

FINAL REPORT

To: Karen Karchner, Zoning/Building Code Official
From: Rick Schlauder
Date: November 16, 2010
Subject: Township-wide Recycling Options Study

INTRODUCTION

Salem Township is located in southwest Luzerne County. Because of its size (and population density), under Act 101, the Township is not required to recycle. Accordingly, household waste is collected through a subscription-based system, with each homeowner and business responsible for securing a private hauler for collection and disposal of residential and commercial refuse. To the best of the Township's knowledge, and confirmed by recycling reports available from the Pennsylvania Department of Environmental Protection (DEP), private haulers do not offer curbside recycling services. In addition, there are no existing recycling drop-off sites administered by the Township or by private sector entities. Residents have very few recycling outlets in close proximity to the Township.

Act 101 requires that municipalities of 5,000 or more persons, or municipalities with a population density of 300 persons per square mile, must recycle. With a population density of 141.9 persons per square mile and an overall population of 4,115¹, Salem Township is not currently mandated to recycle. However, with the publication of the 2010 population census pending, this is subject to change.

In Pennsylvania, municipalities are granted the authority to control waste and recycling collection. They can either provide public collection (i.e., purchase collection vehicles and hire collection crews) or contract with a private hauler to provide exclusive collection. A public or contracted collector has the exclusive right and duty to collect, transport and dispose of all residential (and/or commercial) solid waste within the municipal borders. Doing so generates substantial operating efficiencies, which reduce overall collection costs (which can then be passed on to customers). On the downside, existing haulers will typically fight any effort to municipally control collection (including exclusive franchises).

The DEP, working through the Solid Waste Association of North America (SWANA), has created a technical assistance program to help Pennsylvania municipalities establish, enhance and improve their recycling and composting programs. MidAtlantic Solid Waste Consultants (MSW Consultants) is an authorized provider of recycling and composting technical assistance as part of this program.

¹ Source: U.S. Census Bureau (2009 estimated).

During Salem Township’s (Township) last Supervisors election held in 2009, one of the more common themes that the candidates heard from their constituents was that they would like to see the Township implement a recycling program that would enable residents to divert various materials from the waste stream. While Township residents can subscribe to private haulers to collect municipal waste, to the best of the Township’s knowledge, these same haulers are not currently providing curbside recycling services to their customers.

In response to the citizens’ interest, the Township applied for and received Technical Assistance funding from the DEP to evaluate various recycling program options. After visiting the Township and meeting with key municipal officials and staff to assess the best options for advancing recycling in the Township, a total of six recycling system options were identified. These options are summarized in Table 1.

Table 0 Recycling Collection Options (Drop-off and Curbside)

Option	Drop-off or Curbside	Container Owner/Operator	Recycling Service Provider	Refuse Service Provider
1	Drop-off	Township (Two 20 or 30-CY Roll-offs)	Private Hauler (via contract)	Status Quo
2	Drop-off	Private Hauler (via contract with Township)	Private Hauler (via contract)	Status Quo
3	Drop-off	Team Green Recycling [1]	Team Green Recycling (no-cost service)	Status Quo
4	Curbside	N/A	Municipal	Subscription
5	Curbside	N/A	Contracted	Subscription
6	Curbside	N/A	Contracted	Contracted

[1] The owner of Team Green Recycling, Matt Rishkofski, has proposed locating a recycling center within the Berwick Industrial Development complex. This recycling center would initially process cardboard, plastics number 1 thru 7, mixed paper, and metals. Aluminum would be added shortly thereafter.

A general analysis of these six options is presented in this report, with an emphasis on the advantages and disadvantages of implementing each option. Based on the Township’s unique circumstances, ease of use by Township residents, diversion potential, and economic sustainability, MSW Consultants provides a recommendation on which option the Township should ultimately pursue.

This analysis also identifies Sections 902 and 904 Grant Funding that would be available to the Township to assist in the development of the recycling program. Lastly, in order to successfully implement a new recycling program within the Township, a thoughtful public education program is strongly recommended. As such, the final section of this report provides general guidance on how a successful public education component can be implemented in conjunction with the launch of the Township’s new recycling program.

SALEM TOWNSHIP GENERATION RATES

According to Pennsylvania DEP, the state's average generation rate, based on municipal waste generated statewide, is 0.8 tons per person per year, and this is the figure used to estimate waste generation in the Township. As reported by the U.S. Census Bureau, the population of Salem Township was 4,115 persons in 2009. Using 2009 population data, the total municipal waste generated would be 3,292 tons.

In 2001 the Pennsylvania Department of Environmental Protection commissioned a study to determine the composition of municipal solid waste (MSW) within Pennsylvania. The study, which was released in 2003, was designed to estimate the composition of disposed MSW generated in the Commonwealth's six regions, as well as the State-wide aggregate composition. Using the results from the Northeast Region municipal waste composition study (which included Luzerne County), an examination of municipal waste generated in Salem Township likely indicates that approximately 29 percent of the disposed municipal waste stream is made up of materials that could instead be recovered in any County drop-off or curbside recycling program. These materials include:

- ◆ Fiber (newspaper, cardboard, office paper, magazines);
- ◆ Metals (aluminum and bi-metal cans);
- ◆ Glass (clear and colored containers); and
- ◆ Plastics (numbers 1 and 2 bottles, jugs and jars).

Table 2 below shows the percent of the municipal waste stream by material and the potential number of tons available for recovery. This is based on the estimated tons of municipal waste disposed² - or 3,292 tons for 2009. As seen in the values presented in Table 3, there is an estimated 952 tons of municipal waste disposed in Salem Township that could potentially be recovered.

² Calculated by multiplying the 2009 U.S. Census Bureau population (4,115) by the Pennsylvania DEP generation rate of 0.8 tons per capita per year.

Table 2 Recyclable Materials Available in Salem Township's Municipal Waste Stream (by weight)

Material	Percent of MSW [1]	Tons Disposed
Newsprint	4.1%	134
Office Paper	2.8%	93
Corrugated Cardboard	8.8%	290
Mixed Paper	3.7%	123
Magazine/Glossy	2.0%	65
Aluminum Cans	0.4%	14
Steel & Bi-metallic Containers	1.4%	47
Clear Glass	1.3%	44
Colored Glass	0.8%	27
PET (No. 1)	0.9%	30
HDPE (No. 2)	0.8%	27
Yard Waste	1.7%	57
TOTALS	28.9%	952

[1] Source: Statewide Waste Composition Study, Pennsylvania Department of Environmental Protection, April 2003.

As stated, that data presented in Table 2 is what is potentially available. Recycling rates in rural areas are traditionally lower than in urban and suburban areas, and also in drop-off programs vs. curbside programs. The actual rate at which materials might be collected in a curbside or drop-off program could be lower, and would depend on the mix of materials that are collected.

However, what is of more importance to Salem Township is the likely amount of recyclable materials that the Township can expect to recover from either a curbside or drop-off recycling program. This is explored in the following sections.

DROP-OFF RECYCLING OPTIONS

Salem Township is not an ACT 101 mandated municipality although it does host one of the State's largest nuclear power plants – which is currently expanding – and numerous other industrial operations. Given the number of individuals employed by these operations, it is conceivable that employees traveling to and from work may utilize some sort of drop-off collection program, thereby benefitting more than just the Township residents. This section describes important considerations for the drop-off site as well as a discussion of options for a drop-off program

Site Location

A major state route (US-11) that passes through the Township also passes through the more heavily populated areas of Luzerne County. A drop-off location on or near this thoroughway would be easily accessible to all residents of the Township as well as commuters; however, it will be important that the drop-off site have sufficient space to prevent traffic congestion at the street entry point.

As part of this project, MSW Consultants met with Karen Karchner, Salem Township Code Officer and designated Recycling Coordinator, to tour an existing private recycling operation and to evaluate

the Township's Municipal Garage as a potential site for the drop-off site. The following observations were made:

- ◆ The municipal garage location is well known to Township residents and is easy to access off of Route 11.
- ◆ The Municipal Garage has sufficient property to accommodate a set number of roll-off containers.
- ◆ Within this unimproved area, the Township could asphalt a select area, possibly using 902 Grant Funds.
- ◆ A chain metal fence surrounds the property and provides security against vandalism and material theft.
- ◆ The garage is open during business hours on weekdays only. As such, the Township may want to consider opening the gate on Saturdays and Sundays to accommodate weekend schedules for Township residents.

The municipal garage location seems well suited to the type and size of the drop-off anticipated. The site address is 101 Bell Bend Road, Berwick, PA 18603 and is currently used for storage and maintenance of Township equipment. It also houses the offices for the Public Works Department employees, who can passively monitor and manage the site. Experience from other drop-off programs typically supports that highest participation and greatest success will result if: the site is level or almost level (optimally it is paved) and has sufficient room for safe and efficient servicing (e.g. 80-90 linear feet for roll-offs). Area at the site allows for multiple users at one time and traffic can move freely in the drop-off area.

Staffing and Operations

Operationally, the drop-off containers themselves would be unstaffed. That is, there would be no dedicated staff directing traffic at the drop-off site, so signage, refuse receptacles, and painted directional lines for traffic flow would be needed. It should be expected that public works employees at the site would be approached from time to time with questions by site users. Further, the Township should expect to provide daily housekeeping of the site, including assessment of contamination levels, general litter control, and monitoring of container fullness to assure collection of the recycling containers on a timely basis.

Equipment

The equipment recommended for the proposed Salem Township drop-off recycling program are compartmentalized roll-offs. A roll-off container system has been recommended based on experience from a number of Pennsylvania county and municipal drop-off recycling programs. Roll-off containers are relatively easy to maintain, are built to withstand frequent use, and it would be easy to procure hauling services for transport for processing at a Materials Recovery Facility (MRF). In addition, like trailers, recycling roll-offs provide flexible options for use at multiple temporary drop-off locations. The typical cost to purchase a compartmentalized roll-off container, (capacity

and manufacturer dependent) ranges from \$7,000 to \$12,000 each. Figure 1 below shows an example of a recycling roll-off container.

Figure 1 Multi-compartment Roll-off Container for Recycling



Roll-off containers provide excellent capacity, especially for larger, heavier or bulkier recyclables (cardboard, magazines, phonebooks, etc.) and can be built with customized openings to limit contamination and provide protection from the elements. On the downside however, roll-offs carry higher initial costs than dumpsters, and would require a larger surface area for placement and servicing.

In order to properly distinguish between refuse and recycling - Salem Township should ensure the roll-off containers are modified to meet the following specifications:

1. Containers must appear different than roll-offs used for refuse and construction and demolition (e.g. color and clear recycling labeling). Blue is often used to designate recycling;
2. Containers should have clear signage and customized openings that minimize garbage drop-off and contamination (critical requirement at unstaffed/ unmonitored sites);
3. Container capacity should accommodate different volumes for each material to minimize overflow of a particular material, which results in increased frequency of servicing; and
4. Recycling containers should be accompanied by a trash can for residents to place trash while on-site.

Targeted Materials

Based on current available information for Luzerne County recycling markets, MSW Consultants recommends the following materials, at a minimum, be considered for inclusion in Salem Township's drop-off collection program:

- ◆ Fiber (newspaper, cardboard, office paper, magazines);
- ◆ Metals (aluminum and bi-metal cans);

- ◆ Glass (clear and colored containers);
- ◆ Plastics bottles, jugs and jars (numbers 1 and 2).

Other potential acceptable materials include Phonebooks, Catalogs, Junk mail, Paperboard (cereal boxes, etc.); and Plastics numbers 3 through 5 (containers only). The Township should regularly evaluate its list of acceptable materials and current market trends to make sure their drop-offs are functioning at peak efficiency. If need be, acceptable materials can be added/removed as market conditions change.

Ownership and Funding of Containers

Perhaps the biggest decision of the drop-off program will be to determine the ownership arrangement for the drop-off containers. Either the Township can purchase the containers for a relatively sizeable capital investment, or else expect to pay container rental costs as part of a long-term agreement with a private hauling company to provide the containers and the service.

If the Township opts to purchase the roll-off recycling containers, it is recommended that four 30-cubic-yard multi-compartment units be procured. Two of the four containers would be in service at the drop-off site at all times, with the remaining two swapping out for full containers. Two of the roll-offs would be configured for fiber recovery, and the other two would be configured for metal, glass and plastic container recover; there would be one active and one back-up for both configurations. Market prices for these containers range from \$7,000 to \$10,000 per container. Assuming a cost at the lower end of this range, the cost of four containers will be approximately \$32,000.³

While this seems to be a high cost, the Township could be eligible for grant funding from the Pennsylvania Department of Environmental Protection (DEP) to offset some of the cost. Specifically, Salem Township should apply for Section 902 Grant Funding from the DEP. Section 902 Grant Funding can provide for up to 90 percent reimbursement for eligible costs for recycling equipment, containers, and site improvement. It should be noted that in-order to apply for Section 902 funding, the Township would have to pass a mandatory recycling ordinance. Additionally, these grants are very competitive and Section 902 funding is currently limited in availability. Available grant programs are discussed in more detail later in this report.

Alternatively, the Township could opt to procure both the containers and the collection of the containers as part of a contractual arrangement with a private hauler. The Township should expect to pay \$100 or more per container per month as a rental fee under this arrangement. Table 3 summarizes the capital and operating costs associated with Township and private ownership of the containers.

³ It may be possible to acquire only two roll-off containers instead of four, and not have swap-outs. This would reduce capital costs in half; but would leave the drop-off site without a receptacle for recycling during the time a container is being transported and emptied at a recycling facility. If the Township can find a nearby recycler that will accept its material, such that drive times are minimized, it may be possible to operate with only two roll-offs.

Table 3 Comparison of Roll-off Container Costs

Ownership	Capital Costs		Annual Costs	
	Township	4 containers @ \$9,000 90% 902 Grant Reimbursement Net	\$32,000 <u>(\$28,800)</u> \$3,200	Container Rental Container Maintenance
Private	None Net	<u>\$0</u> \$0	Container Rental Container Maintenance	\$2,400 <u>\$0</u> \$2,400

In summary, the Township should purchase the containers if it can secure a 902 grant, but otherwise should expect to pay container rental charges on a monthly basis. It should be noted that Township-owned containers could be much better customized with signage and colors to inform recyclers; contractor-provided containers will have limited signage and may be less attractive for users.

Collection of Containers and Recycling

It is prohibitively expensive for the Township to acquire the appropriate collection vehicle to service its drop-off containers. Rather, the Township should expect to procure pull services and recyclables processing for the materials contained in the containers. These should be done separately.

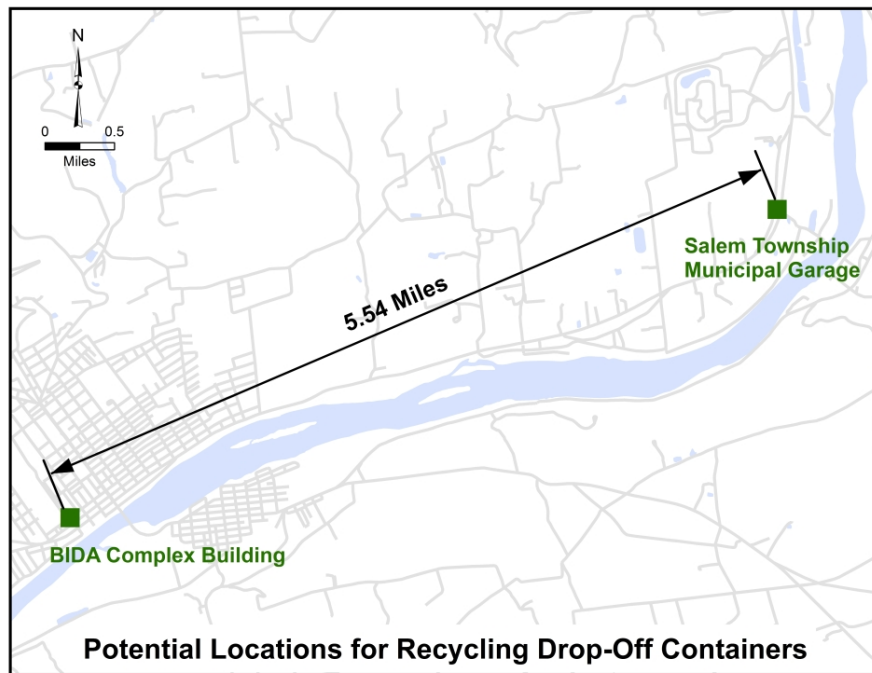
First, the Township should advertise for and/or negotiate a pricing index for delivery of its roll-off containers with local MRFs. Second, the Township should advertise and procure collection services resulting in the execution of a formal service agreement. Service fees per pull for roll-off containers typically range from \$150 to \$250 per pull, depending on frequency of service and on the distance to the processor.

Given the projection of total recyclable material, and assuming that 10 percent of this material is captured in the drop-off program, then roughly 90 tons will be pulled annually. This suggests a monthly pull frequency for both containers, so collection costs will range from \$3,600 to \$6,000 annually, plus fuel surcharges which could add another 10 percent.

Team Green Recycling

As a final consideration, the Township has been approached by a local recycler with an alternative proposal. Team Green Recycling is a full service recycling company serving the Northeast region of Pennsylvania. Headquartered in Berwick, the Executive Director of Team Green, Mike Rishkofski, has offered to locate a drop-off recycling center within the Berwick Industrial Development Authority (BIDA) complex at no charge to Salem Township. This recycling center is just over the Salem border, and would initially accept cardboard, plastics number 1 thru 7, mixed paper, and metals. Aluminum would be added shortly thereafter. Figure 2 below shows the proximity of the proposed recycling center to the existing Salem Township Municipal Office Building and garage.

Figure 2 Proposed Team Green Recycling Drop-off Center Location



Team Green Recycling has indicated that the drop-off site would be free for Township residents to use. There would be no charge to the Township to operate the program, site the containers, or manage the drop-off site itself. However, all materials collected would be the property of Team Green, and there would be no revenue sharing option involved.

Salem Township would be responsible for advertising the drop-off center to Township residents. The initial advertising cost to the Township is unknown and would be dependent on the amount and type of marketing strategies that fit within the Township's budget. Salem Township could consider the following media outlets for their advertising campaign:

- ◆ Local newspaper(s),
- ◆ Billboards,
- ◆ Flyers mailed to home addresses,
- ◆ Newsletter,
- ◆ Website.

It will be important for the Township to enter into an arrangement with Team Green that requires Team Green to report back to the Township the quantities recycled. Conversations with Team Green also indicated that in the future, one or more recycling drop-off containers could be sited at the Municipal Garage. If this were to occur, the materials collected would be the property of Team Green. The advantage of siting containers at the Municipal Garage would mean that the majority of

Township residents would have a shorter commute to deposit recyclable commodities. It is commonly known that a shorter commute would lead to an increase public participation and in the amount of materials diverted.

Conclusion

Drop-off recycling represents the lowest cost option to the Township. Among the three strategies evaluated, accepting the Team Green proposal represents the lowest cost, with the Township responsible only for some public education. However, diversion rates would be expected to be minimal given the drive distance required for Salem residents. While it is difficult to predict, diversion under the Team Green scenario is likely less than three percent.

Siting the drop-off site at the centrally located and accessible garage would be expected to increase diversion to five percent or more, but at a higher cost to the Township.

CURBSIDE COLLECTION OPTIONS

According to the 2008 Re-TRAC report, 36 of 77 municipalities within Luzerne County have some sort of curbside recycling program available to their residents at varying times since the enactment of Act 101. Combined, these curbside programs diverted approximately 13,410 tons of material from the waste stream. Although, no pounds per capita data is currently available, this information does indicate that there is a market for curbside-collected materials.

In Salem Township there are currently no known residents or small businesses receiving curbside collection of recyclable materials. Instead, all materials are generally deposited in the refuse stream and collected by the individual's subscription-based private hauler.

In the event that Salem Township wishes to implement a curbside recycling collection program, MSW Consultants has identified three possible options to provide curbside recycling service to Township residents. The three options include:

- ◆ Municipal curbside collection of recyclables with refuse collected by subscription service;
- ◆ Contracted collection of recyclables with refuse collected by subscription service; and
- ◆ Contracted collection of recyclables and refuse.

A detailed description of all three options is provided below. While recycling rates may vary slightly, it is reasonable to expect a 20 to 30 percent recycling rate from residential dwellings if an effective curbside program is implemented, with weekly collection frequency leading to the higher recycling rate.

It should be noted that most other municipalities that provide curbside recycling collection charge each household – whether or not the household participates in the program – a monthly or quarterly fee to cover the cost of providing the service. It is not discussed in this report whether Salem Township would charge such a fee, nor whether there is an existing utility or other billing mechanism on which to place the recycling collection fee.

Because the Township would charge a monthly fee for the curbside collection of recyclable materials regardless if the household participated – it is likely that the Township will receive negative comments or feedback from households that choose not to participate in the program. In order to prepare for this negative feedback, the Township should educate its Board of Supervisors as to the benefits of curbside recycling and possibly speak with other municipalities in Luzerne County that have implemented a successful curbside recycling program.

Municipal Recycling Collection – Recycling Only

Under this alternative, the Township would purchase a recycling collection trailer or vehicle and hire a crew (or redeploy existing Township staff) to provide weekly collection of recyclable materials. For this option to be implemented, the Township would need to (1) issue an ordinance mandating recycling, (2) purchase the recycling bins and (3) would need to find a local MRF and/or consolidation center to accept, process and market the recyclable commodities collected at the curb

If the Township were to provide its own collection, it will be cost prohibitive to invest in a heavy duty commercial collection vehicle. However, many small municipal programs in Pennsylvania and nationally make use of lower cost equipment such as a pick-up truck and multi-compartment trailer. It is assumed that the Township would pursue a similar strategy, and an example of such a trailer is shown in Figure 3.

Figure 3 Multi-compartment Recycling Trailer



This trailer would require a 2-person collection crew to provide curbside sorting of recyclables for delivery to Team Green or another local consolidator. This crew would provide every-other-week. While this form of collection is less efficient than heavy-duty collection vehicles, it has several benefits:

- ◆ It will minimize contamination of the recyclable materials and keep them separate, resulting in material revenues to offset the collection cost slightly; and
- ◆ It is the least expensive equipment that can be purchased and will suffice for the number of households in Salem Township.

This system will also require the Township to invest in 30-gallon recycling bins for holding recyclable containers, to be distributed to residents. These bins cost roughly \$14 apiece. Table 4 summarizes the capital and operating costs of the Township providing curbside collection

Table 4 Capital and Operating Costs of Municipal Collection

Ownership	Unit Cost	Total Cost
Capital Costs	One 10-yd, 10-compartment trailer	\$14,300
	One Pick-up Truck	\$22,000
	1,800 30-gallon recycling bins @ \$14 ea.	\$25,700
	Subtotal Capital Costs	\$62,000
	Annual 10-yr Straight Line Depreciation	\$6,200
Operating Costs	Annual Truck and Trailer Maintenance	\$8,600
	Fuel	\$7,700
	Salary and Benefits for 2-person Collection Crew	\$71,680
	Annual Operating Cost	\$87,980

At an annual cost of just over \$94,000 (including depreciation), this system would cost each household \$4.50 per month. This crew would be able to provide every-other-week collection under this system, which is why the recycling bins are relatively large. The bins would hold containers (steel and aluminum cans, plastic bottles, glass bottles), and papers and flattened cardboard should be bundled or put in Kraft paper bags or cardboard boxes.

It should be noted that there are other alternatives to curb sort collection, one of which is to collect all recyclables mixed together in a single compartment on the collection vehicle. This is in fact the most common method of collection nationally, and may be the method used by a private hauler under contract to the Township. Private haulers will likely be able to collect so-called “single stream” recyclables with a more efficient, heavy-duty collection truck because the Township’s service area is only one of many and the hauler can utilize the heavy duty collection truck in other municipalities.

Single stream recyclables must also be processed, and for small customers such as Salem Township, it is not expected that any material revenues would be received. The closest facility that accepts single stream recyclables is in the Scranton area where they transfer the materials to a facility in York for processing. This might be feasible for a private hauler, but not for the Township if it opts to provide municipal collection.

Contracted Recycling Collection – Recycling Only

In recent years, increasing numbers of municipalities have opted to procure private sector services for collection of MSW and/or recyclables. The primary reason for this shift to private sector operation or contracted services is cost savings, as private haulers can utilize highly efficient heavy-duty collection vehicles to collect waste and recyclables from many towns and keep this equipment fully utilized. A second curbside recycling option would entail procuring curbside recycling collection services from a single private hauler rather than investing in public assets and employees to do this service. Refuse services would not change from the current subscription based system.

As discussed in Section 3, this process usually entails preparation of an RFP to provide a detailed description of the services being requested, background information, requirements for responses, bid requirements and general contract terms. Upon review of the responses, the municipality will negotiate a contract for curbside collection with the lowest qualified bidder. A number of recent comparative analyses have shown that lower cost can be achieved under a contract system vs. municipal collection. While it is not possible to predict the exact cost for this service, it is likely that the range would be from \$2.50 to \$3.50 per household per month for every-other-week single stream service.

The Township should base their award on the hauler who displays the best rate (cost per household) and ability to perform the necessary collection functions. It would also be worth requesting bid prices for both weekly and every-other-week collection frequency. By contracting recycling services, the Township would forego the need to acquire the initial up-front capital to purchase vehicles, collection bins, and other equipment. Nor would the Township need to hire new or re-assign existing employees. However, as with any curbside collection service, Township residents would still be charged a fee for this service – regardless if it was used or not. This could potentially generate negative feedback from Township residents.

Contracted Collection of Both Refuse and Recyclables

While the first two curbside recycling collection options had residents keeping their current refuse provider (with either municipal or private crews collecting recyclables), this option entails Salem Township procuring an exclusive contract with a single hauler for the collection of both refuse and recyclables. The primary benefit to this option is that a single service provider contract for refuse would be expected to reduce the average refuse collection cost for every household in the Township; this savings would then offset some of the incremental cost of adding a curbside recycling program. Other benefits include:

- ◆ Reducing the number of refuse trucks traveling on Salem Township streets;
- ◆ Reducing the noise, air emissions and pavement impacts from these refuse trucks; and
- ◆ Standardizing the weekly set-out day, and possibly standardizing the refuse carts used for setting out refuse – both of these things have been found to improve aesthetics in other neighborhoods.

However, there are a number of disadvantages to a single, exclusive contract:

- ◆ It will displace some haulers who may be doing business in Salem Township at the current time;
- ◆ Some residents will no longer be able to use a hauler they may like, or else may complain about lack of choice;
- ◆ It will impose a larger monthly fee on residential households compared to the current payment (although services will also have increased).
- ◆ There may be a requirement that residents use a standard cart, rather than their own trash cans or bags;
- ◆ It may be perceived negatively by residents that the government is taking over services.

Given these considerations, it is unlikely that the Township would want to make the jump to a single, exclusive collection contract from the current system. If, however, the Township implements curbside recycling and that program has success, it may be worth considering this step in the future.

PUBLIC EDUCATION

This section discusses public education considerations for Salem Township. There are numerous options and strategies for public education for a recycling program. For larger municipalities, targeting \$2.00 per household annually can be a good rule of thumb. However, for smaller municipalities and for communities starting a new program, the cost may be higher. The following ideas have been used elsewhere to launch and publicize a new recycling program:

- ◆ **Piggyback on existing Township communications:** The Township may already be communicating with residents in several ways, including newsletters, e-mail, postings in local Township buildings and local businesses, and other direct media placements. To the greatest extent possible, the Township should leverage these planned communications and incorporate information about the new recycling program. This will be especially critical if residents are to receive a recycling bin for use at their household.
- ◆ **Distribute program information with recycling bins:** If the Township proceeds with a curbside program, it will be necessary to distribute bins to residential households. However these bins are distributed, an informational brochure of just a simple printed one-page summary of the program should be distributed with the bins. Of course, residents should be informed about the new program prior to delivery of bins; information about the program details can be distributed at this time.
- ◆ **Education in the schools:** Educating students in grades K-12 is a proven way of reaching Township 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 Luzerne County do provide curbside and drop-off recycling programs, the Township may want to work cooperatively with other communities to educate students and promote recycling. Schools within Salem Township can contact Beth DeNardi, the Luzerne County Recycling Coordinator by email at beth@luzernecounty.org for more information on school recycling.
- ◆ **Refrigerator magnets:** After the initial public outreach and newspaper advertising notification stages, residents will need to be constantly reminded about what to recycle and how materials should be prepared to facilitate the success of the Townships new program – regardless of whether a curbside or drop-off recycling program is ultimately chosen. MSW Consultants recommends that the Township purchase and provide 3” x 5” refrigerator magnets to Salem Township residents. Refrigerator magnets are an ideal education tool because they are durable, large enough to provide material and preparation information; and are regularly seen by the intended target audience. The cost for these magnets may be as high as \$1.30 each, however.

GRANT FUNDING

There are two DEP grant programs that might be available to Salem Township to help offset costs of a recycling program: They include 902 Capital Funding Grants and 904 Performance Grants.

Section 902 Grant

A number of recycling options have been described throughout this report. All of the equipment described, plus staff time and expenses (with the exception of postage, which can be used as match) in planning/preparing/purchasing the equipment, materials and programs, are eligible for funding by a Section 902 Recycling Program grant, if the municipality implements a Mandatory Recycling Ordinance.

Salem Township could apply for Section 902 Grant funding of up to 90 percent reimbursement for eligible costs for recycling equipment and containers. It should be noted that the lease value of the land provided at no cost from merchants, other municipalities, and Townships can be used as a local match to cover part or all of the remaining 10 percent of capital costs (not covered by 902 Grant funding) to the Township. There are a high number of municipalities competing for Section 902 Grant funding each year and as such, Section 902 funding is currently limited in supply.

As stated, these grants will pay for up to 90 percent of eligible costs. Fundable materials, containers and activities described throughout this report include:

- ◆ Paving or otherwise improving the surface area of any drop-off site located at the Municipal Garage to handle the necessary recycling containers.
- ◆ Recycling planning and implementation efforts;
- ◆ Recycling equipment, including drop-off containers to collect materials through a drop-off program; and
- ◆ Purchasing equipment to implement or expand recycling in the schools.

Application forms for Section 902 grants are available from the DEP Northeast Regional Office in Wilkes-Barre, PA. DEP requests that applicants schedule pre-application meetings to discuss proposals prior to submitting applications to ensure that applicants are submitting applications that include only fundable activities and equipment and to avoid duplication of efforts.

Section 904 Performance Grant

Salem Township is eligible for funding through the Section 904 Performance Grant program, which rewards municipalities based on tonnage recycled and waste diversion rate. Previously under this program, municipalities would receive \$5.00/ton for every ton of residential waste recycled and for every ton of commercial waste up to the amount of residential waste recycled, plus \$1.00 additional for every percentage point of diversion. In addition, municipalities received \$10.00 for every ton of commercial recyclables above the 1:1 ratio with residential materials. However, as of the 2010 Performance Grant allocations, there will be a 40 percent reduction in the Section 904 payments, meaning the DEP will award 60 percent of the estimated payment as calculated in the example below.

The state uses a standard generation rate of 0.8 tons/person/year to determine the recycling rate. For example, if the Township recycled 100 tons of residential material and 200 tons of commercial materials, it could combine 100 tons of the commercial materials with the residential, and use the 200 tons to determine a recycling rate.

Continuing the example, if the Township generates 3,292 tons of waste based on the 0.8 tons/person/year generation rate, the calculated recycling rate would be 6.1 percent. The Township would receive \$11.10 per ton for the 200 tons – \$5.00 per ton flat rate, plus \$1.00 for each percentage point of diversion, which is \$6.10 for 6.1 percent diversion. For the 100 tons of commercial material that could not be counted toward the recycling rate, the Township would receive a flat \$10.00 per ton. Based on these numbers, Salem Township would have in the past received a Performance Grant of \$2,220 for the first 200 tons of residential and commercial materials, and \$1,000 for the additional commercial materials.

However, as indicated, there has been a 40 percent reduction in the grant payments, so while the calculations stay the same, the payments would now amount to \$1,332 for the first 200 tons of residential and commercial materials and \$600 for the additional commercial materials.

It should be noted that aluminum and steel cans, glass, plastics, corrugated cardboard, newspapers and other marketable paper are materials eligible for these grants. To have a successful Section 904 Grant award, the Township will need to provide documentation showing the recyclables are eligible materials from the Township and were recycled in the application year. It is recommended the Township pursue these funds and use them for recycling education, improvements to the recycling program, and for other necessary programs as decided by the County.

RECOMMENDATIONS

Salem Township has listened to its concerned citizens and is devising a way to implement a recycling program that balances the objectives of material diversion with controlling the costs needed to recycle. Curbside programs are more effective at diverting materials than drop-off programs, because they are the most convenient to the customers. However, curbside programs are also more costly to operate and oversee, especially if run by Township crews.

Table 5 summarizes the costs and diversion rates for the six options considered in this report.

Table 5 Recycling Program Option Summary

Program Type	Option	Capital Costs [1]	Operating Costs [2]	Diversion Percentage
Drop-off	Municipal	\$32,000	\$7,000 [3]	4-6%
	Contract	\$0	\$8,400 [4]	4-6%
	Team Green Drop-off In Berwick	\$0	\$0	2-3%
Curbside	Municipal Recycling Collection	\$62,000	\$88,000	20-25%
	Contract Recycling Collection	\$0	\$63,000 [5]	25-30% [6]
	Contract Refuse and Recycling Collection	\$0	\$63,000 [5]	25-30% [6]

[1] Excludes the impact of any grant funding that is successfully obtained. Grant funding could potentially offset 90 percent of this cost.

[2] This table does not attempt to estimate the cost of public education. It seems reasonable to expect public education costs of \$500 to \$5,000, depending on the program chosen.

[3] Includes pull charges and container maintenance costs.

[4] Includes pull charges plus container.

[5] Assumes a per-household charge of \$3.00 per month for every-other-week service with wheeled carts provided by the hauler.

[6] Studies have shown that larger cart sizes and expanded material lists increase diversion. It is expected that a contractor would provide 60 gallon carts and would be able to accept additional materials over a municipally-operated collection program.

As shown in the table, Salem Township must decide whether diversion or cost is the guiding parameter for this decision. If low costs are critical – reasonable to expect, given the current economy and municipal budget climate – then a drop-off program will most likely have to suffice. However, if residents are demanding recycling and are willing to pay for the increased recycling service at curbside, then one of the curbside options would be best.

A wildcard in the decision is the availability of grant funds to offset the capital costs of municipally owned recycling assets. With the ability to offset as much as 90 percent of the capital costs, the outcome of the grant process is significant. Unfortunately, the outcome of a grant application cannot be predicted especially if the Salem Township does not implement a mandatory recycling ordinance.

Regardless of the option selected by the Township, MSW Consultants recommends that sufficient funds be reserved for education and awareness of the new program, and that the Township pursues 902 grant reimbursements for 90 percent of the program initiation capital related costs where applicable. Additionally, periodic reminders should follow the initial education and awareness campaign for the duration of the program, or until a time when the Township wishes to pursue another recycling option.

Finally, the Township should be aware that there is some possibility that, as a result of the 2010 Census, it will become a mandated municipality and be required to recycle. All options can be revisited at such time.