

**SWANA RECYCLING
TECHNICAL ASSISTANCE STUDY**

FINAL REPORT

**LOGAN TOWNSHIP
EVALUATION OF RECYCLING AND
SOLID WASTE COLLECTION**



Prepared by

GANNETT FLEMING, INC.



HARRISBURG, PENNSYLVANIA

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Table of Contents

	<u>Page</u>
1.0 INTRODUCTION	2
2.0 BACKGROUND	2
3.0 EXISTING RECYCLING SYSTEM.....	3
3.1 ...Act 101 and PADEP policies and guidelines for Leaf Waste	3
3.1 ...Logan Township Private Haulers.....	4
3.2 ...Local Recycling Collectors/ Markets	4
4.0 DEMOGRAPHICS AND COLLECTION COSTS	5
5.0 MUNICIPAL WASTE GENERATED BY LOGAN TOWNSHIP	5
6.0 HAULING ANALYSIS	6
6.1 ...Hauling Analysis Assumptions	7
7.0 CONCLUSIONS AND RECOMMENDATIONS	8
7.1 ...Hauling Analysis Results	8
7.2 ...General Conclusions and Recommendations	9

FIGURES

Figure 1 – Map of Logan Township and the City of Altoona

APPENDICES

Appendix A – Hauling Analysis

**SWANA RECYCLING
TECHNICAL ASSISTANCE STUDY
- EXECUTIVE SUMMARY -
LOGAN TOWNSHIP EVALUATION OF RECYCLING AND
SOLID WASTE COLLECTION**

In order for Logan Township to improve waste collection and recyclables collection consistency, improve recycling performance and participation, lower residential waste and recycling costs, increase collection efficiency, and minimize truck traffic, the Township will need to make a number of decisions and implement changes to the existing waste collection system. As Logan Township continues to grow, the improper management of waste and recycling will increasingly impact the health, safety and welfare of Township residents as well as collection costs and the overall appearance of the community.

This Study included a hauling analysis performed by GF for the curbside collection of Logan Township municipal waste and recyclables. The key findings from the analysis included:

- Three collection vehicles plus one back-up vehicle are needed for Logan Township collection when delivery is to a local transfer facility.
- If Logan Township independently bids for curbside waste and recycling service, it can **save 25-35 percent per household per month when compared to the current \$20.00 average fee per month paid by Logan Township residents for private subscription service.**
- The Haul Model “runs” with the tip fee added (for Logan Township only) indicate collection and hauling plus disposal will yield a **\$12.00 per month per household cost for waste collection only. Adding cost for recycling service (\$2.00 - \$3.00 per month) yields a total estimated cost per month of \$14.00 - \$15.00 per month per household.**

Based on GF’s study research and analysis, other conclusions and recommendations include:

- It appears feasible for Logan Township to secure municipally contracted curbside waste and recyclables collection for all households in the Township.
- It is recommended the Township bid for curbside waste and recyclables service to get the actual pricing for these services and then use this information to make a final decision as to whether or not to proceed with the contract service.
- If the Township moves forward with the bidding process for waste and recyclables collection services, it is recommended the Township update the existing solid waste and recycling ordinance to reflect changes in the new collection system. It may be necessary to review and update the ordinance for compliance with Act 101.
- Requirements for curbside leaf waste collection have come under increased scrutiny by PADEP. Therefore, it is recommended leaf waste collection programs are reevaluated to ensure consistency with Act 101 and PADEP policies and guidelines.
- It is recommended Logan Township conduct a residential survey to gather feedback and opinions from the public related to waste management and recycling issues.

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1.0 INTRODUCTION

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), Logan Township (Township) was awarded \$7,500 in technical assistance that was provided by Gannett Fleming, Inc. (GF). GF assisted Logan Township with the following three tasks:

Task #1 GF will work with Logan Township to gather pertinent background information needed to evaluate the existing recyclables collection program. This task will require review of the existing recyclables collection requirements and related ordinances.

Task #2 GF will develop recommendations to improve the existing recycling program. Task #2 will consider cooperation with Altoona and/or the Borough of Hollidaysburg. The recommendations provided will consider the recycling requirements for maintaining compliance with Act 101.

Task #3 GF will prepare and provide the Township with a summary report of findings and recommendations. This task includes a 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 along with a MS Word summary (as required) of the project conclusions and findings. Both an electronic and hardcopy version of the report will be provided to the Township.

2.0 BACKGROUND

Logan Township is located in Blair County Pennsylvania. The Township authorized moving forward with this SWANA Technical Assistance Study after a meeting held on May 24, 2005. GF, Logan Township, the City of Altoona (Altoona), and the Borough of Hollidaysburg attended the meeting. In this meeting, information on an ongoing solid waste study for Altoona was reviewed. It was determined there may be a number of ways to improve the recycling and waste collection program in Logan Township. It may be feasible and favorable to join or partner with Altoona in a recyclables and waste collection request for proposal (RFP) to improve Logan Townships recycling program and overall waste collection system.

Consideration of working with the City of Altoona, and possibly Hollidaysburg, is important to this project, since neighboring Altoona and Hollidaysburg are currently evaluating ways to improve recycling and waste management practices. Information and recommendations

developed during this study will assist the Township in determining how to proceed with their recycling program and determine the level of support from the Township Board members on these important issues.

3.0 EXISTING RECYCLING SYSTEM

Logan Township is mandated by the Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101) to provide curbside recycling services to residents. Act 101 does not require municipalities to provide curbside collection of waste for its residents. PADEP recognizes three basic systems that municipalities can use to provide curbside collection of recyclables:

- Collection of recyclables by the municipality and municipal workers
- Collection of recyclables by one private collection company (in some cases more than one company) under a contract with the municipality
- Collection of recyclables by any number of private collection companies under private subscription with residents

Logan Township recyclables are collected by about seven private haulers in any given year (see Section 3.1). The Township Ordinance provides guidelines to haulers for recyclables collection within Township limits. In this private subscription program, licensed haulers collect recyclables commingled or segregated at the curbside. The recycling programs and collection frequency varies hauler to hauler, but the Ordinance specifies collection of the following recyclable materials:

- **aluminum cans**
- **steel ("tin") cans**
- **clear glass**
- **green glass**
- **brown glass**
- **#1 (PET/PETE) plastic bottles**
- **#2 (HDPE) plastic bottles and jugs**
- **Newspapers**
- **Magazines and catalogs**

The Ordinance requires commercial and institutional establishments must recycle all of these items plus corrugated cardboard and office paper. Commercial entities in the Township typically contract independently with private haulers for refuse and/or recyclables. Waste Management, Inc. (WM) has the majority of commercial refuse accounts in Logan Township. Many commercial accounts do not contract with a private hauler for recyclables collection or have any recycling program and therefore, are not in compliance with Act 101, and specifically Logan Township's recycling ordinance. Often, the additional cost for containers and service to separate recyclables discourages businesses from obtaining recycling service.

3.1 Act 101 and PADEP policies and guidelines for Leaf Waste

Act 101 and PADEP policies and guidelines require the following for mandated communities for leaf waste and yard waste collection from residential establishments:

- 1. The Township ordinance must prohibit the burning of recycled materials collected within the Township, including leaf waste**

2. Requires curbside collection of leaves and garden residue, shrubbery, tree trimmings, and similar material (i.e. brush)

- a. At a minimum, leaves must be collected seasonally, at least twice per year
- b. Garden residue, shrubbery, tree trimmings (or “brush”), and similar material must be collected separately at least twice per year (spring/fall).

3.2 Logan Township Private Haulers

The following haulers were active in Logan Township in 2004:

- **1st Choice Disposal**
- **Burgmeier’s Hauling, Inc.**
- **CM Matko Refuse Co.**
- **Jim’s Hauling Service**
- **Joe’s Hauling Service**
- **Ken Wertz Hauling**
- **Nagle’s Disposal**
- **Paul Kane Trash Removal**
- **Rightenour’s Hauling**
- **Scarangella Disposal**
- **TLC Hauling Service**
- **Vaughn’s Hauling**

Burgmeier’s Hauling provides refuse and recyclables collection service to more residential customers in the Township than any other local private hauling company. Burgmeier’s Hauling owns and operates a waste transfer station in Logan Township. Burgmeier’s provides many residential customers recycling services using the following collection schedule:

- **Week one:** tin and aluminum cans
- **Week two:** clear and colored glass
- **Week three:** plastics #1 & #2
- **Week four:** newspaper

The Blair County Solid Waste Authority licenses approximately 40 private haulers to collect municipal wastes in Blair County. The County requires licenses for all haulers throughout the County. The private haulers use vehicles which range in size from pick-up trucks and single-axle dump trucks to twenty (20) and thirty (30) Cubic Yard (CY) front and rear loading packers.

3.3 Local Recycling Collectors/ Markets

Recyclables collected in Logan Township are typically transported to one of several nearby recycling facilities listed below:

- **Burgmeier’s Hauling & Recycling**
- **J & J Recycling**
- **Waste Management, Inc. Transfer & Recyclables Consolidation Facility**

After consolidation and/or processing recyclable materials locally, they are distributed to other markets in the region. Some of these recyclable markets include:

- **Aluminum** – Caracciolo Steel Yard, Altoona, PA
- **Steel & bi-metal cans** - ContiGroup, Brooklyn, NY
- **Glass** – Recycle America, York, PA; ContiGroup, Brooklyn, NY
- **PETE Plastics** - Conti Group, Brooklyn, NY
- **HDPE Plastics**- ContiGroup, Brooklyn NY
- **Corrugated cardboard** - PG Recycling, Hollidaysburg PA; Gordon Waste, Columbia, PA; Ace Paper, Canonsburg, PA
- **Newspaper** – Sterda Recycling, Altoona, PA; Ace Paper, Canonsburg, PA; Local Farmers
- **White goods** – Caracciolo Steel Yard, Altoona, PA

4.0 DEMOGRAPHICS AND COLLECTION COSTS

Location and demographics are important in determining whether Logan Township should provide curbside waste and recyclables collection services to its residents by a contracted hauler. The demographics of a municipality largely influence collection costs. Logan Township's population, population density, total number of occupied housing units, and housing density along with the distance to the disposal sites are all important variables that can increase or decrease the costs of hauling of collection. Analysis of this data, combined with applying industry standards for residential waste generation rates, helps define the overall need, relative cost, potential benefits, and possible disadvantages of providing these municipal services to residents. In areas where housing density is high the cost per household for collection is typically lower than in areas that are more rural or less densely populated.

Logan Township is the second largest political subdivision in Blair County with approximately 12,000 residents. It is a large municipality by area and encompasses 52 square miles. There are 4,750 occupied households in the Township. Logan Township surrounds Altoona, a much more densely populated city (refer to **Figure 1**). As can be seen in **Figure 1**, sections of the Township bordering Altoona are densely populated, while a much larger area of the Township has a sparse network of roads and is rural. There are over ninety miles of paved roadways in the Township.

5.0 MUNICIPAL WASTE GENERATED BY LOGAN TOWNSHIP

Using the Township's year 2000 population from the US Census Bureau, the municipal solid waste generation can be calculated. First, the standard waste generation rate, as determined by the US EPA, is 0.87 tons per person per year. GF reduced the EPA waste generation rate for this analysis to .435 tons per person per year. The reduction is based on the rural nature of Logan Township, other demographic factors and based on other factors believed important to completing a more accurate hauling analysis (refer to Section 6.0). Multiplying 0.435 tons per person per year by the Township's rounded population (12,000) yields **5,220** tons of municipal solid waste generated by Logan Township annually.

6.0 HAULING ANALYSIS

This hauling analysis presented in **Appendix A** was performed to determine if Logan Township could:

- Reduce the current residential cost per household per month for curbside waste and recycling collection service by independently bidding to secure a single waste hauler for service. On average residents in Logan Township and in the Altoona region who privately subscribe for curbside waste collection and/or recycling services currently pay **\$20.00** per month;
- Reduce the cost per household per month for curbside waste and recycling collection service in a joint bidding scenario with Altoona, and to;
- Compare the cost advantage or disadvantage between independently or jointly (with Altoona) bidding and contracting for curbside waste and recycling services

This hauling analysis focuses on the costs to collect Logan Township waste and recyclables at the curb and haul this material to a centrally located transfer station in Altoona. Presently, there are two transfer facilities located adjacent to each other in the Altoona area. The total cost of providing residential waste collection services typically includes the actual collection service and disposal cost of the waste (i.e. tip fee). In hauling runs where the tip fee was added, a gate fee of **\$64.00** was used based on 2005 rates from one of the Altoona transfer facilities.

The hauling analysis that was performed included the following model “runs”:

- **Logan Township single hauler** (no tip fee included)
- **Logan Township and Altoona single hauler** (no tip fee included)
- **Logan Township single hauler** (with tip fee)

The initial two “runs” were performed with the tip fee set at zero to closely evaluate only the hauling and collection costs. The last “run”, where the \$64.00 tip fee was added, was used to better understand total collection system costs and to assess the anticipated cost or fee per household per month.

All “runs” included direct hauling of Logan Township generated municipal waste from a central location to the centrally located transfer station plus three other more distant disposal facilities in the region. The disposal facilities that were selected to accept/process the majority of Blair County generated waste on an annual basis. The gate rate at these landfills ranges from about \$40 to \$55 per ton. These disposal facilities are:

- **Mostoller Landfill**
- **WSI Sandy Run Landfill**
- **Laurel Highlands Landfill**

Although it was out of the scope of this study to analyze direct hauling to distant disposal facilities, the inputs in the hauling model did reveal useful information about increased cost associated with distant hauling.

6.1 Hauling Analysis Assumptions

The hauling analysis included a number of assumptions and inputs. These inputs were provided to Logan Township for review and no changes were provided. The assumptions included the following:

Assumptions/Inputs That Do Not Change Between Scenarios

Collection Schedule

- Trash pickup – 1 time per week
- Number of work weeks per year - 52
- Business days per year – 260
- Productive length of work day hours- 7
- Average number of days per week on which collection crews work – 5
- Crew size – 2
- Overtime as needed – 0 - 20%
- Turn around time at transfer station – 15 minutes
- Assumed diversion to recycling – 20%

Pay Rates

- Average hourly pay rate for driver - \$15.00
- Average hourly pay rate for laborer – \$10.50
- Average hourly pay rate for mechanic – \$19.00
- Percent of hourly rate that is required to pay for benefits - 30%

Vehicles

- Capital cost of one new collection vehicle – \$150,000
- Average truck capacity – 24 cubic yards
- Estimated annual vehicle operation and maintenance (O&M) cost - \$0..32 per mile
- Rate of interest used to finance vehicle purchases - 6%
- Expected useful life of vehicle – 200,000 miles

Fuel

- Fuel cost - \$2.85 per gallon
- Fuel efficiency - 5 miles per gallon

Assumptions/Inputs That Change Between Scenarios

Scenario 1 (Logan Township only)

- Number of households served – 4,730 (2000 Census)
- Tons of residential municipal waste collected per year – 5,220 tons
 - (.435 tons/person/yr. x's 12,000 people)
- Average tons MW collected per day (after 20% recycling) – 16 tons
- Average time per stop – 30 seconds

Scenario 2 (Logan Township and Altoona)

- Number of households served – 25,700
- Tons of residential municipal waste collected per year – 48,305 tons
 - (.87 ton/pers./yr. x 49,523 persons + Logan Township tons (5,220))
- Average tons MW collected per day (after 20% recycling) – 150 tons
- Average time per stop – 18 seconds

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the existing private subscription system and demographics in place in Logan Township, it is difficult to create a feasible and enforceable recycling program and waste collection system. In order for the Township to improve recycling and waste collection program consistency, lower residential waste and recycling costs, increase recycling participation, increase collection efficiency, and to minimize truck traffic, the Township will need to make changes to the existing waste collection system. As Logan Township continues to grow, the improper management of waste and recycling will increasingly impact health, safety and welfare of Township residents as well as collection costs and the overall appearance of the community.

7.1 Hauling Analysis Results

The following conclusions and observations are based on the hauling analysis performed by GF for the curbside collection of Logan Township municipal waste and recyclables (refer to **Appendix A**):

- Three collection vehicles plus one back-up vehicle are needed for Logan Township collection when delivery is to a local transfer facility (refer to assumptions in Section 6.1 for more detail).
- Delivering Logan Township generated waste to a local transfer facility is less expensive than direct haul to any of the identified disposal facilities. This supports why there are two fully operational waste transfer facilities located in the Altoona area.
- If Logan Township independently bids for curbside waste and recycling service, it can **save 25-35 percent per household per month when compared to the current \$20.00 average fee per month paid by Logan Township residents for private subscription service.**
- The Haul Model “runs” with the tip fee added (for Logan Township only) indicate collection and hauling plus disposal will yield a **\$12.00 per month per household cost for waste collection only. Adding cost for recycling service (\$2.00 - \$3.00 per month) yields a total estimated cost per month of \$14.00 - \$15.00 per month per household.**
- Logan Township can further reduce the total collection system costs through joint-bidding with Altoona - provided that both municipalities can work cooperatively through a bid process and reach agreement on the specific waste collection services required to satisfy the needs of both municipalities and their residents.

- The cost for collection and hauling only ((without disposal (tip fee) cost)) for joint Logan and Altoona contract for curbside waste collection is approximately 2.00 per household per month less than if Logan Township contracts with a single hauler independently.
- A joint contract with Altoona may slightly increase the collection costs per household for Altoona when compared to an exclusive bid by Altoona (this was not analyzed or validated in this study). If this occurred, Altoona may be less favorable to include Logan Township in such a bid

7.2 General Conclusions and Recommendations

Based on GF's study research and analysis, the following conclusions are provided:

- It appears feasible for Logan Township to secure municipally contracted curbside waste and recyclables collection for all households in the Township.
- Review of actual bid responses to an independent municipal bid or joint bid is the only way to validate the true cost per household for Logan Township.
- It is recommended the Township bid for curbside waste and recyclables service to get the actual pricing for these services and then use this information to make a final decision as to whether or not to proceed with the contract service.
- If the Township moves forward with the bidding process for waste and recyclables collection services, it is recommended the Township update the existing solid waste and recycling ordinance to reflect changes in the new collection system. It may be necessary to review and update the ordinance for compliance with Act 101.
- Requirements for curbside leaf waste collection have come under increased scrutiny by PADEP. Therefore, it is recommended leaf waste collection programs are reevaluated to ensure consistency with Act 101 and PADEP policies and guidelines.
- It is recommended the Township work closely with a solicitor throughout the bidding process and during the ongoing implementation of their recycling program and waste management system, when legal guidance is needed (e.g. ordinance revisions and enforcement).
- It is recommended Logan Township conduct a residential survey to gather feedback and opinions from the public related to waste management, recycling, and perhaps to ask residents questions about other quality of life issues. If a survey is conducted, it should be done randomly and discretely to insure, to the extent possible, the survey is fair and unbiased.
- For waste and recyclables collection, both scenarios (joint contract with Altoona and independently contracting by Logan only) can secure a better cost per household than the current private subscription program cost per household.

FIGURE 1
Location Map



CAMBRIA
BLAIR

LOGAN
TOWNSHIP

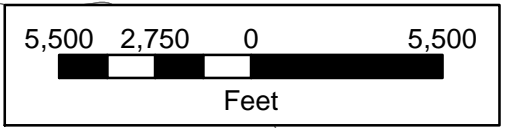
City of
Altoona

LOGAN TOWNSHIP

Location Map

 **Gannett Fleming**

SEPTEMBER 2005



APPENDIX A
Hauling Analysis

(not included in on-line version of report)

