

**SWANA RECYCLING
TECHNICAL ASSISTANCE STUDY**

FINAL REPORT

**HATFIELD TOWNSHIP
EVALUATION OF SINGLE-HAULER WASTE AND
RECYCLABLES COLLECTION ALTERNATIVES**



GANNETT FLEMING, INC.



HARRISBURG, PENNSYLVANIA

JUNE 2007

**SWANA RECYCLING
TECHNICAL ASSISTANCE STUDY**

FINAL REPORT

**HATFIELD TOWNSHIP
EVALUATION OF SINGLE-HAULER WASTE AND
RECYCLABLES COLLECTION ALTERNATIVES**

Table of Contents

	<u>Page</u>
EXECUTIVE SUMMARY	1
1.0 INTRODUCTION	3
1.1....Scope of Work	3
2.0 BACKGROUND	4
3.0 EXISTING WASTE COLLECTION AND RECYCLING SYSTEM.....	4
3.1....Private Subscription Waste Collection System.....	4
3.2....Residential Recycling	4
3.3....Drop-off Recycling	5
3.4....Summary of Collection System Costs	5
4.0 RESIDENTIAL WASTE AND RECYCLING SURVEY	6
4.1....Residential Survey Comments.....	9
5.0 WHY CONSIDER WASTE COLLECTION SYSTEM ALTERNATIVES?.....	10
5.1....Escalating Private Subscription Collection System Costs	10
5.2....Multiple Hauler System Impacts to Public Health and the Environment.....	11
5.3....Hauler and Residential Waste and Recycling Compliance.....	11
5.4....Improved Recycling Markets and Opportunities	12
5.5....Waste and Recycling Survey Reveals Hatfield Residents Want Change	12
6.0 SINGLE-HAULER WASTE COLLECTION SYSTEM ALTERNATIVES	12
6.1....Demographics, Housing Characteristics, and Waste Generation	13
6.1.1 Estimated Municipal Waste Generation	13
6.2....Alternative 1 – Bid Waste and Recyclables Collection and Disposal	14
6.3....Alternative 2 – Bid Waste and Recyclables Collection Only	14
6.4....Alternative 3 – Bid Pay-As-You-Throw Waste Collection System	15
6.5....Additional Considerations For Single-Hauler Collection System Alternatives	16
7.0 CONCLUSIONS AND RECOMMENDATIONS	17
7.1....Recommendations.....	17
 APPENDICES	
Appendix A – Residential Waste and Recycling Survey Results	
Appendix B – Waste and Recyclables Collection System Checklist	

SWANA RECYCLING TECHNICAL ASSISTANCE STUDY

EXECUTIVE SUMMARY

HATFIELD TOWNSHIP EVALUATION OF SINGLE-HAULER WASTE AND RECYCLABLES COLLECTION ALTERNATIVES

Gannett Fleming, Inc. (GF) evaluated the Hatfield Township's waste and recycling program and several single-hauler waste collection system alternatives. The Township is in a favorable position to improve its existing private subscription waste collection and recycling program. Although several single-hauler waste collection alternatives were described in this study, it is important that the Township recognize the following baseline condition: *Hatfield Township can achieve an improved waste collection and recycling program that lowers the cost per household by 20 to 35 percent through the development and release of a well-written municipal bid specification/document to secure a hauler for collection and/or disposal services.*

The Residential Waste and Recycling survey that was distributed in September 2006 is a strong indicator that the majority of Hatfield residents are in favor of a waste collection system change that can lower costs and provide good service.

GF recommends the Township and Board of Commissioners implement a single-hauler contract collection system. GF recommends the Township carefully evaluate the single-hauler options that have been reviewed in this study to weigh advantages and disadvantages of each system and implement the system that best fits the goals and needs of the Township. With proper bidding and implementation, each of the single-hauler options can result in notable improvements to the waste and recyclables collection system:

- Reduced cost per household by 20 to 35 percent.
- Improved ability of the Township to manage inflating waste and recycling costs in the short and longer term.
- Improved opportunity for recyclables revenues: sale of material and Act 101, Section 904 Recycling Performance Grants.
- Reduced truck traffic nuisances: noise, traffic and safety, emissions, road damage.
- Improved level of collection service: Fewer missed stops, consistent collection schedules, additional collection services as desired (e.g. bulky item pick up and leaf waste collection).
- Improved compliance with the Township ordinance waste and recycling ordinance.
- Proper handling, processing and documentation of recyclables by hauler.
- Program standardization: Facilitates waste and recycling program education.

A single-hauler collection system has the potential to lower costs and improve upon all the existing collection system deficiencies that were identified by Township at the outset of this study. Regardless of what alternative is selected, it is essential the Township's new program has a fundamentally sound waste collection and recycling structure that is convenient for residents, is cost effective, and effectively manages waste and diverts materials to recycling.

GF recommends the following waste and recycling structure as a baseline:

- Once per week curbside trash collection.
- Establish a curbside trash set out limit via ordinance: a 3-4 bag limit per week on waste collection or two trash cans per week limit. Set weight limits for trash bags and/or containers (e.g. 35 pounds per bag).
- Once per week recyclables collection (preferably on the same day as trash collection)
- Single-stream recyclables collection format: one recycling container for all recyclables (this program could involve RecycleBank).
- New recycling containers should be provided to all households at the start of the program
- A 96-gallon recycling container is recommended, but 35- and 64-gallon contain options could be made available if deemed necessary.
- Collection of the of the following recyclables:
 - Mixed paper (junkmail, newspapers, etc.)
 - Cardboard
 - Plastics jugs and narrow neck bottles
 - Glass bottles
 - Steel/bi-metallic or tin cans
 - Aluminum cans
- The Township should take ownership of recyclables to receive revenue for recyclables.
- Tracking procedures for waste/recyclables volumes and costs should be implemented.
- The Township should pursue Act 101, Section 904 Performance Grant funds for tons of eligible recyclables that are recovered and documented. Other Act 101 Recycling Grants should be pursued to fund recycling programs (i.e. pursue funding for new recycling containers).
- Incorporate cost for the service into the residential tax bill as a separate line item. Create a separate fund for waste and recycling and tax revenue and Act 101, Section 904 Recycling Performance grants, and revenues from sale of recyclables should be placed into this fund.

**SWANA RECYCLING
TECHNICAL ASSISTANCE STUDY
FINAL REPORT
HATFIELD TOWNSHIP
EVALUATION OF SINGLE-HAULER WASTE AND RECYCLABLES
COLLECTION ALTERNATIVES**

1.0 INTRODUCTION

Hatfield Township (Township) is located in Montgomery County Pennsylvania and is in the process of evaluating its residential waste collection and recycling program. Through the partnership with the Solid Waste Authority of North America (SWANA), the Pennsylvania State Association of Township Supervisors, and the Pennsylvania Department of Environmental Protection (PADEP), the Township was awarded \$7,500 in technical assistance that was provided by Gannett Fleming, Inc. (GF). Through this technical assistance, the Township requested GF to assist with evaluating single-hauler waste and recyclables collection alternatives. The Study also included assistance in the development of a residential survey.

1.1 Scope of Work

GF worked with the Township to develop the following tasks for the project.

- Task #1** GF staff will gather information from the Township about demographics and the existing recyclables and waste collection program. This task will include assistance in developing a residential survey that will be used to gather feedback from residents concern waste collection, recycling, and related issues. The Township will be responsible for survey distribution.
- Task #2** GF will evaluate and describe several single-hauler waste and recyclables collection systems that may help the Township achieve its goals for an enhanced recycling program and a more sustainable waste and recyclables collection system. GF will explain the advantages of a single-hauler collection system compared to the existing private subscription collection system.
- Task #3** GF will prepare a project report including findings and recommendations. This task includes review of the report by the Pennsylvania Department of Environmental Protection (PADEP) and response to PADEP comments. Additionally, an electronic file of the Final Report will be submitted to PADEP. Both an electronic and hardcopy of the report will be provided to the Township.

2.0 BACKGROUND

Hatfield Township is a moderately to densely populated municipality and it is growing. Based on the year 2000 US Census, Hatfield Township's population was **16,712**. The Township's 2005 estimates put the population at about **17,500**. The Township covers an area of **10.2 square miles** and the population density is over **1,700 persons per square mile**. As the Township has continued to experience growth over the years there have been increasing public concerns echoed by the Township and its residents about the improper collection and management of waste and recyclables. Some of the leading issues are:

- Inability to control/manage escalating collection system costs
- Excessive truck traffic traveling on residential roads (e.g. noise, traffic, safety, etc.)
- Variable collection schedules that result in collection on most days of the week and in some instances create confusion by both the residents and haulers
- Maintaining compliance with the Township ordinance waste and recycling ordinance
- Proper handling and processing of recyclables after collection by local haulers

Spurred by these and related issues, the Township wishes to evaluate single-hauler contract collection systems. Preferred alternatives will increase the amount of recyclables collected and be part of a sustainable recyclables and waste management system.

3.0 EXISTING WASTE COLLECTION AND RECYCLING SYSTEM

3.1 Private Subscription Waste Collection System

Township residents independently subscribe/contract with one of several local haulers for trash collection. The trash collection days and collection routes vary widely among these haulers. The Township ordinance has provisions related to the proper management of waste and recycling. Currently the primary residential waste haulers that operate in the Township include:

- **Waste Management**
- **Allied Waste (BFI)**
- **Ches-Mont Disposal**

JP Mascaro, Inc. operates in the Township but primarily services commercial sector waste accounts. JP Mascaro provides the Township's contracted collection service for leaf waste.

3.2 Residential Recycling

Residents in Hatfield Township are required (via Ordinance) to **recycle** the following recyclable materials:

- **Clear, brown or green glass containers**
- **Aluminum cans**
- **Tin or bi-metal cans**
- **Plastic #1 and #2 jugs and bottles**
- **Newsprint**
- **Leaf waste** – Curbside Leaf waste collection service is provided by JP Mascaro under contract with the Township.

Each of the private haulers surveyed indicated they provide weekly recycling service along with weekly or twice-per-week trash service. Recycling container sizes and types vary by the hauler and some residents provide their own. In the current collection system Haulers have been observed throwing recyclables away along with waste into the back of trash trucks. This has led to the Township receiving complaints and contributed to a negative perception by some residents about the Township's recycling program.

3.3 Drop-off Recycling

Hatfield Township does not operate a drop-off site for residents to recycle. Residents may drop-off recyclables at the resource recovery facility and at the two waste transfer stations at the following locations:

Montenay Montgomery (Resource Recovery Facility)

1155 Conshohocken Rd
Conshohocken, Pa 19428

BFI Waste Systems

731 Reliance Road
Telford, PA 18969

Waste Management of Indian Valley

400 Progress Drive
Telford, PA 18969

In addition, Mattero Brothers Company located in Lansdale is a private recycler that offers residential drop-off for aluminum and metals.

3.4 Summary of Collection System Costs

In the private subscription waste collection system in Hatfield Township, private waste hauler rates for curbside waste and recyclables collection services vary. **Table 1** presents a summary of private subscription residential curbside trash and recycling services. The information is based on a phone survey of local haulers conducted in June of 2006. The average cost per household for standard weekly trash and recycling collection ranges from about **\$83 - \$105 per quarter or \$330 - \$419 per year**. Waste Management offers two levels of trash service; weekly trash collection (\$97.80 per quarter) or twice per week collection (\$104.85). Allied/BFI offers trash pick up twice per week. Ches-Mont offers trash pick up weekly. The waste haulers that were surveyed included bulky item pick up plus yard waste pick up and recycling with their monthly costs. All three haulers indicated they collect yard waste weekly, year round, but this does not guarantee this material is collected and processed in a manner that complies with Act 101 and/or PADEP guidelines. Each hauler provides weekly collection of commingled recyclables.

For comparison with Hatfield Township, **Table 2** provides information about several municipalities in Montgomery County that have municipal-wide single-hauler contract collection systems for waste collection and recycling. As presented in **Table 2**, the costs in the single-hauler contract collection systems ranged from **\$50 - \$75 per household per quarter** or \$200 -

\$300 per household per year. This is 22 percent to 48 percent lower than the current average collection cost per household in Hatfield Township (current average cost is \$97 per household per quarter). Norristown Borough was also surveyed but was not included in the table because a true/comparable cost per household could not be determined since Norristown includes the cost for waste in recycling in the residential tax base and could not offer a breakdown of waste and recycling costs. Norristown Borough is 3.7 square miles and the population was 31,282 based on the year 2000 Census. The Borough has a collection contract with J.P. Mascaro & Sons. The contract cost paid by Norristown is approximately \$86,000 per month. J.P. Mascaro provides weekly trash and commingled recyclables pick up plus one bulk item per week. The Borough's Public Works Department administers yard waste collection.

It is noted that twice-per-week trash collection service, as is currently done in Hatfield Township by 38 percent of residents based on the residential survey, results in a higher cost per household when compared to once per week collection (refer to **Appendix A** for Residential Waste and Recycling Survey results). Convenient, comprehensive and cost-effective waste management can be achieved with a once-per-week waste collection schedule particularly if a recycling program is implemented that regularly collects a comprehensive list of recyclables.

4.0 RESIDENTIAL WASTE AND RECYCLING SURVEY

GF assisted the Township with the development of a residential waste and recycling survey as part of this technical assistance project. The Township conducted the residential survey in September of 2006 and 392 residents responded to ten multi-part questions about waste and recycling. A summary of the survey results is presented in **Appendix A**. Some of the key survey results included (percents were rounded):

- **95 percent** of respondents indicated weekly waste collection was important to them
- **81 percent** of respondents felt weekly collection of all recyclables was important
- **51 percent** of respondents have once per week trash collection and **45 percent** have twice per week trash collection
- **29 percent** of respondents set out one or two trash bags and **41 percent** set out three or four trash bags
- **30 percent** indicated their recycling bin overflowed with recyclables
- **81 percent** indicated they would like to see an improved recycling program
- **85 percent** indicated they would be in favor of the Township securing a single hauler if it could lower their trash bill

These survey results, from a representative sample of Township households, are a strong indicator that the majority of Hatfield Township residents are favorable to changing from the current private subscription system to an alternative waste collection system using one hauling company. These results also reveal that a majority of residents feel recycling is important to them, recycling containers are overflowing, and many residents desire an improved recycling system.

TABLE 1: Hatfield Township Hauler Survey Waste and Recycling Service and Cost

Hauler Name	Trash Collection (cost/HH/qtr)	Trash Collection Frequency	Bag Limit	Bulky Item Collection	Accept Leaves (Y or N)	Yard Waste Bag Limit	Recyclables Commingled or Source Separated (frequency)	Trash Plus Recycling Total (cost/HH/yr)	Additional Program Details
Waste Management	\$97.80	Weekly	5 bags per week	One per week	Yes	Five bags per week	Commingled (Weekly)	\$391.20	Must call in advance to schedule a bulky item collection. The five bag limit for yard waste is included in the 15 bags per week limit.
	\$104.85	Twice Per Week						\$419.40	
Allied/BFI	\$103.08	Twice Per Week	Unlimited	One per week	Yes	Four bags per week	Commingled (Weekly)	\$480	There are two additional fees included in the yearly price of \$480; an admin. Fee of \$0.95 and a \$14.00 or more fuel recovery/environmental Fee.
Ches-Mont Disposal	\$82.50	Weekly	Unlimited	One per month	Yes	Four bags per week	Commingled (Weekly)	\$330	A 96 gallon trash can and a recycling bin are included in cost. Must call ahead for a bulky item collection of refrigerators or anything containing Freon.

Note: The average cost per household is estimated at \$97 per quarter or \$405 per year, and is based on costs from three hauling companies.

TABLE 2: Hatfield Township Waste and Recyclables Cost and Service Comparison (June 2006)

Municipality	Population (2000 Census)	Area (Sq. mi.)	Trash Collection Municipal/ Contracted/Subscription (frequency)	Recyclables Commingled/ Source Separated (frequency)	Trash Collection (cost/HH/qtr)	Trash Plus Recycling Total (cost/HH/yr)	Additional Program Details
Hatfield Township	16,712	10.2	Subscription (Twice per week)	Commingled (Weekly)	\$97	\$405	Private subscription for BFI. Ordinance requires recycling and Township provides recycling containers. Very little enforcement. Public Works (PW) administers leaf waste program but also contracts with Mascaro for \$20,000 for 3 fall pickups, 1 spring pickup); PW sells brown bags at cost.
Pottstown Borough	21,859	5.0	Contract (Twice per week)	Commingled (Weekly)	\$50	\$200	Bid includes eight weeks of fall leaf collection. Bulky items not in bid – separate tags. No enforcement. Trash fee in sewer bill. Contract with Mascaro.
Norristown Borough	31,282	3.7	Contract (Weekly)	Commingled (Weekly)	*	*	Contract with Mascaro. One bulky item per week. Public Works does leaf collection.
White Marsh Township	16,702	14.5	Contract (Twice per week)	Commingled (Weekly)	\$75	\$300	Contract with BFI. Weekly bulky item included.

*These costs could not be accurately determined because they are spread across the tax base and details were not available from the municipality.

4.1 Residential Survey Comments

In addition to the statistical survey results, editorial comments that were provided by survey respondents are quite revealing about the public opinions on certain issues. GF reviewed these comments and selected several (paraphrased below) because they were repeated frequently and require clarification:

Survey Comment: “Current prices (for waste and recycling) are high”

GF Clarification: Yes, the prices are high compared to what can be achieved through a Township-wide contract that is expected to lower the per house hold cost by 20 to 35 percent.

Survey Comment: “services are inconsistent”

GF Clarification: Yes, services provide by at least some of the haulers are inconsistent and will continue to be inconsistent in a multi-hauler system where services vary by hauler, collection routes are intermittent, and there is no binding contract enabling proper enforcement by the Township.

Survey Comment: “I like to choose my own hauler”

GF Clarification: Although it is difficult to argue freedom of choice, it is noted that these types of complaints generally go away after single-hauler programs are implemented because the cost is lower and services are improved. The idea that several haulers competing in an open system bring better pricing and better services is for the most part not true, especially when compared to the competitive pricing and level of service that can be achieved via a single-hauler contract.

Survey Comment: “I’m afraid if the Township selects the hauler, the price may be good at first, but will go up and up”

GF Clarification: Based on many case studies of municipalities who have contracted for waste and recycling services, the initial contract will lower the residential cost for recycling services and the Township can maintain a competitive cost that will be lower than the residential cost per household in a private subscription system through periodic bidding for waste collection services.

Survey Comment: “I’m in favor of the Township contracting with a hauler, provided the prices are lower and the service is good”

GF Clarification: Both fair pricing and good services can be achieved through development of well-written bid specifications and executing a contract with a hauler.

Survey Comment: “These services should be included in the taxes”

GF Clarification: Although there are several ways to administer the billing of residential households in a single-hauler collection system, GF believes that including the waste and recycling fee in the residential taxes (as a separate line item) is an excellent way to fairly incorporate the costs of this service among all Township households. Additionally, if the hauler is required to do the billing for the Township as part of the collection contract, the hauler (in their bid response) will increase the cost of the contract to cover billing costs and to cover the risk from a certain percentage of household that will be delinquent on their accounts. The risk of delinquent payments is eliminated when these services are included in the taxes.

5.0 WHY CONSIDER WASTE COLLECTION SYSTEM ALTERNATIVES?

Hatfield Township joins a long list of municipalities in Pennsylvania that are taking a closer look at single-hauler waste collection systems. Although some haulers may be negligent in their services periodically, many of the problems with the proper and efficient handling of waste and recyclables services are not caused by the performance of individual hauling companies within a private subscription waste collection system. For the most part, residents set out trash and it is taken away. Consequently, the reasons for investigation a single-hauler collection contract go beyond correcting waste hauler performance in an attempt to address the overall performance, efficiency, cost and implementation of an important municipal-wide service.

Even if the Township completely eliminated compliance or service problems by the multiple haulers operating in the Township, the private subscription waste collection system would remain plagued with inefficiencies, nuisances (excess truck traffic, excess use of resources, etc). Unplanned collection systems with multiple hauling companies contribute to inflated costs and are directly or indirectly responsible for waste collection system and recycling program deficiencies and nuisances. These problems are primarily a function of a broken system, not a broken hauling company. By default, private subscription systems, although they can require little municipal involvement to operate, remain difficult to manage and inefficient because multiple hauling companies in a given service area:

- provide different waste collection services
- provide different recyclables collection services
- offer different prices
- limit the ability to plan/implement house to house collection routes
- increase the number of trucks (increased fuel consumption, labor and total cost)
- increase truck traffic nuisances (e.g. noise, traffic safety, emissions, damage to streets)
- limit the effectiveness of waste and recycling education due to variability among programs
- limit the municipality's ability to implement a comprehensive recyclables collection program that enables the recovery of revenues from recyclables for the municipality

Additionally, because residents select the hauler, the services vary from one house to the next and may change any time the resident switches to a new hauler. When this occurs, collection services such as the type of recyclables collected may change. Educating residents on the Township's recycling requirements can be extremely difficult in this type of system.

5.1 Escalating Private Subscription Collection System Costs

Collection system costs are going up, particularly in municipalities with open collection systems and multiple haulers. Collection and disposal costs are passed on to Township residents in their trash bills. The average Township resident that compares their 2006 trash bill with a 2003 trash bill is left saying "what happened?" A resident from Lansdale Borough indicated her trash bill increased by 48 percent from 2000 to the first quarter of 2006. It appears from GF's findings that the increase has been greater in eastern Pennsylvania than in other areas of the State.

Some of the increases are due to competition for landfill space, both by in-state and out-of-state waste generators. Some of the other increase are due to increasing fuel costs, increased costs for procuring collection equipment, increased cost for medical care and workman's compensation, higher labor costs, etc. The extent of some of these cost increases for hauler services appears to be less justifiable, or maybe haulers are testing what the market will bear. With operational expense increases, it is expected that the customer fee for waste service will continue to increase, as it has done in the past. Importantly, in an "open" collection system with multiple haulers, the organization, planning, and administration of a municipal-wide waste collection system is poor. Thus, customer bills increase with little or no control measures. Poor management and collection inefficiencies are reflected in the high and escalating cost per household experienced in Hatfield Township. For these reasons, managing residential waste service fees in today's waste market is becoming more important for the Township and its residents.

The common opinion that having multiple haulers in an open system creates competition will result in lower prices and better services for residents is, for the most part, untrue. Haulers and municipalities that GF has surveyed across the state reveal that residents located in municipalities with multiple haulers pay more for waste and recycling services and have more collection service problems than in municipalities with a single hauling company. Municipalities have the ability to manage competition through the periodic municipal bidding for services.

5.2 Multiple Hauler System Impacts to Public Health and the Environment

Managing costs is only one piece of administering a complex waste collection system. Based on the 2005 report by James S. Cannon, "Greening Garbage Trucks", there are more than 136,000 refuse trucks that travel America's streets. Refuse trucks contribute to air and noise pollution. Nearly 99 percent of these vehicles run on diesel fuel, and their emissions pose a serious threat to public health on a local, regional and national level. Diesel exhaust contains particulate matter, hydrocarbons, carbon monoxide, and nitrogen oxides, which can irritate the eyes and respiratory tract, cause neuro-physiological symptoms, exacerbate allergies and asthma symptoms, and pose a cancer risk. These public health hazards, combined with excessive truck traffic, damage to streets, and public safety are all important considerations for the Township as it evaluates collection systems that can potentially minimize these hazards. A safer, healthier and environmentally conscious single-hauler collection system is a benefit to the public.

5.3 Hauler and Residential Waste and Recycling Compliance

As stated in the introduction in Section 4.0, GF does not believe that poor individual hauler performance or non-compliance by private haulers operating in the Township is the main problem of the Township's private subscription waste collection system. However, multiple-hauler collection systems in some instances have a higher incidence of public complaints about hauler performance than in single-hauler contract collection systems. Few complaints in a single-hauler program is likely due to the legally binding contract/agreement in place between the municipality and the hauling company that acts as an enforcement tool. Hatfield Township has received complaints related to inappropriate hauler activities. The Township has an ordinance that includes waste collection and recycling requirements for both residents and haulers. There are ongoing problems with non-compliance and lack of participation by both haulers and by residents.

Non-compliance by hauler and residents in the Township may be attributed to some of the following:

- Multiple private haulers offer different services and schedules, which can become confusing to both haulers and residents.
- Standardized municipal-wide waste and recycling collection services are not present so an effective residential education program is hindered.
- Enforcing multiple haulers is difficult, especially without a contract for services and because the Township does not actively enforce waste and recycling.
- It is the homeowner or renter's responsibility to secure a hauler. A portion of occupied households do not secure a waste and/or recyclables hauler. Resident's without trash service often illegally dispose of their waste and recyclables.

5.4 Improved Recycling Markets and Opportunities

Recyclables markets in the last few years for materials generated by municipalities have been good for many commodities, glass being a notable exception in many regions. The Township is located in an area that has markets with the capability and capacity to process recyclables and the near-term outlook on these recyclables markets appears favorable.

RecycleBank is a recycling program that is available in the area and is gaining momentum. Ches-mont Disposal currently offers the program to Township residents. RecycleBank rewards households by tracking the amount recycled in 35-, 64-, or 96-gallon RecycleBank containers that have an imbedded barcode that links the weight of material to the household. Residents can use RecycleBank Dollars toward the purchase of items at a long list of participating stores. RecycleBank programs use a single-stream recycling format that enables collection of recyclables (paper, cardboard, plastic, glass, tin, aluminum) in one RecycleBank container.

5.5 Waste and Recycling Survey Reveals Hatfield Residents Want Change

As presented in the Section 4.0 summary of the Residential Waste and Recycling Survey results, the majority of Hatfield Township residents are favorable to changing from the current private subscription system to an alternative waste collection system using one hauling company provided that it results in lower cost and a good level of service.

6.0 SINGLE-HAULER WASTE COLLECTION SYSTEM ALTERNATIVES

Hatfield Township requested assistance from GF to evaluate several single-hauler waste and recyclables collection system alternatives. Considering and evaluating several single-hauler waste collection systems is very difficult because the level and types of service are extremely variable and should be based on the needs of the Township. Some aspects of evaluating these alternatives are beyond the scope of this study. Each aspect of the collection system (e.g. administration, frequency of waste and recyclables collection, type of recyclables collected and collection methods, bulky item collection, cost, etc.), must be considered and then decided upon by Township staff and Board of Commissioners. With that in mind, GF has prepared a Waste and Recyclables Collection System Checklist that shows various single-hauler waste

collections system components (see **Appendix B**). As each of these program components are decided upon, there may be impacts to costs, level of service, level of administration, ease of implementation, initial acceptance by the public, etc. These details can be finalized during the development of the bid specifications that will be released to secure a single hauler for the desired services.

6.1 Demographics, Housing Characteristics, and Waste Generation

The distribution of housing units and businesses and the municipal waste generated by these establishments is important when considering single-hauler collection system alternatives. For example, multi-family units may have dumpster service and thus have different collection service needs and different costs than typical households. Hatfield Township has a substantial number of multi-family units and apartment complexes that utilize dumpster service. These establishments would typically contract independently for waste service, even in single-hauler collection system. Additionally, large commercial establishments may generate significant amounts of waste or generate special wastes, and would not be included in a residential waste service contract. Households usually have a curbside set-out system using bags, trashcans or totes. The ratio of single-family households to multi-family units and the distance between these units impact the collection service and associated costs for collection. Demographic information for Hatfield Township is provided below:

Total Units: **6,592 units**

Single family detached: **3,460 Units**

Single family attached: **824 units**

Average household size of owner-occupied units: 2.94

2-4-unit structure: **174 units**

5 or more unit structure: **1,816 units**

Average household size of renter-occupied units: 2.06

Businesses: ~ **800** (Many of these are small businesses)

There are very few alleys in the Township, which is favorable to efficient collection routes that do not require use of special equipment. This can contribute to reduced collection costs.

6.1.1 Estimated Municipal Waste Generation

Estimated or historical waste quantities and other related information can be helpful for bidders when soliciting for single-hauler waste collection and/or recycling services. Using the Township's population, the annual municipal waste generation can be calculated. The standard waste generation rate, as determined by the US Environmental Protection Agency (EPA), is **0.87 tons per person per year**. Using this figure and multiplying it by the Township's current estimated population of 17,500, approximately **15,225 tons** of municipal waste is generated annually by residents. It can be assumed that the quantity of waste generation will increase slightly in future years, since the residential population of the Township has been increasing. Importantly, not all waste generated by Township residents will be included under a single-

hauler contract since many residents live in apartment complexes and five (5) or more unit structures that may receive dumpster service and be excluded from the municipal bid and residential waste service contract. Using the demographic data in Section 5.1, and assuming single family attached and detached are owner occupied units, there are a total of 4,284 units with 2.94 persons per unit. This means there are approximately **12,595 Township residents that will generate waste that could be set out for curbside collection** under a single-hauler collection program. This is approximately **10,960 tons of municipal waste** that will require curbside collection each year.

The next sections provide a preliminary evaluation of three types of single-hauler collection systems that can be implemented by the Township through the municipal bidding process. These three systems have some fundamental structural differences.

6.2 Alternative 1 – Bid Waste and Recyclables Collection and Disposal

Under Alternative 1, the Township would develop and issue a bid for curbside waste and recyclables collection AND disposal. In this type of collection system, a contract will be negotiated and executed with a hauler to provide curbside collection and disposal services and recyclables collection services for all households. Because disposal service is included in this alternative and bid, the hauler would be responsible for paying the per ton tipping fees to the disposal facility(ies) for each ton of waste delivered. The disposal cost will be estimated by the hauler and included in the cost of the contract, which will be part of the fee (usually monthly) that the Township will pay to the contracted hauler.

The details of the waste and recycling services will be confirmed before and/or during the RFP or bid document preparation process.

6.3 Alternative 2 – Bid Waste and Recyclables Collection Only

Under Alternative 2, the Township would develop and issue a bid for curbside waste and recyclables COLLECTION ONLY (not disposal). In this type of single-hauler collection system, a contract can be executed with a hauler to provide curbside collection services for waste and recycling to all households in the same manner as Alternative 1. The difference in this scenario from Alternative 1 is that the Township will be responsible for paying the tipping fees to the disposal facility(ies). This cost can be recovered from the residents along with the cost for the collection component of the contract. This scenario empowers the Township to lower its waste management costs through reducing the amount of waste sent to disposal, primarily through recycling.

By bidding collection only the Township has the opportunity to bid separately for disposal/processing services to get a competitive price for processing municipal waste generated by the Township. For example, the Township could release separate bids prior to the collection bid, for:

- **Processing/marketing of recyclables.** This bid could be issued to obtain a competitive price per ton for recyclable commodities generated and collected in the Township. The

collection only bid would require the contracted collector to take recyclables to the facility that was awarded the processing/marketing contract.

- **Municipal Waste Disposal.** This bid could be used to secure a competitive tip fee from a local waste disposal or waste transfer facilities. The collection bid would require the contracted collector to direct all municipal waste collected under contract to be directed to the specified disposal facility or transfer station.
- **Yard Waste Processing:** This bid could be issued to secure competitive tip fees/processing capacity for yard waste at a local yard waste facilities. The collection only bid would require the contracted collector to direct all yard waste collected under contract to be directed to the specified yard waste processing facility.

The bids that may be used to secure competitive pricing for processing can be straightforward bid documents that require a fairly minimal effort to prepare. It will be up to the Township to decide whether or not they would like to bid for some or all of these services.

6.4 Alternative 3 – Bid Pay-As-You-Throw Waste Collection System

The municipal bidding process can be used to secure a single hauler to implement a Pay-As-You-Throw (PAYT) waste collection system for waste and recyclables collection and disposal/processing. In a PAYT program residents are charged based on the amount of waste that is disposed thus creating a direct financial incentive for residents and the Township to reduce waste disposal and to increase recycling. Although PAYT programs are highly variable, when properly implemented these waste collection systems have repeatedly demonstrated the capability to divert more waste from disposal to recycling than other traditional recycling programs. Municipal PAYT programs achieve 35 to 50 percent recyclable diversion rates. Two basic structures of PAYT programs include:

- 1) **“True PAYT”** – In a “True PAYT” waste collection and recycling system, residents pay for EVERY bag, or pay based on the quantity of waste that is set-out at the curbside. If containers are used, they may be weighed by the collection vehicle to determine customer cost, or are priced based on the size/capacity or number of the container used by the customer. Typical curbside containers may be 32 gallons, 64 gallons, or 96 gallons.
- 2) **“Hybrid PAYT”** - In a “Hybrid PAYT” program there are two tiers. In the first tier, residents pay a monthly or quarterly fee for “base” or standard trash and recycling services. The base services commonly include up to three bags of trash per week plus other services including recycling, leaf waste pick up, and bulky item pickup. As a second tier, residents purchase additional bags, stickers, or additional container capacity to dispose of waste exceeding the service set-out limit under the first tier waste services.

Regardless of what type of PAYT program is implemented, bid specifications should clearly explain the responsibilities of the hauler as it relates to implementation of the PAYT collection system. Residents pay for the costs associated with collection and disposal/processing of waste and recyclables through the per bag/container fees. Per bag fees for residents typically range from \$2.00 to \$3.50.

Of the two types of PAYT programs, a True PAYT program, where residents are required to purchase each bag/container used for curbside set-out of waste is believed to create the greatest financial incentive and greatest potential to divert materials to recycling. It is important the Township set the per bag fee at a rate that will cover program costs, but not be set too high that it is negatively perceived by the public. “Hybrid” programs afford the Township a guaranteed revenue stream from all households to cover the basic level of service, but there may be less incentive to recycle in a hybrid program. It is recommended the Township contact other municipalities in the region that have PAYT programs to learn more about PAYT.

PAYT will be a significant program change from the current system, so effective education will be required and initial implementation of a PAYT program could require more administrative effort than implementation of other single-hauler collection alternatives. Although this program may appear intimidating at first, PAYT can put the Township in a better position to manage the collection system and control costs over the longer term because of how effective these programs are at reducing disposal costs and recovering recyclables. **Phoenix Recycling** offers a complete PAYT turn-key program including manufacturing of municipal trash bags, delivery of bags to local grocery stores (and others), invoicing at stores, management of inventory and accounting administration (www.payasyouthrow.com). Act 101, Section 902 Grant are now available for trash containers for PAYT collection programs.

Due to the high variability of PAYT programs, GF could not provide a detailed analysis of PAYT program options within the scope of this study.

6.5 Additional Considerations For Single-Hauler Collection System Alternatives

It is noted that the Township could issue a separate RFP’s or bids for waste collection services and a recyclables collection services, but this is not recommended. Experience and case studies show that combining collection services for waste and recyclables under one collection contract is usually cost effective and can offer other advantages such as reduced contract administration, consistent services, and easier education.

In addition, there are many benefits associated with “bundling services”. Bundling services is combining and bidding a group of related services in order to achieve a comprehensive service package and competitive pricing. Bundling collection services can potentially make the service package more attractive to prospective bidders (i.e. waste haulers) and may result in a lower cost for the contracted services, especially when compared to bidding services separately. For example, bidding curbside recyclables collection, leaf waste collection, or bulky item pick up services as separate service contracts may not be as attractive to contractors unless waste collection services are also included. Bundling services can be a way to create and manage competition among prospective bidders for various waste and recycling services desired by Township. Typically, the result is a reduced cost for the service.

The Township is encouraged to carefully consider and manage the costs associated with implementing a new and ongoing waste collection system. Some methods of managing costs include:

- Periodic competitive bidding for collection (and/or disposal/processing) services for waste and recyclables.
- Reducing and managing disposal costs through increasing recyclables diversion.
- Recovering program costs from all residents (e.g. via residential tax).
- Marketing recyclables for revenue.
- Submitting Act 101, Section 904 Performance Grants for recyclable tonnages.
- Submitting Act 101, Section 902 Grants for up to 90 percent for recycling containers, recycling equipment and other eligible costs.

7.0 CONCLUSIONS AND RECOMMENDATIONS

To conduct this waste and recycling study, Gannett Fleming, Inc. (GF) reviewed the current private subscription system in Hatfield Township, surveyed local waste haulers, contacted and surveyed other municipalities, assisted with a residential waste and recycling survey and reviewed the survey responses, and identified several single-hauler waste collection system alternatives. Based on the information reviewed, it is clear Hatfield Township is in a favorable position to improve its existing private subscription waste collection and recycling program. Although several waste collection alternatives were described in this study, it is important that the Township recognize the following baseline condition: *Hatfield Township can achieve an improved waste collection and recycling program that lowers the cost per household by 20 to 35 percent through the development and release of a well-written municipal bid specification/document to secure a hauler for waste and recyclable collection and/or disposal/processing services.*

The Residential Waste and Recycling survey that was distributed in September 2006 is a strong indicator that the majority of Hatfield residents are in favor of a waste collection system change that can lower costs and provide good service.

7.1 Recommendations

GF recommends the Township and Board of Commissioners implement a single-hauler contract collection system. GF recommends the Township carefully evaluate the options that have been reviewed in this study to weigh advantages and disadvantages of each system. The Township should implement the single-hauler collection system that best fits the goals and needs of the Township. With proper bidding and implementation, each of the single-hauler options can result in notable improvements to the waste and recyclables collection system:

- Reduced cost per household by 20 to 35 percent.
- Improved ability of the Township to manage inflating waste and recycling costs.
- Improved opportunity for recyclables revenues: sale of material and Act 101, Section 904 Recycling Performance Grants.
- Reduced truck traffic nuisances: noise, traffic and safety, emissions, road damage.
- Improved collection service: Fewer missed stops, consistent collection schedules, additional standard collection services (e.g. bulky items, leaf waste collection, etc).
- Improved compliance with the Township ordinance waste and recycling ordinance.
- Proper handling, processing and documentation of recyclables by hauler.
- Program standardization: Facilitates waste and recycling program education.

A single-hauler collection system as the potential to lower costs and improve upon all the existing collection system deficiencies that were identified by Township at the outset of this study. Regardless of what alternative is selected, it is essential the Township's new program has a fundamentally sound waste collection and recycling structure that is convenient for residents, is cost effective, and effectively manages waste and diverts materials to recycling.

GF recommends the following waste and recycling structure as a baseline to guide to Township in the implementation of a single-hauler collection system:

- Once per week curbside trash collection.
- Establish a curbside trash set out limit via ordinance: a 3-4 bag limit per week or two trash can per week limit. Set weight limits for trash bags and/or containers (e.g. 35 pounds per bag).
- Once per week recyclables collection (preferably on the same day as trash collection).
- Single stream recyclables collection format: one recycling container for all recyclables (this program could involve RecycleBank).
- New recycling containers should be provided to all households at the start of the program.
- A 96-gallon recycling container is recommended, but 35- and 64-gallon container options could be made available if deemed necessary.
- Collection of the of the following recyclables:
 - Mixed paper (junkmail, magazines, newspapers, etc.)
 - Cardboard
 - Plastics jugs and narrow neck bottles
 - Glass bottles
 - Steel/bi-metallic or tin cans
 - Aluminum cans
- The Township should take ownership of recyclables to receive revenue for recyclables.
- Tracking procedures for waste/recyclables tonnage and costs should be implemented.
- The Township should pursue Act 101, Section 904 Performance Grant funds for tons of eligible recyclables that are recovered and documented. Other Act 101 Recycling Grants should be pursued to fund recycling programs (e.g. new recycling containers).
- Incorporate cost for collection services into the residential tax bill as a separate line item.
- Create a separate fund for waste and recycling and tax revenue. It is recommended Act 101, Section 904 Recycling Performance grants and revenues from sale of recyclables be placed into this same fund to support ongoing successful implementation of programs.


APPENDIX A
Residential Waste and Recycling Survey Results

1. How many people live in your household including yourself?							
	One	Two	Three	Four	Five	More than five	Response Total
Adults 18 years of age or older	11% (45)	68% (275)	13% (54)	5% (22)	1% (6)	0% (2)	404
Children under the age of 18	43% (66)	36% (55)	14% (21)	6% (9)	1% (1)	1% (1)	153
Total Respondents							405
(skipped this question)							2

2. How important (to you and your household) is each of the following services?					
	Very Important	Somewhat Important	Not Important	Unsure	Response Average
Weekly collection of all trash	95% (385)	4% (16)	1% (3)	0% (0)	1.05
Weekly collection of all recyclables	81% (323)	16% (62)	4% (14)	0% (1)	1.23
Curbside yard waste collection	51% (199)	27% (108)	21% (82)	1% (4)	1.72
Bulky waste collection as part of standard service	59% (233)	34% (133)	5% (18)	2% (8)	1.49
Curbside Christmas Tree collection	27% (104)	25% (95)	46% (178)	2% (7)	2.23
Curbside Tire	11% (40)	20% (75)	66% (249)	4% (14)	2.63

Collection					
Other (please leave under "Comments" at the end of the survey)	40% (23)	14% (8)	28% (16)	18% (10)	2.23
Total Respondents					404
(skipped this question)					3

3. What hauler provides waste collection and recycling services to your home?			Response Percent	Response Total
Waste Management			28.6%	112
Allied Waste Services (formerly BFI)			31.6%	124
ChesMont Disposal			37.5%	147
Do not have a hauler			0.5%	2
Other View (please specify)			1.8%	7
Total Respondents				392
(skipped this question)				15

4. What is your current practice for regularly weekly trash service?			Response Percent	Response Total
Once a week agreement with private hauler			51.9%	210

Twice a week agreement with private hauler		45.4%	184
Use local dumpster		0.7%	3
Share curbside service with other resident		0.7%	3
Take directly to landfill		0%	0
View Other (please specify)		1.2%	5
Total Respondents			405
(skipped this question)			2

5. How many bags of trash do you set out for collection or drop off in a normal week?			
		Response Percent	Response Total
Less than one bag per week		2.7%	11
One or two bags per week		28.6%	115
Three or four bags per week		41.8%	168
Five bags or more per week		26.9%	108
Total Respondents			402
(skipped this question)			5

6. How much recyclable material do you set out or drop off each week? (Answer honestly, no action will be taken against non-recyclers).			
		Response Percent	Response Total
Less than a full bin		26.7%	108
About a full bin		42.6%	172
Our bin usually overflows		27%	109





We do not recycle		3.7%	15
Total Respondents			404
(skipped this question)			3

7. How much do you pay PER YEAR for trash and recycling collection service?			
			View Total Respondents 378
(skipped this question)			29

8. What do you do with your grass clippings?			
		Response Percent	Response Total
I don't have grass clippings		9.2%	37
Let them lay on the lawn (grasscycle)		53.6%	215
Compost them at home		18.5%	74
Bag them for my trash hauler to collect		18.7%	75
Take them to a compost facility		0%	0
Total Respondents			401
(skipped this question)			6

9. Would you like to see the Township improve its curbside recycling program (e.g. more participation, more materials, better education, etc?)			
		Response Percent	Response Total
Yes		81%	325
No		9.2%	37
Is not important to me		9.7%	39

Total Respondents	401
(skipped this question)	6

10. If the township entered into a contract with a waste hauler that would lower your trash bill, would you be in favor of the municipality offering such a program?			
		Response Percent	Response Total
Yes		84.5%	344
No		11.1%	45
Indifferent, as I currently do not pay for trash collection service		0.7%	3
<input type="button" value="View"/> Other (please specify)		3.7%	15
Total Respondents			407
(skipped this question)			0

11. COMMENTS - If you have any other comments, please leave them here. Thank you!		
	<input type="button" value="View"/> Total Respondents	
(skipped this question)		196

APPENDIX B
Waste and Recyclables Collection System Checklist (not in online version)