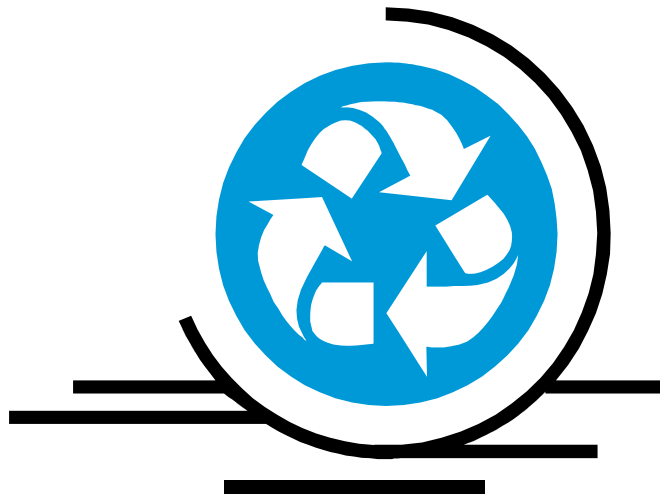


RECYCLING TECHNICAL ASSISTANCE STUDY
FINAL REPORT
RECYCLING PROGRAM
GUIDANCE FOR THORNBURY TOWNSHIP

Prepared for:

**THORNBURY TOWNSHIP,
DELAWARE COUNTY, PENNSYLVANIA**



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FIGURES

Figure 1 - Thornbury Township Map

RECYCLING TECHNICAL ASSISTANCE STUDY
EXECUTIVE SUMMARY

RECYCLING PROGRAM GUIDANCE FOR THORNBURY TOWNSHIP

This recycling program analysis was conducted for Thornbury Township to identify ways to improve the Township's curbside recyclables collection program. The Township is located in Delaware County, Pennsylvania and has private subscription waste collection services, where several local haulers independently contract for waste services. At the outset of this evaluation, the Township had a separate recycling-only contract for monthly curbside collection of glass, aluminum cans, and plastic bottles and jugs. Residents complain about the inconvenience of the recycling program.

Based on GF's analysis, there are various recycling system alternatives that could be implemented in Thornbury Township, each with varying degrees of success in making notable improvements to the existing recycling program. It is recommended that the Township should view waste and recycling as integrated services in order to make good decisions about the Township's recycling program. The success of the Township's recycling program will hinge on the program's convenience for residents to participate.

To achieve a comprehensive, convenient and cost effective recycling collection program (as seen in a lower cost per household), it is recommended that the Township bundle waste and recycling services in a well-written Request for Proposal (municipal bid document). In the immediate term, if the Township cannot combine waste and recycling services, the Township could expand the level of recycling service that is provided by revising the bid package for curbside recycling service to include additional materials and a bi-weekly collection schedule. Bi-weekly collection can help keep costs down and can recover about the same amount of material as weekly collection, provided that recycling containers are sized appropriately to limit overfilling and the Township educates and motivates residents to recycle. The suggested additional materials should reflect the materials that can be marketed locally and could include: cardboard, magazines, junk mail, bi-metal cans, catalogs, and telephone books. It is noted that the cost of a recycling-only contract will continue to escalate with little ability to manage cost increases, as compared to the ability to manage collection system costs through bidding waste and recycling services together.

The Township has the opportunity to utilize dual-stream or single-stream recyclables markets. Single-stream recycling is becoming more popular in the local region and it makes recycling very convenient for residents since a comprehensive list of recyclables, including commingled containers and paper items, can all be collected in one curbside recycling container. It is very important that the curbside collection container(s) utilized by the Township have the capacity to collect recyclables between residential recyclables pick-ups. It is noted that the Township has recently revised its recycling contract to include bi-weekly single-stream collection of all recyclables previously collected plus new items such as magazines, junk mail, cardboard, catalogs and bi-metal cans. GF believes this will significantly improve the convenience and recycling program performance and encourages the Township to continue to investigate program options identified in this study.

Looking further ahead, the Township's collection system could benefit from working with other municipalities. A multi-municipal approach including cooperative bidding for collection services can improve collection efficiencies and lower costs for the Township and residents. Efficient programs reduce fuel consumption and conserve resources while offering economic opportunities, program consistency and improved opportunity for building economic and environmentally sustainable waste and recycling programs.

RECYCLING TECHNICAL ASSISTANCE STUDY
FINAL REPORT
RECYCLING PROGRAM
GUIDANCE FOR THORNBURY TOWNSHIP

1.0 INTRODUCTION

Thornbury Township is located in Delaware County, Pennsylvania and is in the process of making improvements to their waste collection and recycling program in order to have a comprehensive and cost effective recycling program that is convenient for residents. 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), Thornbury Township (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 measures the Township could employ to improve the performance of the current recycling program.

Although the Township has had some success in increasing the Township's recycling rate in recent years, the Township hopes to continue this trend and improve its recycling efforts in a sustainable and environmentally responsible manner. The Township hopes to achieve these improvements to the existing recycling program without significantly increasing the cost burden to the Township.

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

1.1 Scope of Work

Task #1 GF will gather and review background information from the Township including recycling program information, the current recycling contract and recycling ordinance, and other relevant information as it is identified.

Task #2 Due to the importance of timing related to this project, GF will first prepare an initial guidance document that outlines some key considerations and identifies several recycling program options for consideration by the Township. This document should be reviewed by the Township and discussed internally so that it may begin to make decisions related to how the Township should proceed with the next recycling contract. The Township should provide GF with feedback from these internal discussions so that final recommendations can be developed and included in the final report.

Task #3 GF will prepare and provide the Township with a project report with findings and recommendations. The report will be an expansion of the preliminary guidance document and will provide additional clarifications and recommendations. This task includes a review of the report by the

PADEP and response to PADEP comments. Additionally, an electronic file of the final report will be submitted to PADEP and SWANA. Both an electronic and hardcopy version of the report will be provided to the Township.

2.0 BACKGROUND

Thornbury Township (Township) is located in Delaware County, Pennsylvania and has approximately **2,100** households. As shown in the aerial photo and map in **Figure 1** at the end of this Report, the Township has densely populated areas as well as areas that are rural.

Based on feedback from the residents, it is apparent that residents feel that the existing recycling program is confusing and that the collection schedule is inconvenient due to the need to store recyclables in the home for longer periods than is desirable. The Township is interested in technical assistance to evaluate the existing recycling program and recycling contract prior to the next municipal bidding process for recyclables.

3.0 EXISTING WASTE COLLECTION AND RECYCLING SERVICES

Waste collection service in the Township is private subscription, where residents independently contract with one of several private waste hauling companies. The Township periodically bids for curbside recyclables collection on behalf of its residents. The following recyclables are collected on the first Wednesday of each month:

- **glass**
- **aluminum cans**
- **plastic #1 & #2 jugs and bottles**

Newspapers are collected on the third Wednesday of each month.

4.0 TOWNSHIP RECYCLING PROGRAM OBJECTIVES & GOALS

Based on discussions with Thornbury Township, GF understands that the Township has the following objectives or goals for its recycling program:

- ✓ **Continue the trend of increasing recycling participation from residents**
- ✓ **Ensure the Township proceeds intelligently with contracting for recyclables collection**
- ✓ **Minimize confusion and inconvenience of the recyclables collection program**
- ✓ **Improve the existing recycling program without significantly increasing the cost burden to the Township**

5.0 RECYCLING PROGRAM GUIDANCE

In the first phase of this recycling evaluation, GF developed and provided some initial waste and recycling guidance to help the Township Board of Supervisors make decisions related to modifying the Township's recycling program. The following sections summarize the guidance that was provided to the Township. This guidance was valuable to the Township, and the Township has already implemented an enhanced single-stream recycling program that recovers additional recyclable materials on a bi-weekly schedule.

The following information considers the Township's recycling objectives and goals outlined in the above section. It is emphasized that support from the Township Supervisors will be crucial for actual implementation of a new or enhanced recycling program to take place. There are a number of "important considerations" that factor into selecting and implementing an enhanced recycling program in Thornbury Township:

- The existing recycling program structure makes it inconvenient for residents to recycle. This is primarily because there is a limited amount of recyclable materials accepted and because of the monthly collection schedule may not be remembered by residents and it requires residents to store materials for one month between pick ups.
- There are approximately **2,100 households** in the Township and the Township continues to experience growth.
- Thornbury Township is mandated to recycle by the Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101) to provide curbside recycling services, including curbside leaf waste collection, for all residential households in the Township.
- The potential quantity of recyclables generated by the Township is small from a marketing perspective. Consequently, municipal bidding for recyclables collection services (only) offers potential bidders a relatively small service package (and small contract). There is little or no incentive (e.g. revenue from sale of recyclables) for the contractor beyond the payment for the service contract.
- Under the current recycling-only contract with Opdenaker Trash Removal, Inc., the cost per household for curbside recycling service is approximately **\$1.10** per month or **\$13.20** per year.
- Waste haulers in Delaware County deliver County-generated residential municipal waste at **no charge** to two local transfer stations operated by the Delaware County Solid Waste Authority. Disposal costs are offset in Delaware County by a County tax. The transfer stations are located in Chester Township and Marple Township.
- Residents individually contract for trash service with one of a number of local haulers. Depending on the hauler selected for a particular household, the cost and service varies for residential trash. Trash service is about **\$40 per quarter** or **\$160 per year per household**.

- It is noted that if the Township takes the position to only meet the minimum Act 101 requirements for curbside recyclable collection of commingled materials (i.e. monthly collection) could contribute to:
 - 1) continued inconvenience (recycling) experienced by residents;
 - 2) ongoing compliance issues from haulers and residents;
 - 3) difficulty in increasing or maximize participation by residents;
 - 4) ongoing difficulty in achieving noticeable improvements to the Townships recycling rate;
 - 5) the program may not meet the disposal/recycling needs of many households in the Township.

- Act 101 and PADEP guidelines require the following collection minimums for leaf waste in Thornbury Township and in other mandated communities that offer residents a supplemental drop-off for leaf waste **A minimum of two curbside collections should be conducted annually for leaves, garden residue, shrubbery, tree trimmings, and similar material (i.e. brush).**
 - PADEP recommends leaves are collected once per year (typically fall).
 - PADEP recommends garden residue, shrubbery, tree trimmings and similar material are collected separately at least once per year (typically in the spring).
 - If the Township does not offer a residential drop-off facility for leaf waste, Act 101 requires a minimum of one curbside leaf waste collection per month.

Act 101 mandated municipalities that do not offer residents a drop-off site for leaf waste must provide monthly curbside collection of leaf waste. The leaf waste drop-off site can be a county facility, neighboring municipality, private location, landscaper, tree farm, etc. It is not required that each mandated community operates its own drop-off location.

5.1 Successfully Implementing an Enhanced Recycling Program

Thornbury Township staff and the Board of Supervisors will need to make a number of decisions pertaining to recycling in order to implement a recycling plan and to make noticeable enhancements to the recycling and waste collection system. The Township should view recycling issues and services together with waste collection, not as separate issues. Reaching agreement on how the waste and recycling program will be structured, implemented and administered is critical to the program's success. For example, deciding upon some of the following recycling issues/questions will be necessary prior to moving ahead with implementation:

- Curbside recyclables collection frequency (e.g. weekly, bi-weekly)
- Type of materials collected
- Size of recycling containers (significantly influences convenience & participation)
- Contracting for recycling and waste as bundled services
- What related services (e.g. bulky item pick up) are important to residents

6.0 RECYCLING ALTERNATIVES

After the Township clearly understands what it would like the recycling program to look like, it should evaluate and select a means to implement the desired program. Below are some recycling alternatives that the Township can use to make improvements to the existing recycling program:

- **Improved recycling education program.**
- **Making improvements to the existing recycling-only contract through revisions that would be included in a future municipal recycling service bid. Additional provisions could secure a higher level of recycling service (e.g. bi-weekly curbside recyclables collection and additional recyclable materials).**
- **Develop new or significantly revised ordinance(s) with implementation and enforcement capability.**
- **Municipal bid process for bundled waste and recycling services.**

The Township can see some improvements in its recycling program by implementing any of these alternatives. Unfortunately, several of the alternatives may yield very little return (as seen by an increased recovery of recyclable materials). Or, in other instances, there may be increased cost, implementation barriers, and even negative feedback from haulers and/or the public.

The recycling alternatives are reviewed below. This preliminary evaluation points out advantages and disadvantages of each alternative that are believed to be relevant to the Township in terms of selecting a results-oriented recycling alternative.

- **Improved recycling education program:** *Education is a priority for improving recycling participation and should be ongoing. However, in the existing private subscription waste collection system, it will remain difficult to effectively educate residents and implement a consistent recyclables service. This is largely a function of the existing waste collection system structure, where a number of different waste haulers provide services that vary both in the types of services and fee structure. Because a resident can switch service at any time, and haulers have the responsibility to educate customers, a hauler's educational message to the customer can vary considerably from what the Township intends for its recycling program. Expanded education efforts alone may not noticeably increase municipal-wide residential recycling performance in Thornbury Township.*
- **Making improvements to the existing recycling-only contract:** *Changing the terms of the existing contract to increase convenience for residents can significantly improve recycling performance in the Township. However, in almost all scenarios, this will increase the cost of the contract, and the cost increase could be significant (e.g. double the cost of the current contract depending on what increased level of recycling service is contracted). Since the recycling contract is paid by the Township, this will increase the annual expenditure paid through the General Fund; unless this cost is passed on to the households/homeowners. This revised recycling service would be implemented in*

- a subsequent municipal bid and contract award – that coordinates with the expiration of the existing contract. It is important that the recycling service that is provided is convenient (e.g. allows residents to recycle at least bi-weekly and a comprehensive list of recyclables is collected including containers and paper items, and that the recycling containers used have the capacity to collect and store material between pick-ups).*
- **Develop new or significantly revised ordinance(s) with implementation and enforcement capability:** *Implementing a revised or new ordinance can be a good start to initiate needed changes to the waste and recycling program. Having an ordinance in place that accurately reflects the existing waste and recycling program is always favorable. Updating the Township ordinance requires time to think through and execute. New ordinance requirements may face opposition by multiple private haulers and even the public. Effective implementation could require that the ordinance changes address some fundamental collection system structure issues (e.g. collection frequency, number of days waste haulers are permitted to collect in the Township, recycling containers, recycling collection methods such as single-stream and dual-stream, etc.). Additionally, a new or updated waste/recycling ordinance may require additional administration, education and enforcement for it to be a successful and implementation tool.*
 - **Municipal bid process for bundled waste and recycling services:** *Bundling waste and recycling services in a future municipal bid can allow the Township to better manage competition among waste companies for curbside waste collection and recycling services. Offering both waste and recycling services to potential bidders is a more attractive service package than the current recycling-only contract. Savings should be realized as reflected in a lower total cost per household for waste and recycling services. The lower cost reflects the implementation of a planned and more efficient, cost-effective, collection system. As with the existing recycling-only contract, a new waste and recycling contract will require some administration. However, because any collection service contract is a legal and binding service agreement, implementation and enforcement of the contracted services, including waste collection, is implementable when compared to the other collection alternatives reviewed in this study. Multi-hauler private collection systems have historically been difficult to manage and yield high trash disposal costs. Yes, there will be opposition from haulers and from residents related to this waste collection system change, but this opposition, which is usually from the minority and the haulers, should not intimidate the Township. The Township is encouraged to make decisions on behalf of the majority of the Township residents, not for the waste haulers or the vocal minority. Negative hauler and residential feedback should be countered with facts and effective public education efforts. Creating good business relationships with local haulers is highly recommended.*

6.1 Recommended Recycling Program Alternatives for Thornbury Township

Based on our review of these alternatives and background information provided by the Township, GF concludes that Thornbury Township essentially has two preferred recycling system options with the potential to significantly improve upon the existing recycling program. Each of the alternatives could be reinforced by updating the Township ordinance to reflect the program changes. The preferred alternatives include:

Develop a Request for Proposal (RFP) for Bundled Waste and Recycling Service

- Thornbury Township may be able to implement a comprehensive, cost effective and environmentally responsible waste collection system through a well-designed Request for Proposal (RFP) and municipal bid process for both waste and recyclables collection services. Because recycling by itself is a small service package, it is recommended the Township seriously evaluate bundling waste service and recycling services together and possibly consider at some point in the future, joint-bidding with one or more other neighboring municipalities. The recycling service provisions would be written to reflect the desired level of service by the Township and will be an effective way to improve convenience for residents, increase participation, and improve overall recycling system performance. Due to the availability of recycling markets in this region, single-stream collection of recyclables (i.e. mixing container recyclables such as plastics, aluminum and steel cans with paper items such as newspaper and junk mail) is a viable recyclables collection method.
- Once executed, a well-written waste and recycling service contract is perhaps the most effective and legally binding arrangement that can be implemented by a municipality to ensure that recyclables and waste collection services are provided in a manner consistent with the desired level of service by the Township and for its residents. Liquidated damages along with performance bonds can be included as provisions in the contract to help enforce service requirements are met by the contracted service provider.
- Competitive bidding for bundled waste and recycling services should lower the total cost per household when compared to the current combined cost of private subscription waste service plus the separate cost paid by the Township for the recycling-only service contract. Lower costs should be achievable because:
 - One hauling company can plan the collection service routes for the entire Township. Properly designed routing can improve collection efficiency, reduce collection time, reduce the number of vehicles, reduce the number of staff, reduce fuel consumption, and other collection system costs – all of which are typically passed on as a cost per household.
 - Municipal bidding is a fair process that manages competition so that everyone is competing for the same service package, has an opportunity to give their best/lowest price, and is evaluated to make sure their cost proposal and response is favorable to the Township and residents.

- By using a competitive bid process for bundled waste and recyclables service, there is an opportunity to eliminate paying for recycling service from the Township General Fund. Because of the cost savings that may be realized (verified upon receipt of bid responses) the Township may be able to pass the cost of recycling (approximately \$2-\$3 per household per month) to the resident – without increasing their current collection cost per household (currently trash service only).
- If the Township does implement a municipal-wide single hauler contract for waste and recycling, it is still suggested that the ordinance(s) be revised in a manner that reflects the new program and makes the ordinance a more effective enforcement tool.

Improvements to the existing recycling-only contract

- As a focused and relatively immediate approach to improving the Township’s recycling program the Township could revise the recycling-only bid package to improve upon the current level of recycling service that is offered to residents. Some of the recommendations related to the changes could include:
 - Expand the list of recyclables that are accepted by the recycling program to include additional materials.
 - Consider a single-stream recyclables collection system, where container recyclables such as plastic bottles, steel cans, aluminum cans are mixed together for collection in one container along with paper materials such as newspaper, junk mail, magazines, etc.
 - Consider bi-weekly collection of recyclables to reduce the annual cost of the collection contract (as compared to weekly recyclables collection).

It is noted that provisions may be included/added in the Township’s existing recycling contract that could substantially increase the level of service and convenience for residential recycling. However, providing an increased level of collection service (e.g. weekly curbside recyclables collection) within a recyclables-only collection contract will result in an increase in the total cost of the collection contract, which is currently paid using the Township’s General Fund.

7.0 RECYCLING PROGRAM IMPLEMENTATION STEPS

It is suggested the Township implement changes to the program as follows:

1. Develop a recycling and waste management advisory committee to evaluate important issues and provide guidance to the Board of Supervisors.
2. The Committee and others should continue to evaluate and document Township needs and goals and complete an approved Recycling Plan that describes important aspects and initiatives of the recycling and waste management system. The Plan could be as short as a couple of pages.

3. Consider implementation of an enhanced recycling and waste management program with additional recyclable materials accepted and a bi-weekly collection schedule. Support such changes via an updated municipal ordinance.
4. Consider implementation of a municipal-wide contract collection system that bundles waste and enhanced recycling services. The Township has the option to put a bid on the street to see what responses reveal – and then make a decision as to whether or not to implement the program.
5. During and following implementation of an enhanced recycling program, a method should be established to accurately record and document waste and recycling totals as a means to track and measure the performance of the waste and recycling program.

8.0 CONCLUSION

This study was conducted to evaluate several recyclables collection system alternatives that could be implemented in Thornbury Township. It is noted that prior to completion of this study Gannett Fleming, Inc. (GF) provided a preliminary guidance document to help the Township make decisions related to its recycling program. Prior to completion of this Report, the Township revised its recycling contract to include bi-weekly single-stream collection of all recyclables previously collected plus new items such as magazines, junk mail, cardboard, catalogs and bi-metal cans. GF believes this will significantly improve the convenience and recycling program performance, but encourages the Township to also consider other recommendations that have been provided in this study.

Recycling options available to the Township will have varying degrees of success in making notable improvements to the existing recycling program. It is necessary to recognize there is a limited ability of most of these recycling alternatives to markedly increase diversion of recyclables in a cost-effective manner. Consequently, it will be a critical step for the Township to continually evaluate and confirm its position and level of support related to making substantive changes to the recycling program. It is believed that the Township should view waste and recycling as integrated services in order to make good decisions about the Township's recycling program. The success, in terms of residential participation, of any recycling program directly corresponds to its convenience for residents. The former recycling program was not convenient for residents because it only collected glass, aluminum, plastic and newspapers on a once-per-month collection schedule. The Township's new single-stream program is clearly an improvement to the previous system. Single-stream makes recycling very convenient for residents because a comprehensive list of recyclables including commingled containers and paper items can all be collected in one curbside recycling container. It is very important that the curbside collection container(s) utilized by the Township have sufficient capacity to collect recyclables between residential recyclables pick-ups, thus reducing overfilling of containers.

GF notes that even with the recent change to the recycling program there is still an opportunity for the Township to improve the cost per household for recycling service. Municipal case studies and experience show that the Township can achieve a comprehensive and cost effective recycling collection program (as seen in a lower cost per household) if it bundles waste and recycling services in a well-written Request for Proposal (municipal bid document). The Township could bundle services and continue the newly implemented single-stream collection program.

If the Township elects to continue to bid recycling-only, the contracted recycling service should be improved by adding recyclable materials and changing to a bi-weekly schedule. It is expected the cost of a recycling-only contract will continue to escalate with little ability to manage cost increases, as compared to the ability to manage collection system costs through bidding waste and recycling services together.

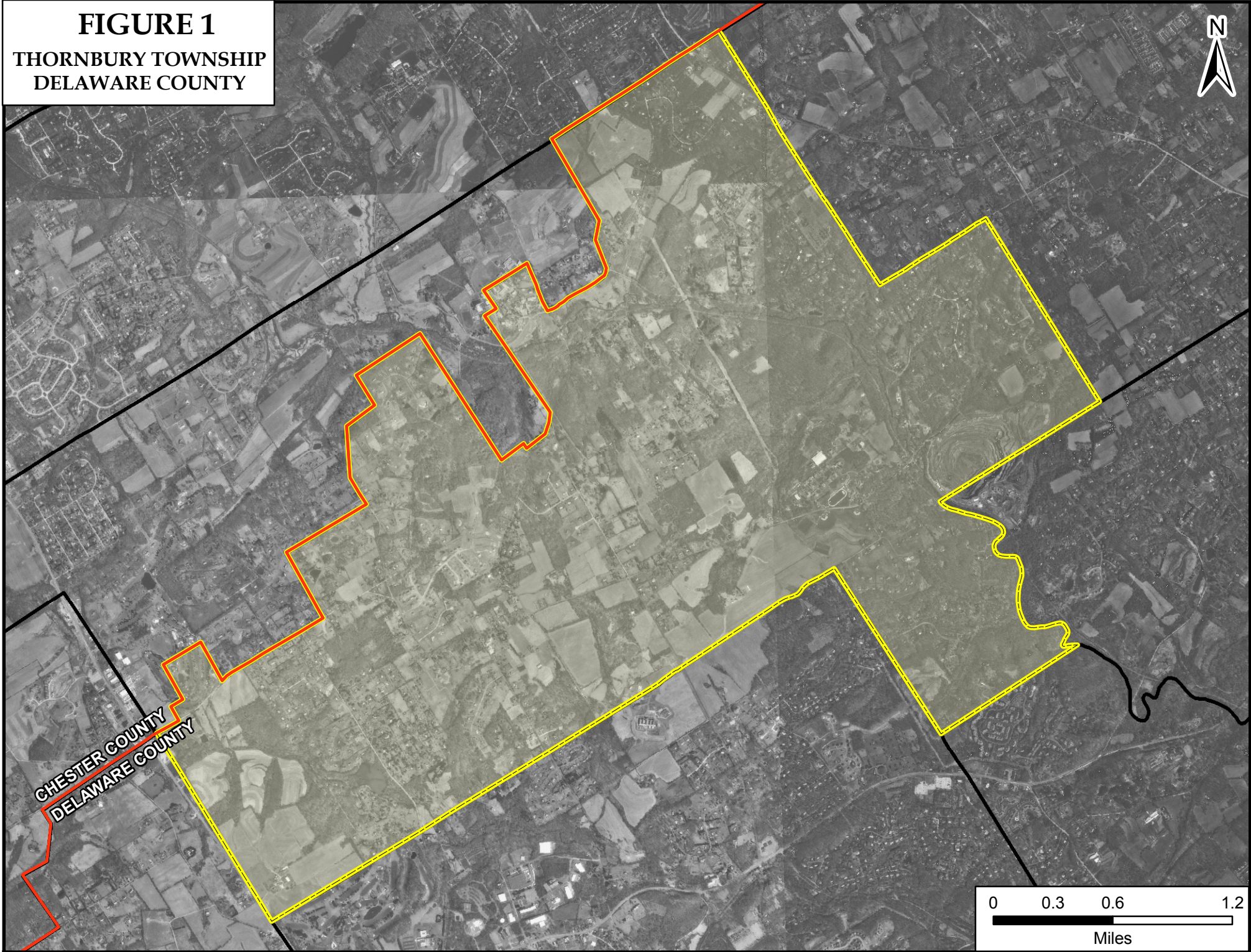
Recycling and waste management education is integral to the successful participation by residents and haulers. Since education requires staff time and Township funds, it should be a line-item in the Township budget. There will always be public opposition to change. Waste collection system decisions should be based on facts and made on behalf of the entire Township, not the “noisy minority” and/or the hauler’s interests. The Township is encouraged to educate early and often when making changes to the waste collection system because of how these changes impact the public. Work with local haulers to create good business relationships.

Looking further ahead, the Township could work with other municipalities to create a multi-municipal collection system, which can significantly improve collection efficiencies and result in a regionalized collection system where cost for waste and recycling are reduced through efficiency and the reduced use of fuel and other resources. This approach offers economic and environmental benefits over a greater area of the Commonwealth and builds consistency among recycling program, which is favorable for building sustainable waste and recycling programs.

FIGURE 1
Thornbury Township Map

FIGURE 1

THORNBURY TOWNSHIP
DELAWARE COUNTY



CHESTER COUNTY
DELAWARE COUNTY

