives of commercial solid waste reduction and recycling in the Borough. Objective statements should list the desired accomplishments in a quantifiable or measurable way with timeframes for completion.

Increase Staff Resources

As a first step, the Borough should hire a part-time recycling coordinator to implement the proposed programs. The recycling coordinator would communicate and work with the businesses, the local solid waste and recycling haulers, the Environmental Advisory Committee, and the DEP. As commercial recycling progresses, the recycling coordinator will evolve into a full-time position when the exclusive franchise for commercial solid waste disposal and recycling is established. At that time, the recycling coordinator should monitor the service provided by the franchised haulers. The collected franchise fees from the haulers would offset the salary of the full-time recycling coordinator and related support activities.

Require Data Reporting and Add Waste Audits

During routine visits, the Borough should train the Code Enforcement staff to interview commercial business owners and complete recycling survey forms at least once per year. In addition, training of the Code Enforcement staff to assist in conducting waste audits would be effective. Furthermore, businesses could contact the Pennsylvania Small Business Development Centers' Environmental Management Assistance Program (EMAP) for free and confidential service at <http://www.askemap.org/>. This is a cost-effective approach to ensure obtaining the data until the exclusive franchise for commercial solid waste disposal and recycling service are established.

Establish Public Recycling Collection in Central Business District

To raise awareness of recycling in the commercial business district, The Borough should purchase and locate recycling drop-off for patrons in the downtown area. The suggested containers and recyclable materials to collect are:

- Newspapers; and
- Beverage cans and bottles.

A no-cost option is to contact a firm like DP Enviro (<http://www.dpenvyro.com/adpenvyro.html>), to provide recycling containers with advertisements. Another option would be for the Borough to apply for Section 902 grants for reimbursement of 90 percent of the purchase cost of the containers.

In the interim, the Public Works Department could collect the recyclables or the Borough could contract the service to a private hauler. Once the commercial exclusive franchise is established, the Borough should contract with the franchised hauler to collect the materials. In addition, the Borough could encourage and arrange for public recycling at large community events.

Develop an Education Program

The Borough should establish an education program to raise the awareness and benefit about commercial solid waste reduction and recycling.

First, to raise awareness of the program in the commercial business district, the Borough should select a slogan to focus on waste reduction and recycling. This slogan should serve as the centerpiece of a media campaign to promote commercial recycling program.

Second, the Borough should prepare a series of brochures to educate the commercial businesses about the recycling ordinance, Act 101 requirements, pilot program activity, local solid waste reduction and recycling programs, exclusive franchise for commercial solid waste and recycling collection, potential recyclable materials, and other related topics.

Third, the Borough should develop a webpage for the Environmental Advisory Council, which can serve as a reference for residents and commercial entities. The webpage should provide programmatic details regarding residential and commercial solid waste recycling, as well as the benefits of recycling and updates regarding progress in the Borough. The new webpage should also advise businesses on how to start commercial recycling efforts, and include successful results from pilot recycling programs or businesses that have initiated their own recycling programs. In addition, the new webpage should provide internet links to other sources of information pertaining to commercial recycling.

Fourth, the Borough should establish a program to recognize businesses recycling and reporting the data. The recognition program should simply provide annual decals for the participating businesses to display at their entrances. In addition, the commercial recycling page on the Borough's website should list the commercial businesses that are members of the recognition program, and perhaps provide links to their websites, which may serve as an incentive.

Establish Exclusive Franchise

R. W. Beck recommends that the Borough retain special legal counsel to establish and procure commercial solid waste disposal and recycling service under an exclusive franchise. This approach provides businesses with a more integrated solution for solid waste disposal and recycling services. The commercial business district in the Borough is too small in area and number of establishments to consider delineating multiple exclusive franchises. During implementation of an exclusive franchise, the Borough should conduct regular meetings with businesses and local haulers to apprise them of upcoming changes in solid waste disposal and recycling service. The revised recycling ordinance should define the limits of the exclusive commercial service franchise. The revised recycling ordinance should still mandate that commercial businesses located outside the franchise area must recycle and report the data. Cities like Thousand Oaks and San Jose, CA have successfully established franchises for commercial solid waste disposal and recycling services. We contacted DEP who is not aware of any municipalities in Pennsylvania that implemented this approach to commercial solid waste disposal and recycling services.

Through a competitive procurement process, the Borough should enter into a contract with a single hauler with established unit service rates, which include the franchise fee, and future escalation rates. Establishing the franchise and combining disposal and recycling services will make the best use of constricted spaces available for outdoor storage.

Implementing an exclusive franchise agreement is more beneficial than dividing the Borough into smaller zones and contracting for service in each zone. The franchise will tend to minimize the Borough's involvement with the program if the agreement indicates that the hauler will bill and collect payment for service provided to the businesses. In turn, the hauler would pay the collected franchise fees to the Borough, which defrays the cost of administering the program.

The second best option is for the Borough to revise the recycling ordinance and mandate that businesses contract for solid waste and recyclables collection services. Under a cooperative arrangement, the Borough would ask businesses to enter a joint procurement process where the Borough contracts on behalf of the businesses. The Borough would competitively bid the different level of services needed by the participating businesses and contract a single hauler. The hauler would bill the businesses directly. The businesses not participating in cooperative then must contract for the services with their selected haulers and provide evidence to the Borough. The disadvantage of this option is the program will not generate franchise fees to defray the Borough's cost of administering the program.

Ms. Judy Fowler
Borough of Media
December 19, 2006
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We hope these findings are useful to you, and we appreciate the opportunity to work with the Borough of Media on this project. Please contact me at (610) 779-2044 should you have any questions.

Very truly yours,
R.W. BECK, INC.

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