

**SWANA RECYCLING  
TECHNICAL ASSISTANCE STUDY  
FINAL REPORT  
COMMERCIAL & SCHOOL DISTRICT  
RECYCLING EVALUATION**



Photo: Gannett Fleming

Prepared for:

**UPPER CHICHESTER TOWNSHIP  
DELAWARE COUNTY, PENNSYLVANIA**

Prepared by:

**GANNETT FLEMING, INC.**



**HARRISBURG, PENNSYLVANIA**

**MAY 2011**

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**EXECUTIVE SUMMARY**

**ES – 1.0 Introduction**

Upper Chichester Township is located in Delaware County, Pennsylvania. This Executive Summary and Report summarizes an evaluation of strategies to improve commercial sector and school district recycling efforts within the Township. The Township was awarded \$7,500 in technical assistance provided by Gannett Fleming, Inc. (GF) under the Solid Waste Authority of North America (SWANA) Recycling Technical Assistance Program.

**ES – 2.0 Project Overview**

Gannett Fleming completed the following tasks during the assessment of the Township’s waste management programs:

- **Completed a curbside recycling audit/windshield survey** to verify residential recyclables collection methods, route times, and curbside participation and disposal habits. Identified service deficiencies and/or capability to expand residential service to small commercial businesses.
- **Developed a school waste management survey** that was provided to the following four (4) schools located within the Township for use as a preliminary assessment of status of existing recycling and waste management practices:

- Chichester High School
- Chichester Middle School
- Boothwyn Elementary School
- Hilltop Elementary School

- **Developed a GIS map of business locations and distribution** across the Township.

**ES – 3.0 Findings/Conclusions**

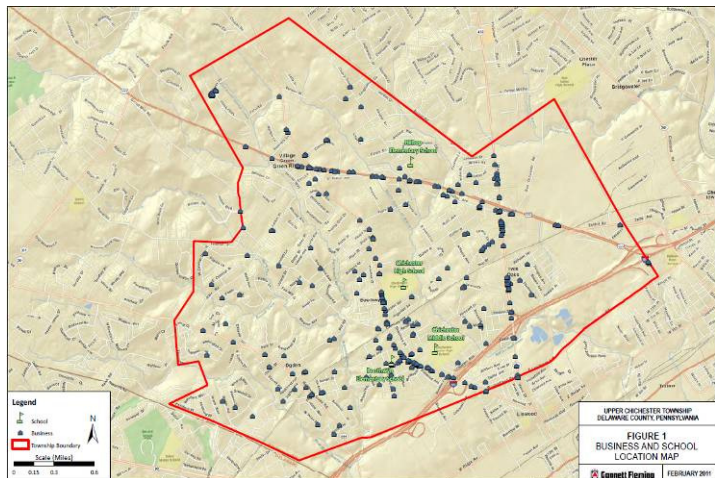
- Mixed paper and cardboard (combined) represent 87% of reported Township recyclables by weight.
- Yard waste is far behind fiber (i.e. paper items) totals but ranks third, representing a little over 4% of 2009 reported recyclables tonnage for the Township.
- The summary of the curbside waste collection audit/observations are provided in the table below, with additional findings bulleted below:

HOUSEHOLD PARTICIPATION	Ryans Run					Helms Manor					Totals
	10	10	10	10	10	10	10	10	10	10	100
Number of Total Households	10	10	10	10	10	10	10	10	10	10	100
Households w/ set-out	10	8	9	7	6	4	6	5	8	6	69
	H 1-10	H 11-20	H 21-30	H 31-40	H 41-50	H 51-60	H 61-70	H 71-80	H 81-90	H 91-100	69%
# Containers set out	3	0	2	1	1	0	0	1	1	1	
	1	2	1	3	2	0	0	0	2	2	
	1	1	1	2	2	0	1	2	0	1	
	1	0	1	0	0	3	1	0	0	0	
	1	11	1	0	0	0	1	1	2	0	
	1	2	1	1	1	0	1	2	2	0	
	2	1	1	1	0	0	2	0	2	0	
	1	1	0	1	0	2	0	1	1	2	
	1	1	1	1	1	1	2	0	2	1	
1	1	1	0	1	2	0	0	1	1		
Total # of Containers											105

Note: Blue Highlighted cells represent stops with cardboard set-outs.

- Curbside waste and recyclables collection efficiency could be substantially improved by restructuring outdated collection routes to:
  - Reduce travel time/miles travelled when active collection is not occurring.
  - Balance the distribution of household collections over collection days.

- 385 Businesses were plotted using GIS. Greatest concentrations of businesses are located along Chichester Avenue, Market Street and Conchester Highway.



- The School District’s recycling program is underperforming (and likely over priced) simply because the contractual terms the waste service contract administered by the DCIU have not been updated in a manner that

reflects the available waste/recycling services and recyclable commodity market conditions.

- County Ordinance #90-4 limits the ability of the Township to cost-effectively provide waste and/or recycling services to individual small businesses as an extension of the residential curbside program.

#### **ES – 4.0 Recommendations**

The following recommendations cover residential, commercial (small business) and School District waste management and recycling within Upper Chichester Township.

##### **ES 4.1 Residential**

- It is recommended that the Township make it a priority to conduct a routing analysis of the existing residential curbside collection routes conducted by the Township to:
  - Improve the efficiency of residential collection routes.
  - Reduce labor and fuel costs;
  - Modify routes to optimize staffing allocation (periodically as needed) to other important municipal tasks;
  - Balance the distribution of households collected on a given day in a way that reduces the time per stop when compared to current routing.

##### **ES 4.2 Commercial**

- Upper Chichester Township should not initiate the collection of recyclables, and/or trash at individual business locations due to restrictions within County Ordinance #90-4.
- Integrate the Business Registration Form (Form) with Township Recycling Requirements, requiring new and existing businesses to (on Form):
  - Provide documentation that the business has secured a waste and recycling hauler;
  - indicate their type of business; and
  - indicate the size of the business, as denoted by the number of employees.
- In the existing Township database system, automate the process of registering businesses with automatic notifications and automatic reminders/mailers for recycling data/totals from businesses that have not responded by a certain timeframe.

- Require haulers (via ordinance):
  - To “provide recycling services to all customers to which they provide waste collection services”
  - To “provide a list of commercial customers to the Township by February 1st each year to be kept confidential by the Township”.
- Integrate up to four (4) new commercial drop-off sites and areas with concentrated businesses (See **Figure 1**).

#### ES 4.3 Upper Chichester School District Recommendations

- The School District and DCIU should review the waste collection and recycling services on the existing DCIU contract and renegotiate services with the existing vendor to include comprehensive single-stream recycling services.
  - Update internal recycling methods and staff responsibilities to reflect the revised recycling program.
  - Standardize the program to the extent feasible across the School District.
- If the School District cannot or does not renegotiate recycling service, the Township could consider supplementing the school waste management program by providing regular recyclables collection services provided:
  - Equipment, staffing, schedules and associated cost make this feasible.
  - This activity can be done in compliance with County Ordinance #90 -4.
  - Waste contract terms under the DCIU agreement are not in conflict.
- **School Sustainability Guideline** – the Township should work with the School District to develop a Sustainability Guideline as a **standard across all schools within Chichester School District** to enhance recycling and sustainability.
- **Student participation** – Each school should form a sustainability group so students play an active role in shaping sustainability programs.
- **Environmental Coordinators** – The Environmental Coordinator or similar person(s) employed by the School District should increase their involvement in improving the school waste management programs, starting with basic improvements to the waste contracts administered by the Delaware County Intermediate Unit (DCIU).

#### ES 4.4 Website Improvements

- It is recommended the Township create a tab on the website dedicated to waste and recycling, which should include dropdowns for “residential” and “commercial” (see recommendations later in this Report for details).

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**1.0 INTRODUCTION**

Upper Chichester Township is located in Delaware County, Pennsylvania. The Township is interested in identifying strategies to improve commercial sector and school district recycling efforts. Residential waste and trash are collected by municipal crews. 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 to be provided by Gannett Fleming, Inc. (GF) to evaluate the commercial and school district waste management programs.

**2.0 BACKGROUND**

Businesses and the school districts within Upper Chichester Township are required by Pennsylvania State law to implement recycling programs in accordance with Act 101 of 1988. As a “mandated” municipality the Township is required to implement (via ordinance) a waste management program that requires municipal, commercial (businesses) and institutions including schools to source-separate designated recyclables and leaf waste from disposal for the purpose of recycling.

Although it sounds easy, many businesses and schools do not comply with Pennsylvania’s recycling requirements. Non-compliance by businesses and schools for waste management occurs for a variety of reasons, with some leading causes including:

- Recycling is not a priority by top-level management.
- Recycling service either costs more, or is perceived to cost more, and therefore , is not included or “added” to trash services.
- The management is unaware of their recycling requirements.
- Staff, including maintenance and custodial resources, are limited.
- Awareness of their requirements exists, but noncompliance persists because there is no effective enforcement in place:
  - PADEP does not actively enforce/penalize businesses for not recycling.



- Many municipalities/municipal officials take a hands-off approach with businesses; hesitant to negatively impact these important providers to the community.
- Programs lack incentives or an understanding of incentives.

### 3.0 RESIDENTIAL RECYCLING PROGRAM



Completing a preliminary assessment of the structure and performance of the municipally-operated residential waste collection program is important to this commercial sector evaluation in order to determine the potential to allocate existing labor resources to schools and/or business by Upper Chichester public works personnel. Upper Chichester Public Works Department provides weekly residential municipal waste pick up and single-stream

recyclables collection every other week to all residential establishments in the Township. The Township's recent implementation of the curbside single-stream recycling and corresponding education program increased recyclables diversion by over 10 percent.

#### 3.1 Recyclables Windshield Survey

On **October 20th, 2010** Gannett Fleming conducted a windshield survey of 100 consecutive residential households during routine Wednesday collection of single-stream recyclables by Upper Chichester's Public's Works crews. The route/survey was characterized by the following:

- 100 consecutive household stops
- 20 cubic yard Heil Packer collection vehicle
- Crew of One (1) driver and two (2) collectors



The summary of the results are shown in the following table.

HOUSEHOLD PARTICIPATION	Ryans Run					Helms Manor					Totals
	10	10	10	10	10	10	10	10	10	10	100
Number of Total Households	10	8	9	7	6	4	6	5	8	6	69
Households w/ set-out	H 1-10	H 11-20	H 21-30	H 31-40	H 41-50	H 51-60	H 61-70	H 71-80	H 81-90	H 91-100	69%
# Containers set out	3	0	2	1	1	0	0	1	1	1	
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	1	1	1	2	2	0	1	2	0	1	
	1	0	1	0	0	3	1	0	0	0	
	1	11	1	0	0	0	1	1	2	0	
	1	2	1	1	1	0	1	2	2	0	
	2	1	1	1	0	0	2	0	2	0	
	1	1	0	1	0	2	0	1	1	2	
	1	1	1	1	1	1	2	0	2	1	
	1	1	1	0	1	2	0	0	0	1	1
<b>Total # of Containers</b>											<b>105</b>

Note: Blue Highlighted cells represent stops with cardboard set-outs.

Windshield Survey Findings:

- 100 households completed in 63 minutes, for an average of 37.8 seconds/stop.
- The 100-household route was 5.7 miles.
- 69% of households set out single-stream recyclables; 21% had no set-outs.
  - Reasons for absent set-outs are unknown, but likely include persons on vacation, low-volume generation (e.g. single occupancy, elderly), non-occupancy, etc.)
- Of 50 homes observed for cardboard, 11 had cardboard set outs (highlighted); a rate of 22% participation in cardboard recycling. One stop had no single-stream recyclables, but it did have cardboard.
- 105 containers with single-stream materials were placed at the curb by the 69 participating households.
- Non-participation appeared to occur in clusters and appeared more concentrated in older neighborhoods.
- 32-gallon containers were most prevalent, but were supplemented by a wide variety of other containers and plastic film bags.
  - Plastic film bags were frequently added to the single-stream load.

- Based on route observations and as supplemented by information and existing map routes provided by the Township, the residential routes are not optimized.
  - A leading cause of inefficiency is because some single-day collection routes are broken up into two or more sub-routes and this interrupts the consecutive house-to-house collections, adding to the total time non-collection occurs, particularly when the driver transitions from one sub-route to another where collection will resume.

#### 4.0 COMMERCIAL SECTOR RECYCLING

There are over **350 businesses and four (4) schools** located within Upper Chichester Township. The Public Works Department does not provide waste collection or recycling services directly to commercial sector businesses or area schools. The Township stages several single-stream containers adjacent to the Township office that may be used by businesses. Most small and large businesses and industries independently contract for waste services. An unknown portion of these businesses incorporate recycling services into the contract with their waste hauler.

At the end of each calendar year, the Township issues a letter request to businesses and schools to report recycling totals by February 1<sup>st</sup>. This packet includes a PADEP Annual Recycling Report that is to be completed and returned. The total quantity of recycling tons reported from commercial establishments is eligible for Act 101, Section 904 Performance Grants disbursed to the Township following a successful grant submittal.

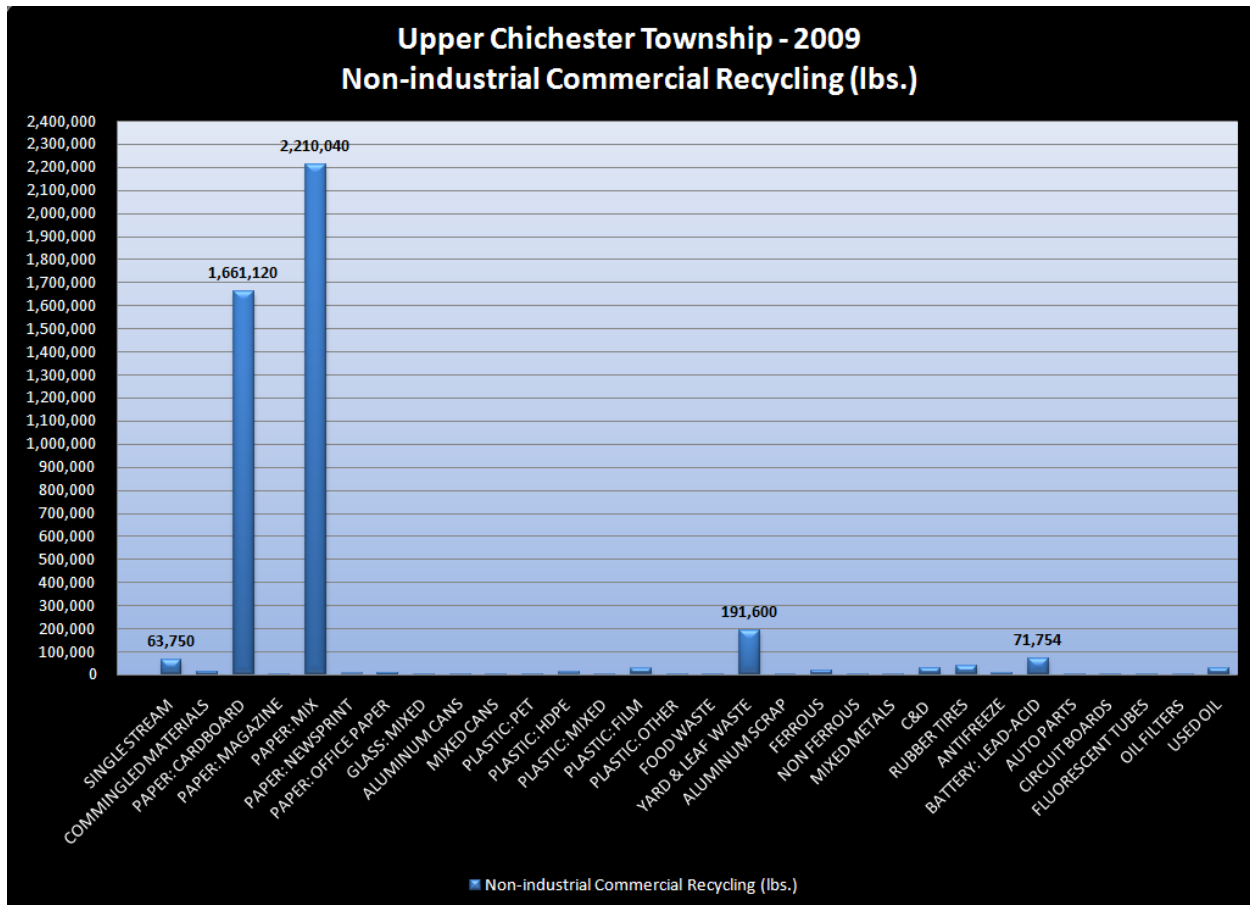
The Township does not have a method to determine the total number of businesses that report recycling totals to the Township. Obtaining recycling data from businesses is a challenge to the Township and is a very common problem among most Pennsylvania municipalities. Primary reasons data collection from businesses is limited include:

- Businesses do not know recycling totals and/or do not report how much they recycle. Unless they specifically request the information from a vendor, they do not get tonnage data.
- Small businesses lack a formalized recycling program. As small quantity generators, they feel it is not worth reporting.
- Even when businesses ask their waste and recycling vendor for data, vendors may not provide it or may not have accurate data. For example, if a cardboard dumpster is located at a business, this dumpster is usually not weighed independently. Rather, the material is combined with other cardboard dumpsters from area businesses including those that may not be located within the same municipality.

- Businesses lack a designated recycling coordinator or another administrative person tasked with documenting recycling totals.
- Only a portion of businesses are contacted to report recycling.
- No incentives or penalties are in place to assure data is provided to the Township.

#### 4.1 Commercial Recycling Totals

According to reported totals for 2009, commercial recycling from Township businesses and industries diverted approximately **4,411,300 lbs** or **2,205 tons** of eligible recyclable materials listed on PADEP’s Annual Recycling Report. The distribution of reported commercial or non-industrial recyclables is presented in the Chart below. Mixed paper and cardboard make up the vast majority of reported materials, representing a combined 87% by weight. Yard waste is far behind fiber (i.e. cardboard and mixed paper) totals but still the third greatest reported quantity representing a little over 4% of 2009 reported weights.



## 4.2 Commercial Recycling Ordinance

For commercial businesses and schools, the waste and recycling requirements are included in the Township’s General Garbage Collection and Recycling ordinance. As stated in the ordinance, **recyclables** are defined as:

*Material having an economic value in the secondary materials market. The following materials have such economic value:*

- aluminum cans and articles
- bi-metal cans
- glass containers
- corrugated paper
- magazines
- computer print-out paper
- computer tab cards
- office paper
- steel cans
- newspaper
- non-chemically-coated paper products

The ordinance specifies that the list of recyclables can be modified via Township Resolution and corresponding update to the Township Rules and Regulations.

### 4.2.1 Delaware County Ordinance 90-4

Delaware County’s waste system structure and corresponding County Ordinance 90-4 places certain limitations that affect the ability of the Township to serve as a collector of trash from commercial establishments. Although it is not the goal of the Township to collect commercial wastes from all commercial establishments, economic opportunity justifies the consideration of collection of both trash and recyclables from willing small businesses.

County **Ordinance # 90-4** states “Licensees who co-mingle in the same vehicle or container both residential waste and commercial waste shall, if otherwise eligible, be issued only a Type C Sticker for such vehicle or container.” It further states that, “No Commercial Waste or out-of-county Solid Waste shall be co-mingled with Residential Waste in any vehicle for which Type M Stickers have been issued.” Consequently, all waste collected in any vehicle that co-mingles residential and commercial waste is billed at the commercial rate, which is currently \$64.00.

Technically, the Township is prohibited from collecting small business wastes along the same route along with residential trash. And, with the **residential tip fee rate set at \$23.45 per ton** (much lower than the \$64.00 commercial rate) it would be economically restrictive to offer an efficient, but mixed, commercial and residential trash route, because the total costs for residential disposal would increase.

### 4.3 Valid Commercial Sector Recycling Data

As stated under Section 3.0 above, obtaining recycling data from commercial waste generators is challenging. Adding to this challenge is making sure the reported data is valid. According to PADEP, Upper Chichester recycling data must be legible and contain all of the following information for the commercial recycling weights to be eligible for Act 101, Section 904 Performance Grants:

- date commercial material was recycled/marked;
- type of commercial material recycled/marked;
- name of the municipality where the commercial material was generated;
- weight listed in tons or pounds of the commercial material recycled/marked;
- name of entity collecting or accepting the commercial materials;
- differentiates the weight of commercial from residential material recycled.

Note: Weight documentation reports for commercial materials that state it is an estimate are unacceptable except when:

- The material is packaged in uniform bales and the average weight of a bale can be clearly demonstrated and supported by weight receipts and a record of the number of bales provided by the market vendor.
- When multiple generators contribute to a known quantity of marketed material and **the hauler or market estimates the quantities attributable to any individual establishment or municipality and verifies the estimate with their signature.**

Commercial recycling data must be contained in one of the following:

- A weight/market receipt;
- A report submitted by the hauler or market vendor on their company letterhead;
- A signed report submitted by the hauler or market vendor, which clearly indicates the name of the company who collected the material or the name of the market vendor as well as the name, title and signature of the company representative who completed the report;
- A report generated by the home office or a corporation where satellite stores, offices or companies back-haul material to a distribution or similar facility, the report must include a store number or other identifier and location.

## 5.0 UPPER CHICHESTER SCHOOL DISTRICT RECYCLING

Upper Chichester Township has four (4) schools that are part of the Chichester School District shown in the **Business and School Location Map at the end of this report**, including:

- Chichester High School
- Chichester Middle School
- Boothwyn Elementary School
- Hilltop Elementary School

A component of this study was to obtain information about the recycling programs in place at each of the schools. Gannett Fleming visited with Hilltop Elementary on October 21, 2010 to discuss existing recycling programs and future goals. Based on discussions with Hilltop Elementary staff, the following was noted about recycling in Upper Chichester School District:

- Some recycling is in place within the school district, but the programs are highly variable among each of the four schools. Generally, everyone agreed recycling and waste management could be improved.
- The Delaware County Intermediate Unit (DCIU) administered the contracting of waste services.
  - The details of this contract were unknown and GF requested the DCIU bid/contract information (it was not provided).
  - GF spoke with a senior representative from Waste Management (service provider for many area IU's) on February 3<sup>rd</sup>, 2011 who indicated the Chichester School District's waste service arrangements were very outdated and could easily be updated to improve the level of service provided and increase recyclables diversion.
  - The details of the recycling program for Hilltop Elementary were unclear, but there was an interest in improving recycling efforts.
  - The waste management program at Hilltop Elementary appears fractured:
    - The DCIU contract addresses waste recovery and limited recycling services. As reported by the school, recycling outside the building has stopped and it is confusing as to what materials are, or supposed to be recycled.

- Volunteer student groups handle some of the recycling efforts that overlap the contracted recycling program. For example, if the DCIU contract includes cardboard recycling, the school pays for it in their waste management costs. However, when students manage a cardboard recycling program, there could be added costs, or otherwise allow the contracted hauler to not meet contract obligations (requires confirmation).
- The school district has an Environmental Advisor, but it does not appear the Environmental Advisor had an active role in quality assurance of the school waste management/recycling program.

### 5.1 School Waste and Recycling Survey

In order to streamline the process of gathering information from each of the four schools within the Township, GF prepared a **School Recycling Survey** to assess each program. The school surveys were provided in October of 2010 (**Appendix A**). It was GF's intent to utilize survey responses to complete a brief summary and general recommendations for each school, but completed surveys were not returned to Gannett Fleming.

### 6.0 GIS MAP OF BUSINESS AND SCHOOL LOCATIONS

Visual data helps the understanding of orientation, distribution and density of commercial waste generators including their proximity to recycling markets and waste processing facilities. This information is essential for waste management system planning and implementation. Using parcel data provided by the Township, Gannett Fleming developed a GIS map that reflects the distribution of businesses and the location of the schools (**Figure 1**).

The GIS map was produced by geocoding the addresses listed in the database to the road centerline file. There were a total of 418 businesses in the database. Four locations were removed because they were PO Box addresses, not physical addresses. There were a total of 316 records that matched with a score of 100%. The score is based on a combination of available address numbers, spelling sensitivity, and the same road name (i.e road versus avenue). There were an additional 56 records that matched with a score of 70-99% and were within 1-2 address numbers of their desired address. An additional 13 records matched with a 64-69% and were within 3 blocks of the desired address. A total of **385 business locations were plotted on the map**, with greatest concentrations of businesses located along Chichester Avenue, Market Street and Conchester Highway.



## 7.0 CONCLUSIONS AND RECOMMENDATIONS

### 7.1 Conclusions

Within the last two years, the Township has successfully increased recyclables diversion in its residential curbside program by over **10 percent** through implementing a curbside single-stream recycling program using the Township’s Public Works Department. As a continuation of these efforts, this evaluation and technical services provided by Gannett Fleming target equally important local business and Upper Chichester School District recycling efforts. Key conclusions include the following:

#### 7.1.1 Residential Sector

- Residential trash collection (and recycling) routes have not been updated since they were originally configured over 10 years ago and are not optimized. A single collection route/truck services different parts of the Township on a given day, sometime stopping active household collections to resume collection in another part of the Township. This is inefficient and adds costs for labor and fuel.
- Adding small businesses to residential collection routes is not feasible because County Ordinance #90-4 requires a commercial hauling license and requires that any loads of mixed residential and commercial waste be disposed at the higher commercial tip fee rate (\$64.00), making this cost prohibitive.
- Providing recyclables collection only to small business does not appear feasible, unless businesses are willing to pay the Township a recyclables collection fee that covers collection costs. This would be an additional fee to small businesses that pay for trash services.
- Up to four (4) new commercial drop-off sites could be added along existing routes within the Township and integrated with the current collection program. Additional drop-off sites could be added if the existing residential routes are reconfigured/optimized.
- Although Gannett Fleming did not complete a Public Works staff utilization analysis, the Township indicated that Public Works trash and recycling crews routinely complete residential collection routes after four (4) to six (6) hours and then leave for the day. Friday is a heavy route covering more households, in comparison to other collection days.
- Residential educational materials that are included on the Township’s website do not effectively communicate some of the waste and recycling procedures.
  - As an example, the Township includes a “Trash and Recycling Calendar” on the website, but it is not possible to discern what day trash and recyclables are collected for a given collection zone/day from the Calendar.

### 7.1.2 Business Sector

- According to Township data reflected in GIS map **Figure 1**, there are approximately 385 total businesses located within the Township Boundary with concentrations along Chichester Avenue, Market Street and Conchester Highway.
- There are approximately 385 businesses that are required to report recycling data to the Township, but there is no efficient/automated method in place by the Township to determine what businesses have or have not submitted annual recycling reports.
  - Some businesses indicate to the Township that they recycle or have a recyclable vendor, but it is later confirmed this is untrue.
  - The administrative process by which the Township recovers recycling reports from businesses is cumbersome and marginally effective.
  - There are no penalties or incentives in place for businesses to report recycling data to the Township.
- The Township has a Business Registration Form, but it is not integrated effectively with business recycling requirements.
- The Township solid waste ordinance lacks effective hauler requirements pertaining to hauler responsibilities to deliver waste and recycling services to residential and commercial customers.
- Upper Chichester’s 904 Performance Grants will be reduced in the next grant round (and likely future grant rounds) by **40%** because PADEP recently changed the award allowance and multiplies the grant award by a factor of 0.6. It is an important point that **PADEP allows commercial sector quantity estimates** when the hauler or market estimates the quantities attributable to any individual establishment or municipality and **verifies the estimate with their signature**.
- County Ordinance # 90-4 states, “No Commercial Waste or out-of-county Solid Waste shall be co-mingled with Residential Waste in any vehicle for which Type M Stickers have been issued.” All waste collected in any vehicle that co-mingles residential and commercial waste is billed at the commercial rate, which is currently \$64.00. Because the **residential tip fee rate set much lower at \$23.45 per ton** it is economically restrictive to develop a waste collection route that would include residential households and small businesses - the total costs for residential disposal would increase significantly.

### 7.1.3 Schools

- School Trash and Recycling services in Upper Chichester Township are primarily administered by and/or defined by the Delaware County Intermediate Unit (DCIU). The DCIU competitively bids for waste and recycling services on behalf of the school district. Based on the limited information that was available, some conclusions regarding the waste management services secured through this contract include the following:
  - The recyclables services language is outdated and does not secure comprehensive recycling services for the affected schools.
  - Volunteer school programs and environmental clubs play a key role in what types of recycling programs exist within a given school, but this does not assure cost effectiveness and accurate reporting.
  - The level of commitment to recycling and sustainability varies among the four schools in the Township and each school program works independently of each other for most waste management initiatives with the exception of the DCIU.
  - Generally speaking, the School District and schools demonstrate some commitment to sustainability, but it appears that this commitment places a heavier emphasis on green infrastructure and buildings in the design/build phase (geothermal systems for example). Less emphasis is placed on fully integrated operations and a comprehensive strategy that includes an optimized waste management/waste diversion program.

## 7.2 Recommendations

### 7.2.1 Residential

The following residential recommendations are provided with consideration that efficiencies gained in the utilization of labor resources for residential curbside program could potentially be allocated to commercial sector collection services, if this became desirable in the future.

- Conduct a routing analysis using GIS for the purpose of improving the efficiency of residential collection routes. Deliverables would include:
  - Consolidated collection routes that evenly/efficiently distribute the number of households collected on a given day.

### 7.2.2 Business Recommendations

- Do not initiate the collection of recyclables, and/or trash at individual business locations due to restrictions within County Ordinance #90-4.
- Integrate the Business Registration Form with Township Recycling Requirements. Require all new and existing businesses to complete the Business Registration Form as updated with the following information requests:
  - Require documentation demonstrating the business has secured a waste and recycling hauler in accordance with Township requirements. Documentation could include a waste invoice or/bill form a hauler, a recent self-haul receipt from a waste disposal facility and recycling vendor, etc.
  - Require the businesses to indicate their type of business.
  - Require the business to indicate the size of the business, as denoted by the number of employees.
- Add to the existing database a tracking tool or method to streamline and automate the process of registering businesses, and to distribute automatic notifications and automatic reminders for recycling data/totals from businesses that have not responded by a certain timeframe.
- Require haulers (via updated ordinance) to:
  - “Provide recycling services to all customers to which they provide waste collection services”;
  - “Provide a list of commercial customers to the Township by February 1st each year, to be kept confidential by the Township.”
- Integrate up to **four (4) new commercial drop-off sites** and areas with concentrated businesses (See **Figure 1**) along existing routes within the Township to enhance commercial recycling.

### 7.2.3 School Recommendations

- The Upper Chichester School District and DCIU should review the waste collection and recycling services on the existing DCIU contract, and then meet with the contracted waste hauler to renegotiate the waste and recycling services:
  - Determine if the level of recycling service and type of services provided can be updated within the current contract with consideration of:
    - Single-stream recycling
    - Additional/different recycling containers, as needed.

- Update internal recycling methods and staff responsibilities to reflect the new recycling program.
- Standardize the program to the extent feasible.
- If the School District can not, or does not renegotiate recycling service, the Township could consider supplementing the school waste management program with consideration of:
  - The ability (i.e. equipment and staffing), costs and scheduling associated with providing a commercial route only (not mixed with residential) for trash collection. This would include meeting County Ordinance #90 -4 and corresponding licensing requirements.
  - Collection of recyclables only. It would not be expected the Township could cover its operating costs for recyclables collection from the schools by the collection of service fees and commodity revenues.
  - Verify the existing waste collection contract terms under the DCIU agreement. The Township may not be permitted to provide collection to the schools until the existing waste collection contract expires or otherwise is terminated.
- **School Sustainability Guideline** – Using the template from Dunn County Wisconsin (or another similar template), it is recommended the Township work with the School District to develop a Sustainability Guideline that can be utilized as a **standard across all schools within Chichester School District** to enhance recycling efforts and sustainability initiatives.
- **Student participation** – Each of the schools should form a sustainability group for students who play an active role in solving these problems.
- **Environmental Coordinators** – Each school has an Environmental Coordinator or similar person employed to address environmental issues, compliance, etc. It is recommended these coordinators increase their involvement in improving the school waste management programs that clearly can be improved through basic improvements to the waste contracts administered by the Delaware County Intermediate Unit (DCIU).

#### 7.2.4 Website Improvements

- It is recommended the Township create a tab on the website dedicated to waste and recycling. The tab should include dropdowns for “residential” and “commercial”. The website should reference the Act 101 of 1988 recycling requirements and the Township recycling ordinance. At a minimum, the following requirements should be clearly explained:

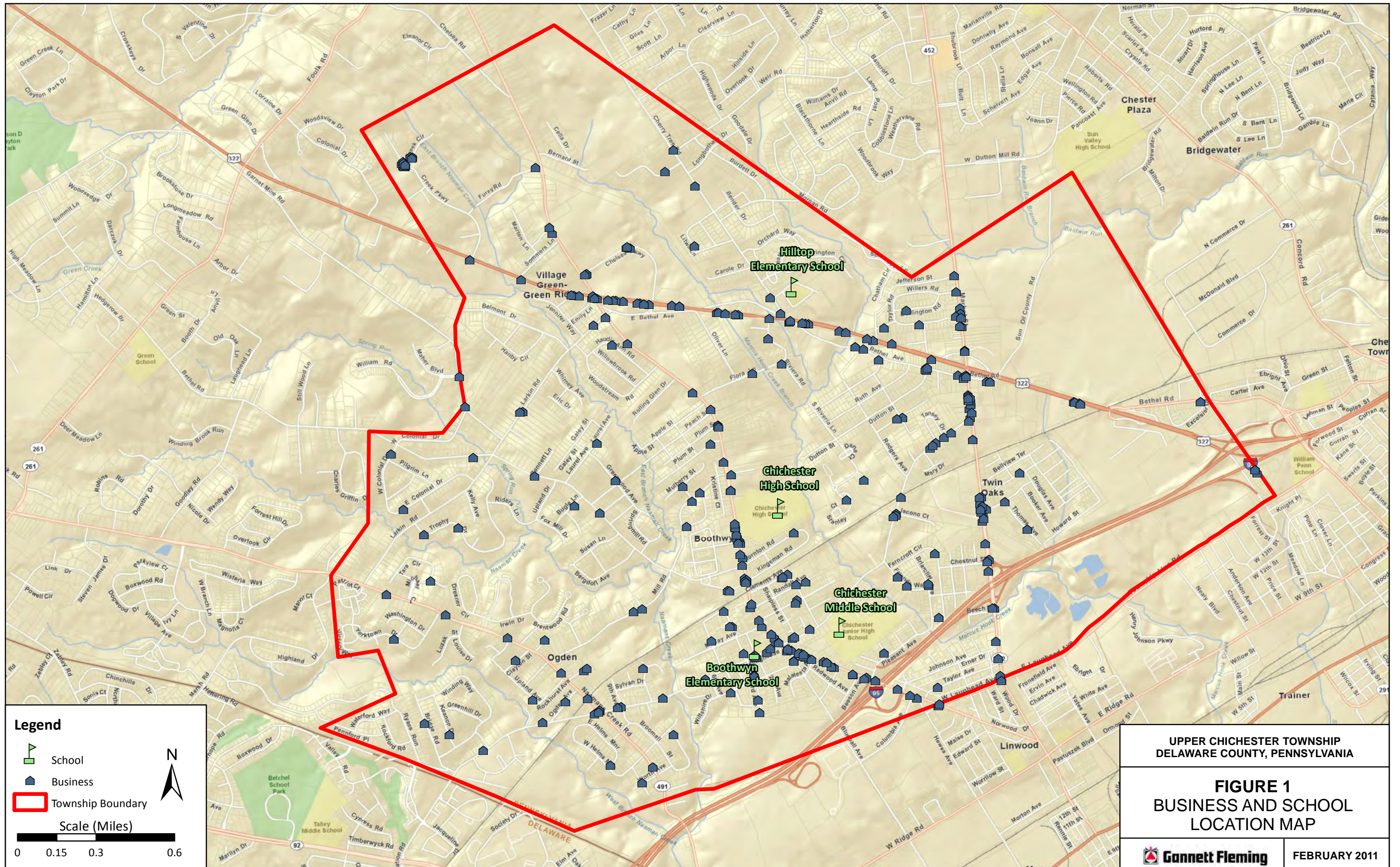
- Upper Chichester's vision of how enhanced waste and recycling fits into the Community's goals and needs now and in the future
- Waste collection and recycling pickup schedules
- Waste and recycling preparation and curbside set-out procedures (e.g. trash weight and container limits, acceptable recyclable materials, allowable time frames for set-out, etc.)
- A list of available haulers for commercial establishments (including those that provide commercial recycling)
  - Costs
  - Environmental benefits






**FIGURE 1**

**Upper Chichester Business Location Density - GIS Map**






**Legend**

-  School
  -  Business
  -  Township Boundary
- Scale (Miles)
- 0 0.15 0.3 0.6



**UPPER CHICHESTER TOWNSHIP  
DELAWARE COUNTY, PENNSYLVANIA**

**FIGURE 1  
BUSINESS AND SCHOOL  
LOCATION MAP**

 **Gannett Fleming**      FEBRUARY 2011





**APPENDIX A**

**School Survey**

# School Recycling Survey

Respondent/Title: \_\_\_\_\_

Date: \_\_\_\_\_

School: \_\_\_\_\_

1. Does your school recycle?  YES  NO

2. What materials are separated for recycling at your school? (check all that apply)

- |                                       |  |                                      |
|---------------------------------------|--|--------------------------------------|
| <input type="checkbox"/> Office Paper | <input type="checkbox"/> Corrugated cardboard  | <input type="checkbox"/> Ink/toner   |
| <input type="checkbox"/> Mixed Paper  | <input type="checkbox"/> Glass/plastic bottles | <input type="checkbox"/> Light Bulbs |
| <input type="checkbox"/> Electronics  | <input type="checkbox"/> Batteries             | <input type="checkbox"/> None        |
| <input type="checkbox"/> Steel cans   | <input type="checkbox"/> Aluminum              | <input type="checkbox"/> Other       |

3. Do you record/report recyclables quantities (lbs/tons)? Please attach last year totals.

4. Where are recycling bins located in the school? (check all that apply)

- |                                      |                                     |                                     |
|--------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> Cafeteria   | <input type="checkbox"/> Classrooms | <input type="checkbox"/> Hallways   |
| <input type="checkbox"/> Library     | <input type="checkbox"/> Office     | <input type="checkbox"/> Copy areas |
| <input type="checkbox"/> Other _____ |                                     |                                     |

5. Who collects your recyclables for delivery to a recycling facility? (check all that apply)

- |  |  |                                       |
|--|--|---------------------------------------|
| <input type="checkbox"/> Contracted waste hauler | <input type="checkbox"/> Paper Shredding Company | <input type="checkbox"/> School Staff |
| <input type="checkbox"/> Recycling Vendor        | <input type="checkbox"/> Volunteers              | <input type="checkbox"/> None         |
|  |  | <input type="checkbox"/> Other        |

6. What does trash and recycling service cost the school per year (attach invoice(s))?

7. Do you compost any organic materials (e.g. food, grass, leaves) school?

Yes  No

8. Do you have any recycling awareness programs (posters, assemblies, clubs etc.)?

Yes  No

9. What percentage of paper do you feel is actually recovered for recycling?

None  25%  50%  75%  over 75%

10. Do you use one or more dumpsters for recycling cardboard?

Yes  No

11. Is cost a barrier for implementing existing or additional recycling efforts?

Yes  No

12. List other materials you wish to recycle, but are not recycling currently.

*Please attach any additional descriptions and/or attach other information about your school recycling/sustainability programs.*