

Wayne County Municipal Waste Management Plan 2020-2029

Wayne County Solid Waste Department

DRAFT PLAN



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MATERIAL DEFINITIONS & ABBREVIATIONS

MATERIAL DEFINITIONS

In Pennsylvania, waste originating from residential, municipal, and institutional establishments, construction and demolition activities, medical waste from health care facilities, biosolids, ash residue, asbestos, and sewage sludge from municipal wastewater treatment fall within the State regulatory framework for municipal waste management. The following material definitions are derived from Title 25, PA Code, Chapter 271, except where specified.

- **Municipal Waste** – The Pennsylvania regulatory definition for garbage, refuse, industrial lunchroom or office waste and other material, including solid, liquid, semisolid or contained gaseous material resulting from operation of residential, municipal, commercial or institutional establishments and community activities; and sludge not meeting the definition of residual or hazardous waste under this chapter from a municipal, commercial or institutional water supply treatment plant, wastewater treatment plant or air pollution control facility.
- **Municipal Solid Waste (MSW)** - A term commonly used in reference to conventional trash and source-separated recyclables from households, businesses and institutions.
- **Recycling or Recyclables** – Materials separated, collected, and/or recovered from the municipal waste stream for sale or reuse, including metals, glass, paper, plastics and other materials that would otherwise be disposed or processed as municipal waste.
- **Residual Waste** – Garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations; and non-hazardous sludges from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility. The term does not include coal refuse as defined in the Coal Refuse Disposal Control Act (52 P. S. § 30.51—30.66).
- **Special Handling Waste** — Solid waste that requires the application of special storage, collection, transportation, processing, or disposal techniques due to the quantity of material generated or its unique physical, chemical or biological characteristics. The term includes dredged material, sewage sludge, infectious waste, chemotherapeutic waste, ash residue from a solid waste incineration facility, friable asbestos-containing waste, PCB containing waste and waste oil that is not hazardous waste.
- **Special Items** – Sometimes referred to as “hard-to-recycle materials,” special items are materials that are routinely generated and usually require special storage, collection, processing, and transportation for recycling and/or disposal. Special items are typically targeted for recovery for recycling and/or to assure proper handling. Examples include bulk items, tires, household hazardous waste, electronics, appliances, scrap metal, construction and demolition materials. *The term Special Items is not defined in the PA Code.*
- **Sewage Sludge** – Liquid or solid sludges or other residues from a municipal sewage sludge collection or treatment system; and liquid or solid sludges and other residues from septic and holding tank pumping from commercial, institutional, or residential establishments. Sewage sludge that has been treated to meet pollutant and pathogen requirements for land application and surface disposal (e.g., land-applied as fertilizer) is referred to as “biosolids.”
- **Construction/Demolition (C/D) Waste** – Solid waste resulting from the construction or demolition of buildings and other structures, including, but not limited to, wood, plaster, metals, asphaltic substances, bricks, block, and unsegregated concrete. The term does not include the following if they are separate from other waste and are used as clean fill: (i) Uncontaminated soil,

MATERIAL DEFINITIONS & ABBREVIATIONS

rock, stone, gravel, brick and block, concrete and used asphalt, (ii) Waste from land clearing, grubbing and excavation, including trees, brush, stumps and vegetative material.

- **Processed Medical Waste** - Regulated medical and chemotherapeutic municipal and residual waste generated in the diagnosis, treatment, immunization, or autopsy of human beings or animals, in research pertaining thereto, in the preparation of human or animal remains for internment or cremation, or in the production or testing of biologicals. Waste resulting from the production or use of antineoplastic agents used to inhibit or stop the growth of malignant cells or to kill malignant cells.
- **Ash Residue** – Powdery residue left after the burning of a substance.
- **Asbestos** – A heat-resistant fibrous silicate mineral that can be woven into fabrics and is used in fire-resistant and insulating materials such as brake linings.

ABBREVIATIONS

<i>Abbreviation</i>	Explanation
<i>CY</i>	Cubic Yard
<i>C/D</i>	Construction and Demolition
<i>EPA</i>	Environmental Protection Agency
<i>E-Waste</i>	Electronic Waste
<i>GHG</i>	Greenhouse Gas
<i>GPD</i>	Gallons per Day
<i>GVW</i>	Gross Vehicle Weight
<i>HDPE</i>	High-Density Polyethylene
<i>HHW</i>	Household Hazardous Waste
<i>ICW</i>	Infectious and Chemotherapeutic Waste
<i>KAB</i>	Keep America Beautiful
<i>KPB</i>	Keep Pennsylvania Beautiful
<i>LDPE</i>	Low-Density Polyethylene
<i>MGD</i>	Million Gallons per Day
<i>MRF</i>	Material Recovery Facility
<i>MSW</i>	Municipal Solid Waste
<i>MTCE</i>	Metric Tons of Carbon Equivalent
<i>MTCO2E</i>	Metric tons of Carbon Dioxide Equivalent
<i>OCC</i>	Old Corrugated Containers
<i>ONP</i>	Old Newspaper
<i>O&M</i>	Operation and Maintenance
<i>PADEP</i>	Pennsylvania Department of Environmental Protection
<i>PBR</i>	Permit by Rule

MATERIAL DEFINITIONS & ABBREVIATIONS

<i>Abbreviation</i>	<i>Explanation</i>
<i>PEC</i>	Pennsylvania Environmental Council
<i>PET</i>	Polyethylene Terephthalate
<i>PP</i>	Polypropylene
<i>PS</i>	Polystyrene
<i>RFP</i>	Request for Proposal
<i>RMW</i>	Regulated Medical Waste
<i>SWAC</i>	Solid Waste Advisory Committee
<i>MWMP</i>	Municipal Waste Management Plan
<i>TPY</i>	Tons per Year
<i>WARM</i>	Waste Reduction Model (EPA)
<i>WM</i>	Waste Management
<i>WTE</i>	Waste-to-Energy
<i>WWTP</i>	Wastewater Treatment Plant

CHAPTER 1 – INTRODUCTION

1.1 BACKGROUND

Wayne County is a rural county located in northeastern Pennsylvania (**Figure 1-1**). The County contains twenty-eight (28) local municipalities, including twenty-two (22) second-class townships and six (6) boroughs. The County population is approximately 50,000, a figure that is increased by 3,500 to 4,000 prisoners housed in the three (3) in-County prisons. The County is the longest county measured north to south in Pennsylvania. There are approximately 75 miles of highway from its northern border with Broome County, New York, to its southern border with Monroe County, Pennsylvania. Valued land features and visitor attractions include the Pocono Mountains, Lake Wallenpaupack, and the Upper Delaware River.

The County Solid Waste Department, through its operation of the Recycling Center in Berlin Township, offers comprehensive recycling services to County residents. These recycling services supplement private sector disposal and recycling services and provide residents and businesses access to affordable and beneficial waste reduction and recycling opportunities. The County Solid Waste Department, Board of County Commissioners, municipal representatives, County GIS Department, and Solid Waste Advisory Committee (SWAC) contributed to shaping Plan outcomes, goals, and strategies.

Figure 1-1 Wayne County Location Map



CHAPTER 1 – INTRODUCTION

1.2 PLAN REQUIREMENTS

Wayne County is required by Pennsylvania state law to develop a Municipal Waste Management Plan (Plan) and to update its Plan every ten (10) years. This Plan document updates the 2009 Wayne County Plan and covers the 2020 – 2029 planning period. The Plan is a guidance document that establishes Wayne County’s goals and objectives for solid waste management, including strategies and programs to implement responsible management of municipal solid waste (MSW) and to recover recyclable materials. This Plan update has been developed through Wayne County’s Solid Waste Department in coordination with the Wayne County Board of Commissioners. All counties are required to submit their Plans to the Pennsylvania Department of Environmental Protection (PADEP) for review and approval.

Municipal waste management primarily entails collection, transportation, disposal, and processing, as regulated under the Solid Waste Management Act, Act 97 of 1980 (Act 97). Wayne County is required by Act 97 and the Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act, Act 101 of July 28, 1988, as amended, and Chapter 272 of the PA. Code 25, to implement its County Plan. This Plan adheres to the “Guidelines for the Development and Implementation of County Municipal Waste Management Plan Revisions,” Document Number 254-2212-504 (2009). The primary purpose of the Plan per regulations is to:

- (1) Ensure the county has sufficient processing and disposal capacity for its municipal waste for 10 (ten) years.
- (2) Ensure a full, fair, and open discussion of alternative methods of municipal waste processing or disposal.
- (3) Ensure maximum feasible waste reduction and recycling of municipal waste or source-separated recyclable material.
- (4) Shift the primary responsibility for developing and implementing municipal waste management plans from municipalities to counties.
- (5) Conserve resources and protect public health, safety, and welfare from the short and long-term dangers of transportation, processing, treatment, storage, and disposal of municipal solid waste.

Non-substantial Plan Revision: This 10-year Plan update (2020 – 2029) was designated as a non-substantial Plan revision by PADEP. Essential elements of the Plan revision include:

- ◆ Waste and recycling program descriptions
- ◆ Waste generation data including waste diversion to recycling
- ◆ 10-year waste projections and estimated disposal capacity requirements
- ◆ Executed disposal capacity agreements that secure adequate disposal capacity for the projected county-generated MSW estimated for the 10-year planning period
- ◆ Public participation including the formation of a Solid Waste Advisory Committee (SWAC) and meetings to provide feedback on solid waste issues

This non-substantial plan revision shall be deemed approved within thirty (30) days of receipt by PADEP unless PADEP responds in writing.

1.3 INTEGRATED SOLID WASTE MANAGEMENT

Under Pennsylvania requirements and as described in this Plan, the County is obligated to implement its Plan in support of an effective County solid waste system. The Commonwealth Court supports integrated solid waste management, where counties implement programs to avoid the costs of disposal. Wayne County’s integrated waste management system functions at a regional scale and relies on in-county and

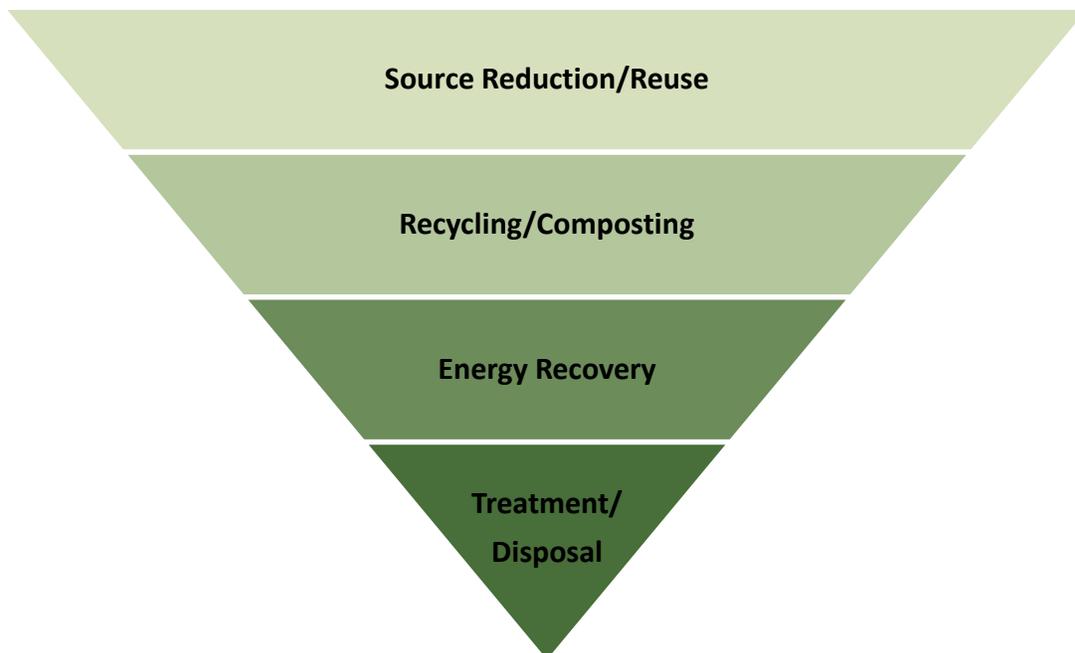
out-of-county collectors and processors. The activities of waste generators, collectors, processors, and stakeholders influence the waste system.

Municipal waste is managed primarily through hauling and transfer, landfill disposal, and recyclables processing. Some organics are diverted to compost facilities or grinding operations. Essential operations include collection, transportation, processing, and disposal as described below:

- ◆ **Collection.** The private sector primarily performs the collection of residential and commercial/institutional municipal waste. The public and private sectors perform recyclables collection. The County, municipalities, and private sector waste collectors determine collection methods and containers used at the collection point. County and municipal ordinances, along with Act 101 of 1988 and other solid waste regulations and market conditions influence municipal waste collection and service levels.
- ◆ **Transportation.** The transportation of municipal and residual waste generated in Pennsylvania to processing or disposal facilities is regulated by PADEP and the Pennsylvania Department of Transportation (PennDOT) under the Waste Transportation Safety Act (Act 90). Waste haulers, including companies who transport construction and demolition (C&D) wastes, roofing material, landscape wastes, and companies transporting significant quantities of materials from manufacturing operations are subject to regulation.
- ◆ **Processing/Disposal.** Public and private operators of municipal waste transfer, processing, and disposal facilities in Pennsylvania must have permits from PADEP to build, operate, expand, and close facilities. Landfills, waste-to-energy facilities, compost facilities, and recyclables processors require permits. Pennsylvania counties and local municipalities are required to direct waste to permitted disposal or processing facilities.

The U.S. EPA, PADEP, and Commonwealth Court support an integrated approach prioritizing waste reduction and avoided costs. This approach is illustrated in **Figure 1-2** below, which shows the U.S. EPA Waste Management Hierarchy.

Figure 1-2 U.S. EPA Waste Management Hierarchy



CHAPTER 1 – INTRODUCTION

The County manages MSW following the hierarchy of management and best practices presented below to the extent practicable and feasible:

- **Source Reduction** – Avoiding waste through waste elimination and/or reuse practices.
- **Recycling/Composting** – Recovering materials and then processing or converting materials, eventually to new or different products.
- **Avoided Cost** – Source reduction, recycling, and composting can avoid costs and impacts associated with solid waste collection, transportation, and disposal at landfills. In addition to avoided landfill disposal fees, diverting recoverable commodities, including appliances, tires, and electronics that are commonly dumped, reduces the high costs of clean up after they've been improperly discarded.
- **Energy Recovery** – Energy recovery processes may include combustion, gasification, pyrolysis, anaerobic digestion, and landfill gas (LFG) recovery. There are no waste-to-energy facilities designated via contract to process County-generated municipal waste.

The County's role within an integrated waste management system aligns with PADEP guidelines and Commonwealth Court decisions supporting county involvement in solid waste management as part of protecting public health, safety, and welfare and responsibly managing solid waste system costs.

1.4 PLANNING GOALS AND OBJECTIVES

The goals and objectives for this Plan over the 10-year planning period are to:

1. Provide County residents access to waste collection, disposal, and recycling opportunities.
2. Advance socially, economically, and environmentally responsible materials management;
3. Protect Wayne County's natural resources and lands; and
4. Protect the health, safety, and welfare of County citizens and businesses.
5. Encourage affordable waste and recycling services that avoid or minimize the cost of disposal as feasible through recycling and reuse.

This Plan identifies the challenges, opportunities, and strategies for solid waste management and provides a roadmap for integrated waste management over the next ten (10) years.

CHAPTER 2 – DESCRIPTION OF WASTE

2.1 INTRODUCTION

In Pennsylvania, waste originating from residential, municipal, and institutional establishments, construction and demolition activities, medical waste from health care facilities, ash residue, asbestos, and sewage sludge are categorized as “municipal wastes,” under the broader category of solid waste. This Chapter describes the quantities of Wayne County’s historical and current generation of municipal wastes. The total municipal waste generation figures include recycled materials diverted from the disposed waste stream. Residual waste quantities are provided to assure sufficient disposal capacity is available for residual waste generated in Wayne County. **Figure 2-1** depicts the waste categories.

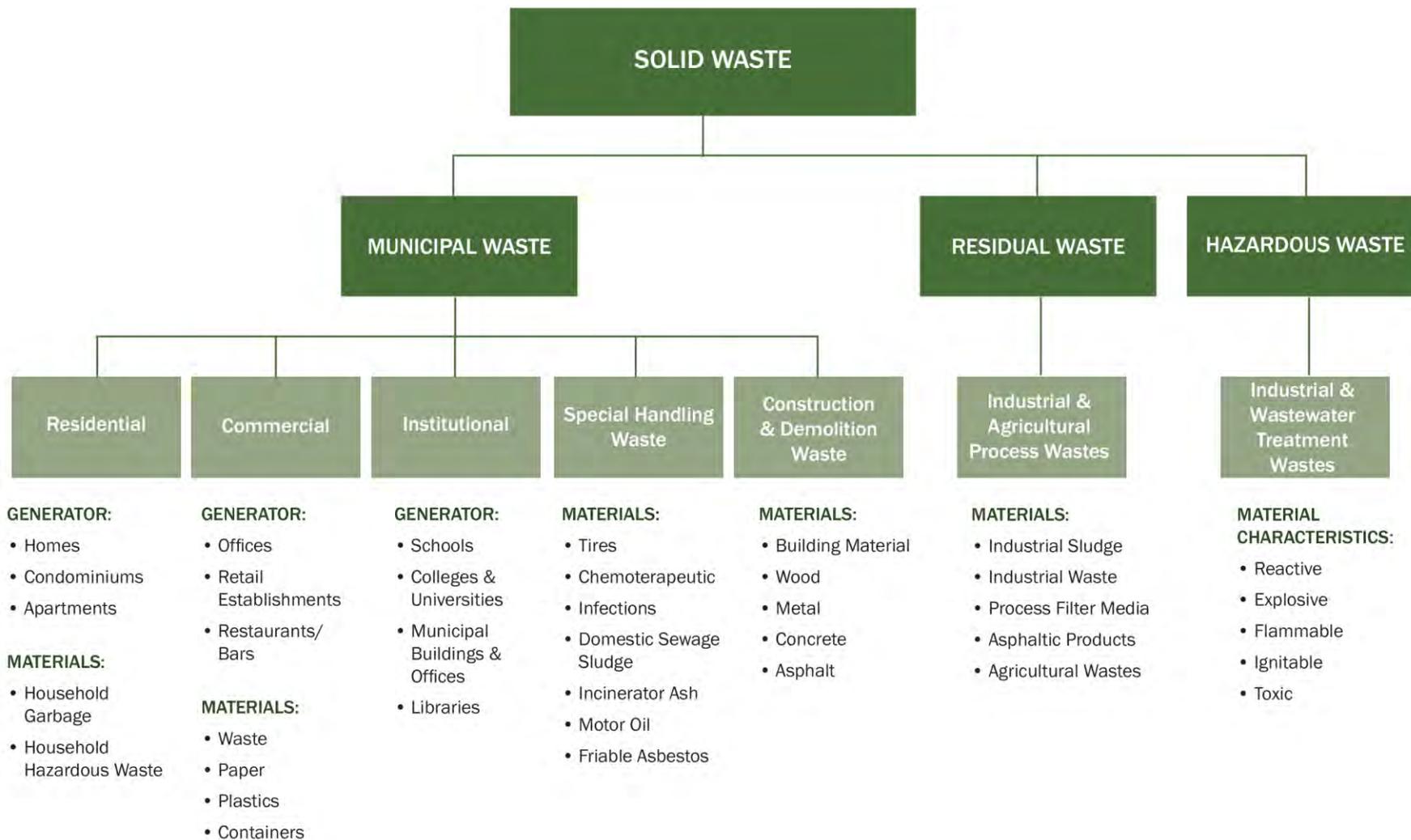
County demographics influence waste generation, waste composition, and overall performance and requirements of County waste systems. **Figure 2-2** summarizes Wayne County's demographic information, including the number of residential, commercial and industrial establishments and supplemental demographic information. The average annual quantities (tons) from 2014-2018 presented in this Chapter represent the preliminary basis for projecting the annual tons of municipal waste requiring management and “disposal capacity” over the 10-year planning period (2020 – 2029). Waste projections are included in Chapter 3 and are calculated using the average annual quantities of municipal and residual waste and the annual percentage change in the County population.

2.2 MUNICIPAL SOLID WASTE (MSW)

“Municipal solid waste (MSW)” is a term commonly used to describe routinely generated non-hazardous garbage and source-separated recyclables originating from households, businesses, institutions, and industries. The municipal solid waste generation often correlates to population density, commercial density and waste generation activities – concentrations of people and businesses and certain types of industrial activities increase waste generation. **Figure 2-3** illustrates the current residential population density for Wayne County. Southcentral portions of Wayne County have higher population density and are expected to generate higher quantities of municipal waste than less densely populated municipalities to the north.

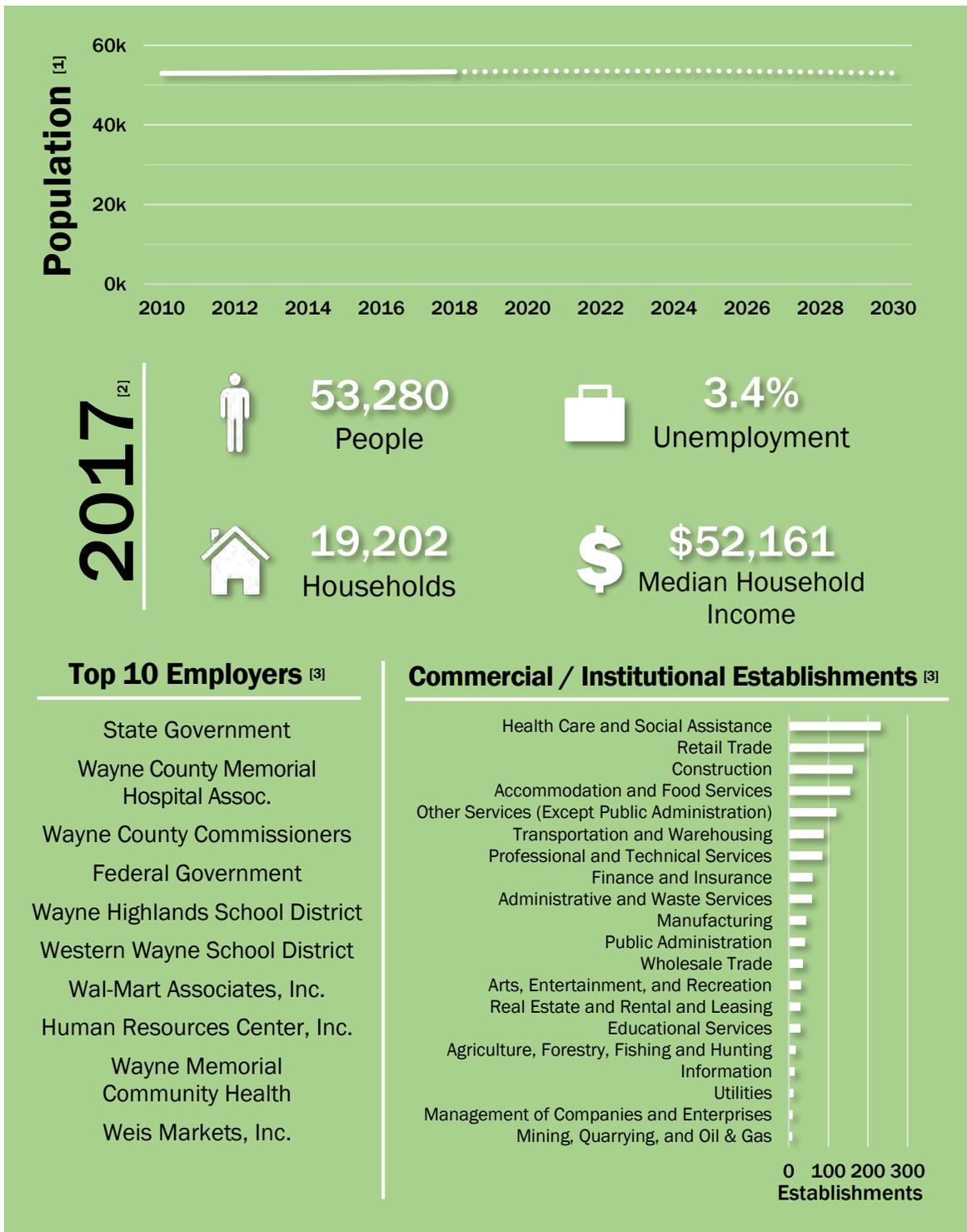
CHAPTER 2 – DESCRIPTION OF WASTE

Figure 2-1 Waste Categories



CHAPTER 2 – DESCRIPTION OF WASTE

Figure 2-2 Wayne County Demographic Profile



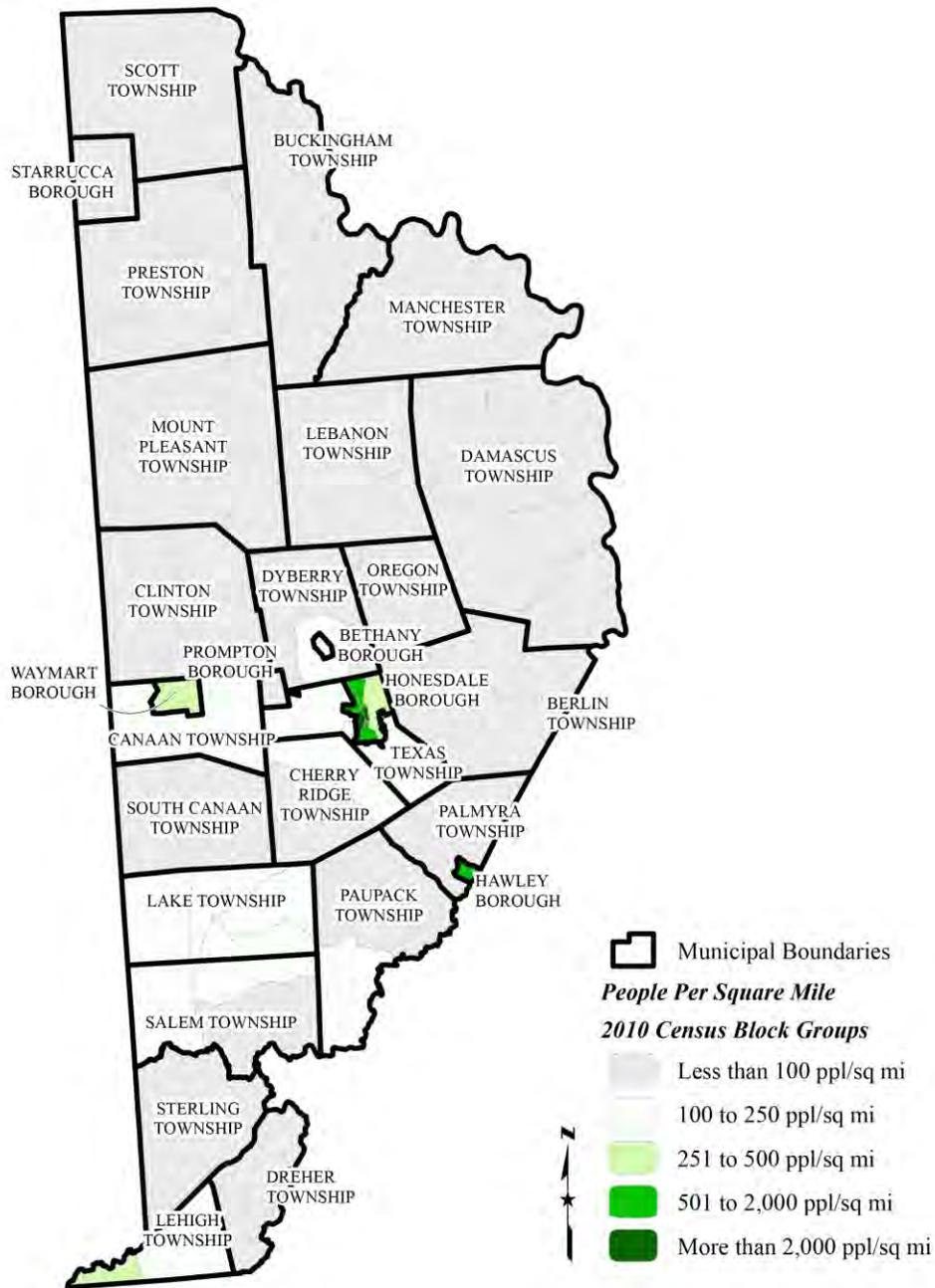
[1] Center for Rural Pennsylvania (2013). *Pennsylvania Population Projections, 2010-2040*

[2] U.S. Census Bureau (2017). *2017 American Community Survey*

[3] Pennsylvania Department of Labor and Industry (2019). *Wayne County Profile*

CHAPTER 2 – DESCRIPTION OF WASTE

Figure 2-3 Wayne County Population Density



Source: Wayne County Department of Planning/GIS Department. (2010). *U.S. Census Population Data*

After generation, MSW is either disposed or separated for diversion to recycling. **Table 2-1** displays the per capita MSW generation rates calculated from reported landfilled and recycled quantities for Wayne County, as well as a national average MSW generation rate as published by the U.S. EPA. **Table 2-2** reveals that the MSW generation rate calculated from Wayne County reported quantities is markedly lower than the national average. While rural areas like Wayne County can have slightly lower generation rates than the national average, the divergence shown in **Table 2-1** is too significant to correlate to demographic or socioeconomic factors. Since the total quantities of reported

CHAPTER 2 – DESCRIPTION OF WASTE

municipal waste (tons) have decreased significantly and the population and industrial density have remained relatively the same, it is believed Wayne County municipal waste is underreported, and the PADEP Waste Destination reports are not a reliable source of data. Planning projections will be based on the published national average MSW generation rates, not reported quantities.

Table 2-1 Wayne County MSW Generation per Capita, 2014-2018

	2014	2015	2016	2017	2018	5-year Average	U.S. Average ^[4]
Landfilled MSW (tons) ^[1]	20,572	20,140	17,175	16,664	18,439	18,598	NA
Recycled MSW (tons) ^[2]	9,618	5,887	6,510	9,247	8,432	7,939	NA
Total MSW (tons)	30,190	26,027	23,685	25,911	26,871	26,537	NA
Population ^[3]	51,987	51,713	51,230	51,205	51,276	NA	NA
Tons Per Capita	0.58	0.50	0.46	0.51	0.52	0.54	0.818

[1] Source: PA DEP Waste Destination Reports.

[2] Source: Wayne County Annual Recycling Reports.

[3] Source: U.S. Census Bureau

[4] Source: U.S. EPA, Advancing Sustainable Materials Management, 2018.

NA: "Not applicable"

2.3 MUNICIPAL WASTE QUANTITIES

This section presents historical waste quantities derived from PADEP Waste Destination Reports. Licensed waste haulers are required to report the origin and type of waste upon arrival, and weigh-in, at permitted Pennsylvania municipal waste disposal or processing facilities. PADEP Waste Destination Reports compile reported disposal quantities (in tons) for each permitted facility. **Table 2-2** and **Figure 2-2** and supporting text explain the reported quantities of waste disposed for Wayne County, including the reported quantities of source-separated recyclable materials.

Table 2-2 Reported Municipal Waste and Recyclables, 2014-2018 (tons)

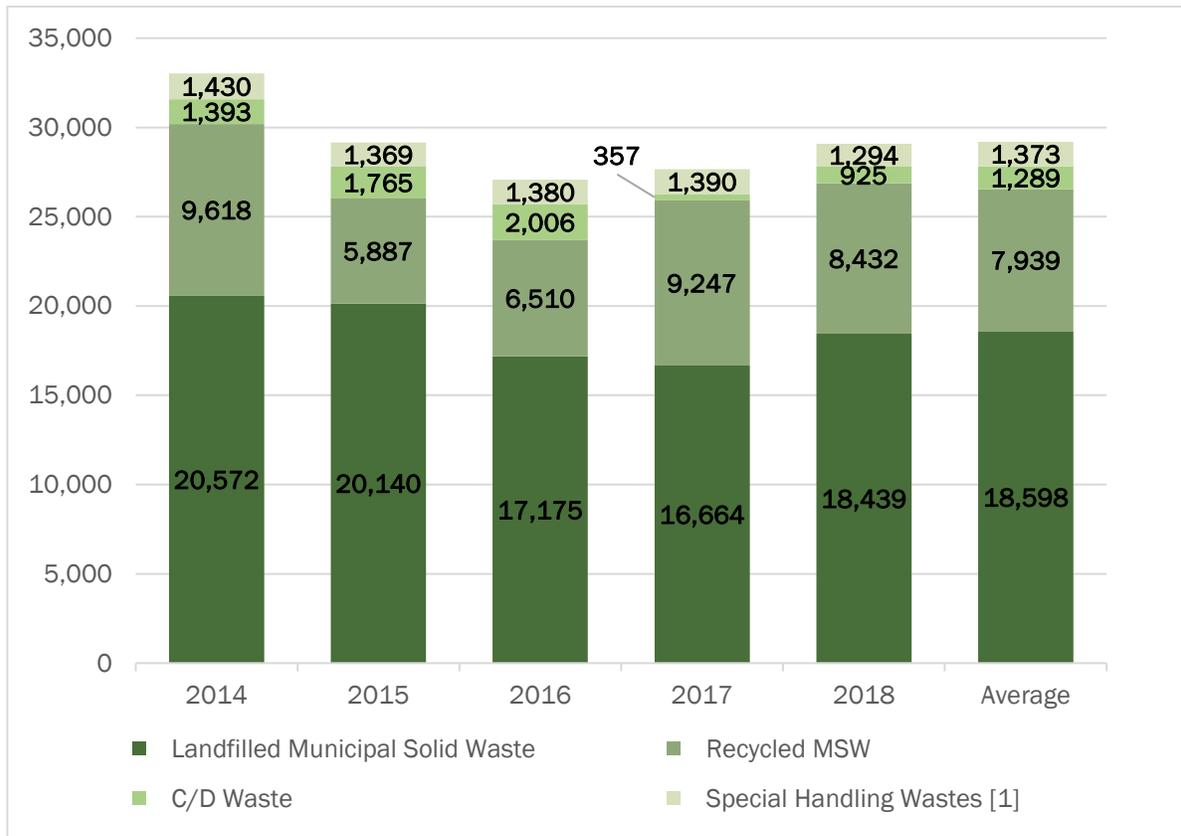
	2014	2015	2016	2017	2018	Average
Landfilled Municipal Waste ^[1]	20,572	20,140	17,175	16,664	18,439	18,598
Landfilled C/D ^[1]	1,393	1,765	2,006	357	925	1,289
Landfilled Special Handling Wastes ^[1]	1,430	1,369	1,380	1,390	1,294	1,372
<i>Sewage Sludge</i>	<i>1,405</i>	<i>1,355</i>	<i>1,367</i>	<i>1,390</i>	<i>1,294</i>	<i>1,362</i>
<i>Asbestos</i>	<i>25</i>	<i>14</i>	<i>13</i>	<i>0</i>	<i>0</i>	<i>10</i>
<i>Processed Medical Waste</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Ash Residue</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Total Municipal Waste Disposed	23,395	23,274	20,561	18,411	20,658	21,260
Residual Waste Disposed ^[1]	508	423	234	241	439	369
Total Municipal & Residual Waste Disposed	23,903	23,697	20,795	18,652	21,097	21,629
Source Separated Recyclables ^[2]	9,618	5,887	6,510	9,247	8,432	7,939

[1] Source: PADEP County Waste Destination Reports.

[2] Source: County Annual Recycling Reports.

CHAPTER 2 – DESCRIPTION OF WASTE

Figure 2-4 Historical Wayne County Municipal Waste and Recyclables Generation (tons)



[1] Special Handling Waste includes sewage sludge, asbestos, processed medical waste, and ash residue. Only sewage sludge and asbestos have reported quantities.

2.4 CONSTRUCTION/DEMOLITION (C/D) WASTE

C/D includes solid waste resulting from the construction or demolition of buildings and other structures. C/D generation and disposed quantities often fluctuate significantly year to year based on construction and demolition activity. Based on reported C/D waste quantities for 2014 through 2018, Wayne County disposes an average of approximately 1,300 tons of C/D per year. **Figure 2-2** depicts that disposed C/D comprises only a small share of total reported Wayne County municipal waste. The Keystone Sanitary Landfill in Lackawanna County is the primary destination for C/D.

The improper management of C/D material contributes to illegal dumping and roadside litter in Wayne County. A portion of contractors, residents, and visitors illegally discard C/D on residential, commercial, and State-owned properties.

2.5 SEWAGE SLUDGE

Sewage sludge is the solid, semi-solid, or liquid material remaining after processing wastewater in a treatment plant. Septage is the liquid collected from septic tanks on on-lot wastewater treatment systems. Sewage sludge and septage are subject to municipal waste planning requirements. Sewage sludge (including septage) is classified as a special handling waste.

While Wayne County is primarily rural, there are densely populated areas served by municipal wastewater collection and treatment systems. On-lot septic systems are the standard wastewater collection method used in areas without sewer conveyance infrastructure to wastewater treatment

CHAPTER 2 – DESCRIPTION OF WASTE

plants. Some trailer parks, senior care facilities, commercial, and industrial facilities pre-treat wastewater on-site to remove pollutants, and to separate liquid and solid fractions for transportation and final disposal. Septage generated in on-lot systems and other septic tanks is pumped and hauled to municipal wastewater treatment plants for disposal or treated for land application as biosolids on agricultural lands. Dewatered sludges or “cake” are disposed in landfills. As shown in **Table 2-2**, Wayne County disposed an average of 1,362 tons per year of dewatered sewage sludge at permitted Pennsylvania municipal waste landfills between 2014 and 2018. Reported quantities of sewage sludge have remained relatively stable over the five years. The 1,362 average annual tons disposed from 2014-2018 will form the basis for projecting sewage sludge disposal quantities over the 10-year planning period.

Table 2-3 lists the registered residential septage transporters operating in Wayne County, including the reported annual average gallons pumped for each registered hauler. None of the septage haulers operating in Wayne County land-apply biosolids. **Table 2-4** lists the WWTPs serving Wayne County. There is ample sewage sludge treatment capacity available. Correlating to minimal population change and available WWTP capacity, there have been no significant wastewater treatment facility expansions in the County in recent years.

Table 2-3 Registered Septage Haulers, 2018

Company	Municipality of Registration	Average Annual Gallons	Land Application (Yes/No)
Avalanche Septic Services	Sterling Township	1,000,000	No
Koberlein, Inc.	Berlin Township	3,000,000	No
Septic Surgeons	Manchester Township	50,000	No
Sobolak Septic Service	Damascus Township	30,000	No
Tarantino Transportation	Lake Township	300,000	No

Source: PADEP Active Residential Septage Hauler List (February, 2018)

Table 2-4 Wayne County Wastewater Treatment Plants, 2019

Wayne County WWTPs	Permitted Daily Capacity (GPD)	Average Daily Capacity	Average Annual Sewage Sludge Disposed (tons)
Beach Lake Municipal Authority	99,000	40,000	64
Central Wayne Regional Authority	2,200,000	1,300,000	770
Hawley Area Authority	200,000	100,000	NA ^[1]
Southern Wayne County Water & Sewer Authority	1,755,000	500,000	40
Wallenpaupack Lake Estates	650,000	120,000	900

Source: MSW Consultant’s phone survey of WWTP’s (2019)

[1] Liquid sludges sent to Hazelton WWTP for processing, not landfilled.

CHAPTER 2 – DESCRIPTION OF WASTE

2.6 ASBESTOS

Asbestos is a heat-resistant fibrous silicate mineral defined as special handling municipal waste. Annual quantities of disposed asbestos from Wayne County vary from year to year. The yearly average of asbestos disposal is ten (10) tons, with no asbestos reported at permitted disposal facilities in 2017 and 2018.

2.7 PROCESSED MEDICAL WASTE

Processed medical waste is defined as special handling waste and includes regulated medical and chemotherapeutic wastes. Hospitals are the primary generators of medical wastes. Nursing homes, clinics, dental and medical offices generate small quantities. PADEP licenses and maintains records of active medical waste transporters operating in Pennsylvania. Medical facilities individually arrange for handling, transportation, treatment, and disposal and are regulated by state and federal laws. The primary medical facilities in the County include the Wayne Memorial Hospital and Wayne Memorial Community Health Centers located in the Borough of Honesdale.

No processed medical waste from Wayne County has been reported at permitted Pennsylvania municipal waste disposal facilities in the past six (6) years.

2.8 ASH RESIDUE

Ash residue, including ash resulting from the incineration of regulated medical wastes and asbestos, is defined as special handling waste. No ash residue has been reported for Wayne County over the past six (6) years.

2.9 RESIDUAL WASTE

Residual waste is generated as a by-product of an industrial process, and Wayne County is not regulated to manage residual wastes under this Plan. The average annual quantity of disposed residual waste reportedly originating in Wayne County was 369 tons from 2014 to 2018. Act 101 requires that the county planning process consider the effects of residual waste disposal on available waste disposal capacity at facilities receiving county municipal waste.

CHAPTER 3 – DESCRIPTION OF FACILITIES

This Chapter identifies the facilities currently responsible for processing and disposal, and processing and transfer of municipal solid waste (MSW) generated in Wayne County¹. There are no MSW landfills or incinerators located within Wayne County. Wayne County does not direct municipal waste to one or more processing facilities. The distribution of county-generated municipal waste to processors is market-driven, and primarily affected by the proximity to transfer stations and landfills. The Alliance Landfill and Keystone Sanitary Landfills are the primary disposal facilities.

The Beach Lake Transfer Station is located in Wayne County and serves as a primary consolidation facility for County-generated municipal waste and some recyclables. Based on a 5-year reported average (2014 – 2018) Beach Lake transfer facility receives approximately 14,000 tons of municipal waste from Wayne County annually that is transferred for landfill disposal.

Alliance Landfill, Keystone Sanitary Landfill, and Chrin Brothers Sanitary Landfill process construction and demolition waste (C/D). Sewage sludges are processed at Keystone Sanitary Landfill. Most residual waste is processed at the Alliance Landfill and Keystone Sanitary Landfill. Drop-off recyclables are primarily managed at the County-owned Recycling Center, where materials are bulked and then transferred to processing facilities and markets located outside of the County. **Table 3-1** lists the primary disposal facilities processing County-generated MSW and residual waste.

Table 3-1 Municipal Solid Waste Disposal Facilities

Alliance Landfill, Inc.	Keystone Sanitary Landfill
398 South Keyser Avenue Taylor, PA 18517 Lackawanna County	P. O. Box 249, Dunham Drive Dunmore, PA 18512 Lackawanna County
Grand Central Sanitary Landfill, Inc.	
1963 Pen Argyl Road Pen Argyl, PA 18072 Northampton County	

Note: Facilities not accepting waste regularly or receiving less than five (5) tons of waste per year are not listed.

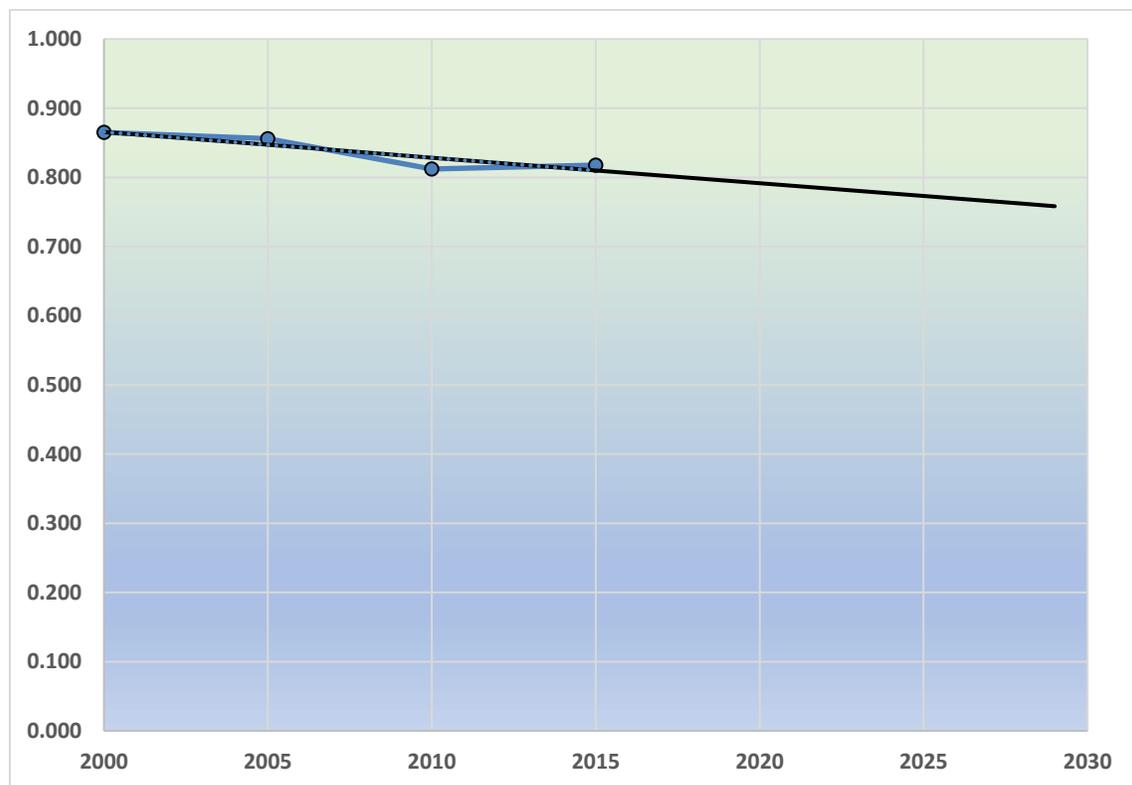
¹ [List of PA Municipal Waste Landfills and Resource Recovery Facilities](#)

CHAPTER 4 – ESTIMATED FUTURE DISPOSAL CAPACITY

This Chapter presents the estimated amount of County MSW requiring landfill disposal for the planning period (2020-2029), with consideration of diversion to recycling. Waste and recycling projections are valuable to planning and management of the County municipal solid waste system and are a required component of this Plan. The municipal waste projections are based on U.S. EPA waste trend data, County recycling reports, PADEP waste destination reports, and population projection from the Center for Rural Pennsylvania.

The MSW generation rates calculated using reported quantities in PADEP Waste Destination Reports are markedly lower than the national average, suggesting the underreporting of the landfilled waste generated by Wayne County. To develop realistic MSW generation rates and projections, MSW Consultants used the US EPA time series per capita generation rates that were updated to reflect national average MSW generation rates since 1999. A linear trendline was applied to published EPA generation rate estimates for 2000, 2005, 2010, and 2015 (**Figure 4-1**). The points along the trendline represent MSW generation rates that reflect Wayne County's projected disposal capacity needs through 2029. The projected MSW generation starts at 0.865 tons per year per capita in 2019 and declines to 0.758 tons per year per capita by 2029.

Figure 4-1 U.S. EPA National Average per Capita Waste Generation Rates and Trendline



Source: U.S. EPA, Advancing Sustainable Materials Management (2018). 2000, 20015, 2010, 2015 datapoints

CHAPTER 4 – ESTIMATED FUTURE DISPOSAL CAPACITY

Table 4-1 presents a daily per capita municipal waste generation rate for the year 2019 using EPA’s waste generation rates, estimated county recycling rates, and population estimates in pounds per day, based on the U.S. EPA’s Sustainable Materials Management time series¹. The daily per capita MSW generation rate is 4.36 pounds per day and includes recyclables but excludes C/D waste and special handling wastes (e.g., sewage sludge, regulated medical waste, ash residue asbestos, and residual waste).

Table 4-1 Wayne County MSW Generation Estimates (2019)

Total MSW Generation (tons)	42,496
Recycled MSW (tons) ^[1]	9,274
Population	53,434
Daily Per Capita MSW Generation (pounds per day)	4.36

[1] Estimated 2017 per capita recycling rate applied to the 2019 population.

Table 4-2 presents the projected population, per capita MSW generation rates, and the quantity of municipal and residual waste requiring disposal for the 10-year planning period (2020 – 2029). Projected recycled quantities are subtracted from the projected MSW generation to calculate projected MSW requiring disposal. Projections of C/D, sewage sludge, and asbestos quantities requiring disposal are calculated using the annual average quantity disposed in 2014-2018 (from **Table 4-1**) as the 2019 estimate and applying the percent change in population for each of the years 2020-2029. A slight decline is projected for population and MSW generation, which produces the reduction in projected municipal waste disposal quantities shown in **Table 4-2** and is illustrated graphically in **Figure 4-2**.

¹ U.S. EPA. Advancing Sustainable Materials Management: 2015 Fact Sheet, Assessing Trends in Material Generation, Recycling, Composting, Combustion with Energy Recovery and Landfilling in the U.S., July, 2018.

CHAPTER 4 - ESTIMATED FUTURE DISPOSAL CAPACITY

Table 4-2 Wayne County Projected Municipal Waste Requiring Disposal

Year	Municipal Waste (tons)											
	Municipal Solid Waste						Special Handling Waste			Municipal Waste Requiring Disposal	Residual Waste [6]	Total County Waste Requiring Disposal
	County Population [1]	Generation per Capita [2]	MSW Generated [3]	Recycled MSW [4]	Disposed MSW [5]	C/D [6]	Sewage Sludge [6]	Asbestos [6]				
2019	53,434	0.795	42,496	9,274	33,223	1,293	1,366	10	35,892	370	36,262	
2020	53,511	0.792	42,359	9,287	33,072	1,295	1,368	10	35,746	370	36,116	
2021	53,531	0.788	42,177	9,290	32,887	1,295	1,369	10	35,561	371	35,932	
2022	53,551	0.784	41,995	9,294	32,701	1,296	1,369	10	35,376	371	35,747	
2023	53,572	0.781	41,813	9,298	32,515	1,296	1,370	10	35,192	371	35,563	
2024	53,592	0.777	41,630	9,301	32,329	1,297	1,370	10	35,007	371	35,378	
2025	53,612	0.773	41,447	9,304	32,143	1,297	1,371	10	34,821	371	35,192	
2026	53,495	0.769	41,159	9,284	31,875	1,294	1,368	10	34,547	370	34,918	
2027	53,379	0.766	40,872	9,264	31,608	1,292	1,365	10	34,275	370	34,645	
2028	53,262	0.762	40,586	9,244	31,342	1,289	1,362	10	34,003	369	34,372	
2029	53,146	0.758	40,301	9,224	31,077	1,286	1,359	10	33,732	368	34,100	

[1] Source: Center for Rural Pennsylvania, 2013. US Census (2010) and projections for every five years starting 2015, interpolated for years in between

[2] Source: MSW Consultant's trendline fit to EPA's municipal waste generation rates for 2000, 2005, 2010 and 2015. *Advancing Sustainable Materials Management: Facts and Figures*

[3] Projected municipal solid waste generation rate per capita multiplied by the population

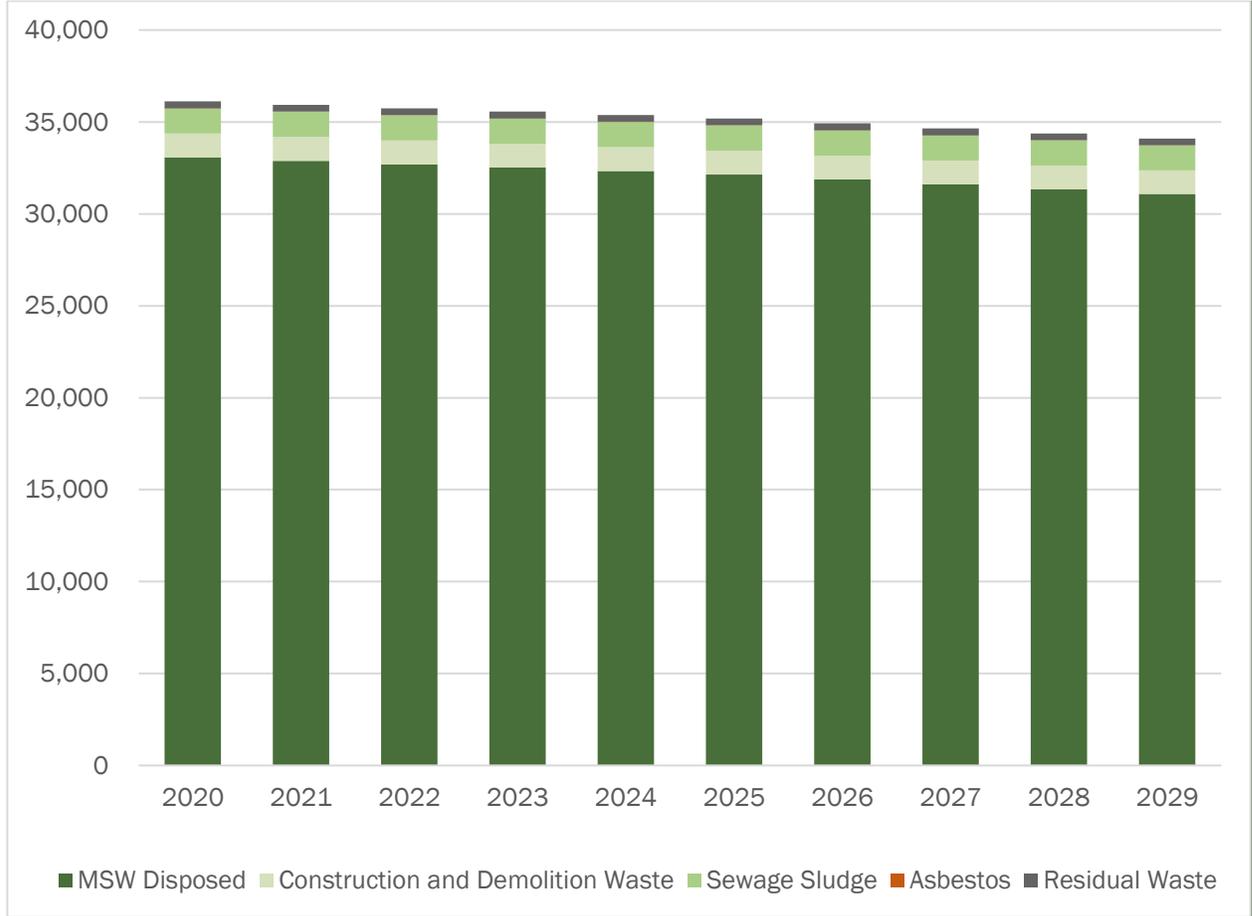
[4] Estimated 2017 per capita recycling rate applied to projected population

[5] Projected MSW generation minus projected MSW Recycled

[6] Applies annual percent change in projected population to average of the reported waste disposal from the period 2014-2018

CHAPTER 4 - ESTIMATED FUTURE DISPOSAL CAPACITY

Figure 4-2 Wayne County Projected Waste Requiring Disposal (2020 - 2029)



Important observations about the projected disposal capacity for Wayne County include:

- **PADEP Waste Destination Reporting Inaccuracy.** Total municipal waste generation, as reported to PADEP, may not reflect actual generated quantities from Wayne County due to inaccurate reporting by transfer stations and/or landfills.
- **Impact of Recycling on Disposal Capacity Requirements:** Recycling efforts in Wayne County decrease annual landfill disposal requirements by approximately 9,000 to 10,000 tons per year or more with additional recycling efforts. Residential, commercial, municipal, and institutional recycling programs reduce landfill-bound waste, thus reducing disposal costs (e.g., landfill tip fees).
- **Future Disposal Capacity Needs:** Wayne County requires disposal of about 30,000 to 35,000 tons of municipal waste per year over the 10-year planning period.
- **Potential for Variation in Disposal Capacity:** Unforeseen conditions including solid waste market fluctuations, national and regional economic trends and incidents, inaccurate reporting of disposal quantities, natural and manmade disasters, and new State legislation may impact the quantities of waste requiring disposal.

CHAPTER 4 - ESTIMATED FUTURE DISPOSAL CAPACITY

- **County Generation Rates:** The estimated County MSW generation rates align with national averages and are reasonable estimates for planning. MSW generation is anticipated to remain relatively consistent with minimal changes in population and minimal modifications to commercial/industrial generation rates. MSW projections are expected to follow the trend of gradually decreasing per capita waste generation, which is influenced by stagnant population growth in Wayne County and light-weighting of the municipal waste stream.

CHAPTER 5 – RECYCLING

5.1 RECYCLING REQUIREMENTS

Act 101 of 1988 (Act 101) establishes requirements for residential and commercial recycling in the Commonwealth. The law delegates specific duties to the County and its municipalities and includes provisions to protect the interests of private sector scrap and recycling operations. Act 101 emphasizes county responsibility to ensure that proper waste management policies and practices are developed and implemented and requires recycling data to be reported by the counties to PADEP. The County is required to develop and implement a Plan that demonstrates the County will strive to attain 35 percent diversion to recycling.

Act 101 directs local municipalities (e.g., boroughs, townships, and cities) to implement waste reduction and diversion programs. Municipalities with populations of 10,000 or more, and those with 5,000 or more and a population density of greater than 300 people per square mile, are required to implement curbside recycling programs, including the regular collection of at least three (3) recyclable materials, plus leaf waste at least once in the spring and once in the fall. There are no mandated communities located in Wayne County required to provide curbside recycling. Some municipalities offer voluntary recycling programs.

5.2 RECYCLING CHALLENGES

Recycling in rural Wayne County is challenging when compared to recovering commodities in densely populated suburban and urban areas. Challenges facing cost-effective and successful recycling programs in Wayne County include:

- ◆ **Limited Access.** Wayne County has minimal infrastructure to collect and process recyclables; therefore, access to recycling services and recyclables processing is limited.
- ◆ **Elevated Recycling Costs.** A combination of factors elevates recycling costs. Correlated to low housing and business density, Wayne County generates relatively small quantities of recoverable commodities that are distributed across a large area. Transportation distances between generation or collection points and material processors increase labor and operational expenses that elevate the cost of recyclables recovery.
- ◆ **Reduced Recyclable Commodity Values:** Since early 2018, under its National Sword policy, China has banned most scrap metals and rejected other recyclable commodities exceeding an extremely strict contamination rate of .05 percent. The decline in sale values for recyclables had a significant impact on annual sale revenues that are vital to sustain the Recycling Center.
- ◆ **Competition for Recyclables:** In the past 10 years, the emergence of single-stream recycling has resulted in an increased number of Wayne County households that rely on curbside recycling. While this is a beneficial service that increases waste diversion, these services divert materials and revenue away from the County Recycling Center.
- ◆ **Special Item Recovery.** Limited access and elevated costs affect items requiring special handling including items like electronics that may be recovered for recycling. Discouraged by the inconvenience of self-hauling materials to distant processor or the high cost per pickup at the curbside, potentially recyclable materials like appliances and electronics are disposed illegally.
- ◆ **Limited Funding.** The operation and maintenance of the Wayne County Recycling Center and drop-off site collection program costs over \$300,000 annually. The County has a small tax base and General Funds are dedicated to support important social services to benefit local communities, residents and businesses. Even with Act 101 Recycling Grants, recyclables sales revenues, General Funds, user fees for certain commodities and services, and the recovery of the Sustainability Fee the Recycling Center operates on a tight budget making it difficult to

CHAPTER 5 - RECYCLING

withstand market fluctuations and unforeseen costs. Funding limitation makes it challenging to expand recycling services.

5.3 RECYCLING SYSTEM OVERVIEW

Despite transportation, market, and economic barriers that make recycling difficult, the County and its local municipalities play an active role in shaping and providing cost-effective and responsible materials management, particularly for the residential sector. Important recycling activities or programs in Wayne County include:

- ◆ The Wayne County Recycling Center in Berlin Township operated by the Wayne County Solid Waste Department.
- ◆ Fourteen (14) municipalities host drop-off sites for recycling. Containers are serviced by the Wayne County Solid Waste Department and materials are processed at the Recycling Center.
- ◆ Eight (8) municipalities report recycling at some businesses or schools or other institutions.
- ◆ Wayne Highlands School District operates a County-Owned "Rocket" food composter on-site.

Figure 5-1 reflects the distribution of disposed municipal solid wastes, residual waste, special handling waste, and recycled materials based on a five-year historical average (2014-2018). The five-year average MSW recycling rate was approximately **27 percent** and includes reported recyclable materials and organics diverted from disposal from residential, commercial and institutional establishments. "Special handling wastes" are aggregated and include sewage sludge, processed medical waste, asbestos, and ash residue (no tonnage reported).

Figure 5-1 Historical Waste Disposal and Recycling (5-year Average)

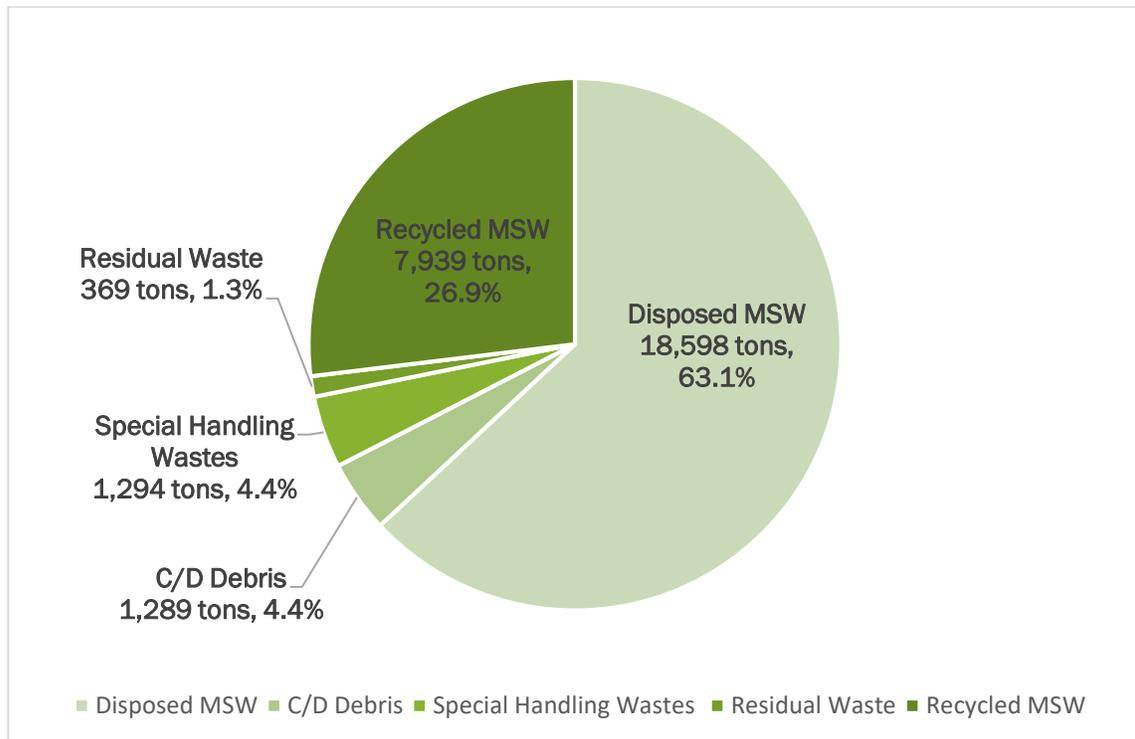
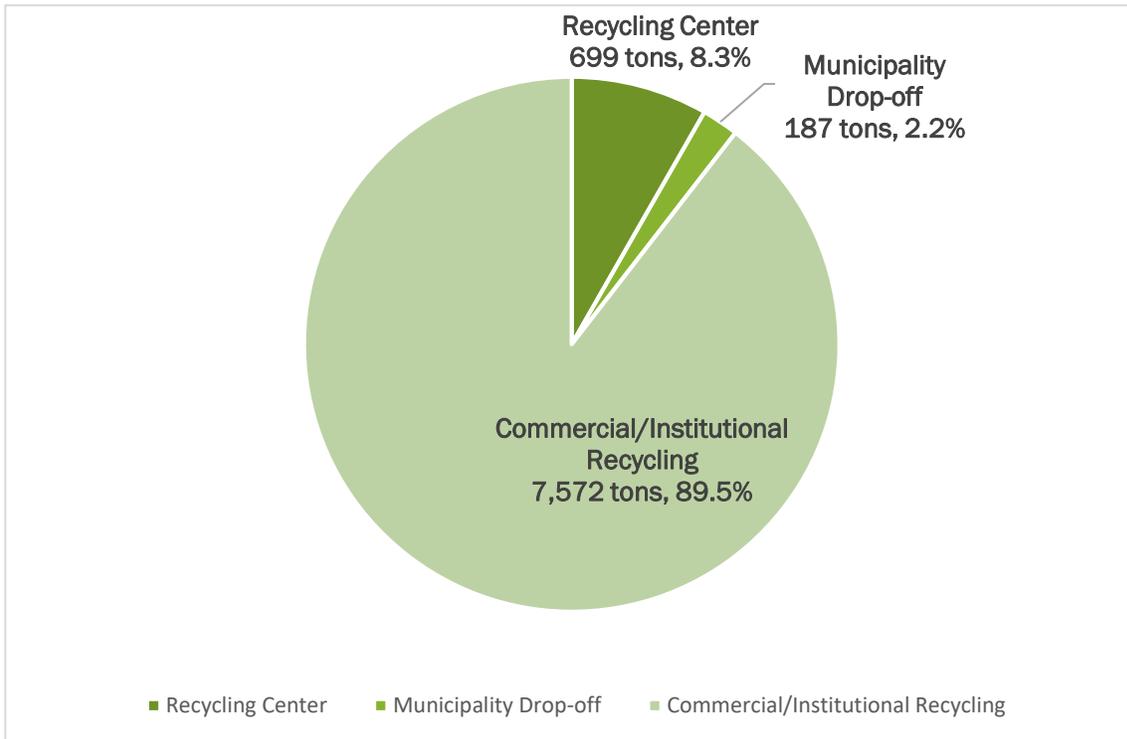


Figure 5-2 shows the estimated annual distribution of recovered quantities of recyclables across the primary recycling programs in the County including the Recycling Center, recycling drop-off sites, and commercial/institutional establishments. The figure shows 699 tons (8 percent) recovered via the

CHAPTER 5 - RECYCLING

Recycling Center, 187 tons (2 percent) recovered via the network of drop-off sites, and 7,572 tons (90 percent) recovered from commercial/institutional establishments in 2018.

Figure 5-2 Recycling Distribution by Program (2018)



5.4 RESIDENTIAL REFUSE AND RECYCLING SERVICES

Residential curbside recycling in Wayne County is limited. With the exception of minimal curbside leaf collection, no Township or Borough operates collection equipment to provide residential curbside collection of recyclable materials. Some residents voluntarily subscribe for curbside recyclables collection service with private haulers. Voluntary drop-off recycling programs in Wayne County are very successful. The majority of waste disposal and final recyclables processing occurs out-of-County.

Table 5-1 summarizes refuse and recycling services provided by or available in the 28 municipalities within Wayne County based on a survey completed in 2019. None of the municipalities are required to implement a mandated curbside recycling program, and no municipalities provide curbside recyclables collection directly or via municipal-wide contract with a private waste hauler. 26 municipalities have private collectors who offer solid waste collection services to residents. Some residential customers secure curbside recycling services with regular trash service. Drop-off collection programs for recyclables are provided by 14 municipalities, and two (2) municipalities provide drop-off containers for garbage using pay-per-bag programs. Composting and yard waste collection services are not provided by any municipalities, though two (2) municipalities have private collectors offering yard waste collection.

Table 5-2 summarizes the residential drop-off programs provided by municipalities to manage “special items” including electronics, tires, scrap metal and other materials.

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Table 5-1 Residential Municipal Waste & Recycling Service Summary (2019)

Municipality	Municipal Services			Private Services ^[5]			
	Garbage Drop-off	Recycling Drop-off ^[1]	Special Item Drop-off ^[2]	Garbage Collection	Recycling Collection	Yard Waste Collection	Bulky Item Collection
Berlin Twp		✓	✓	✓			
Bethany Boro		✓	✓	✓	✓		
Buckingham Twp			✓ ^[3]	✓			
Canaan Twp		✓		✓	✓		
Cherry Ridge Twp				✓	✓		
Clinton Twp	✓		✓	✓	✓		
Damascus Twp		✓	✓	✓			
Dreher Twp		✓	✓	✓			
Dyberry Twp				✓	✓		
Hawley Boro		✓	✓	✓	✓		✓
Honesdale Boro			✓ ^[4]	✓	✓	✓	
Lake Twp		✓	✓	✓			
Lebanon Twp				✓	✓		
Lehigh Twp			✓	✓	✓		
Manchester Twp		✓	✓ ^[3]	✓			
Mount Pleasant Twp		✓		✓			
Oregon Twp		✓		✓	✓		
Palmyra Twp		✓		✓	✓		
Paupack Twp	✓	✓	✓	✓	✓		
Preston Twp		✓	✓	✓			
Prompton Boro		✓		✓	✓		✓
Salem Twp		✓	✓	✓	✓		
Scott Twp			✓ ^[3]	✓			
South Canaan Twp				✓	✓	✓	
Starrucca Boro				✓			
Sterling Twp		✓	✓	✓	✓		
Texas Twp			✓	✓	✓		
Waymart Boro		✓		✓	✓		
Percent of County Population	11.5%	65.8%	72.3%	100%	67.6%	11.3%	3.1%

Source: Municipality Survey distributed in 2019 as part of Plan development.

[1] Includes 14 County recycling drop-off sites and the Wayne County Recycling Center in Berlin Township.

[2] Special items require special handling and are recovered for recycling and/or to assure proper handling (e.g., bulk items, tires, household hazardous waste, electronics, appliances, scrap metal, C/D materials, etc.)

[3] Preston Township offers this service and allows Buckingham, Manchester, and Scott Townships to participate.

[4] The YMCA in Honesdale Borough administers an electronics collection program open to the public.

[5] Private services reflect the availability of the service with the respective municipality, but participation varies.

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Table 5-2 Residential Special Items Service Summary

Municipality ^[1]	Freon Appliances	Non-Freon Appliances	C&D Debris	Scrap Metal	Bulky Items	Electronics	Tires
Berlin Twp							✓ ^[2]
Bethany Boro		✓	✓	✓	✓		
Buckingham Twp ^[3]		✓		✓			
Clinton Twp		✓			✓		
Damascus Twp				✓			
Dreher Twp	✓	✓	✓	✓	✓		
Hawley Boro						✓	
Honesdale Boro ^[4]						✓	
Lake Twp		✓		✓	✓	✓	
Lehigh Twp	✓	✓	✓	✓	✓		
Manchester Twp ^[3]		✓		✓			
Paupack Twp	✓	✓	✓	✓	✓		
Preston Twp		✓		✓			
Salem Twp		✓		✓	✓	✓	
Scott Twp ^[3]		✓		✓			
Sterling Twp		✓		✓	✓		
Texas Twp		✓		✓	✓		✓
Percent of County Population	13.8%	49.8%	14.3%	52.5%	45.0%	28.9%	5.5%

Source: Municipality Survey (2019)

[1] Municipalities that do not provide special item drop-off programs are not shown.

[2] Tires accepted at the Wayne County Recycling Center in Berlin Township.

[3] Preston Township allows Buckingham, Manchester, and Scott Townships to participate in this program.

[4] The YMCA in Honesdale Borough administers an electronics collection program open to the public.

5.5 WAYNE COUNTY RECYCLING CENTER AND DROP-OFF SITES

The Wayne County Recycling Center and network of fourteen (14) public drop-off sites for recyclables represents the primary recycling infrastructure in Wayne County (**Figure 5-3**). The Recycling Center is centrally located in Berlin Township, approximately five miles east of Honesdale. The Recycling Center is operated by the Wayne County Solid Waste Department. The Recycling Center accepts the following materials that are revised as needed:

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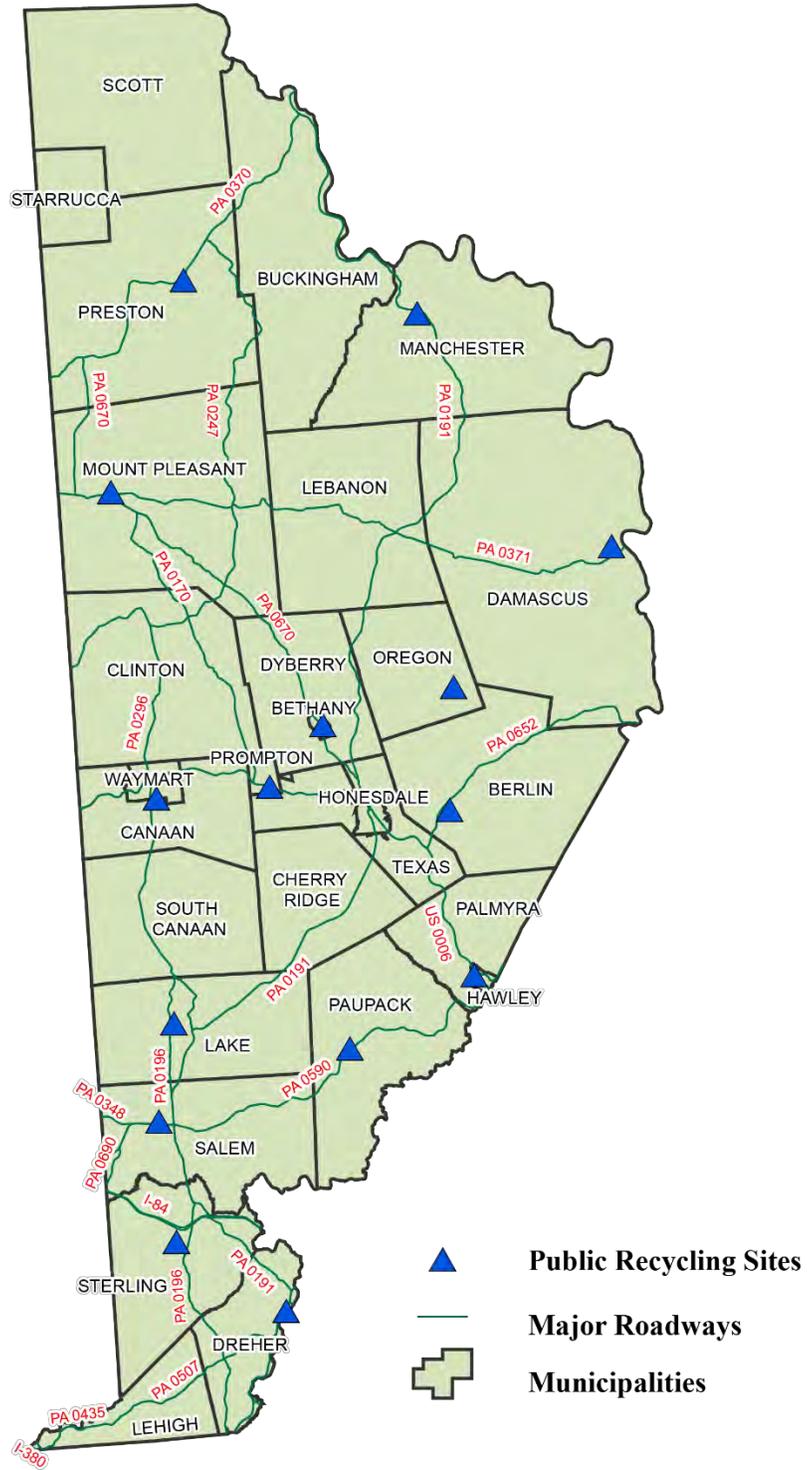
- Aluminum cans
- Appliances
- Brown glass
- Chipboard
- Clear glass
- Corrugated Cardboard
- Green glass
- Hard cover Books
- Junk mail
- Kraft paper bags
- Magazines
- Newspapers
- Office paper
- Paperback books
- Plastic bottles #1
- Plastic bottles#2
- Scrap metal
- Soft plastics
- Steel/bimetallic cans
- Textiles
- Tires

As illustrated in **Figure 5-2**, the Recycling Center diverts about 700 tons of recyclables annually. The Recycling Center has containers, material drop-off areas, processing and collection equipment, a scale to weigh loads of materials, an office area for the Recycling Coordinator and administrative staff.

The Solid Waste Department, in coordination with participating municipalities operates a network of drop-off recycling sites. Most sites are located on municipal properties, and several are located at shopping centers. The public drop-off sites include roll-off containers with compartments for different recyclable commodities. Materials accepted at the municipal drop-off sites include:

- Aluminum cans
- Corrugated cardboard
- Magazines
- Clear glass
- Brown glass
- Green glass
- Newsprint
- Plastic #1 bottles
- Plastic #2 bottles
- Steel/bi-metal cans

Figure 5-3 Map of Wayne County Recycling Programs



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5.6 COMMERCIAL/INSTITUTIONAL RECYCLING

Materials diverted from commercial/institution waste streams are highly variable and correlate to the waste generation characteristics of each establishment. In any given year, roughly fifteen (15) commercial/institutional establishments report recycling as tons diverted annually. Commercial/institutional recycling is provided via collection and/or processing contracts with private waste haulers and/or processors. Cardboard from large chain stores including Wal-Mart, Weis and the Dollar Store, is source-separated. Car batteries are reported from Advanced Auto Parts. Scrap yards provide reports of recycled metal and represent a significant portion of reported recycling efforts in Wayne County.

Commercial/institutional recycling quantities significantly boost recyclables diversion in Wayne County. As shown in **Figure 5-2**, commercial/institutional recycling represents ninety (90) percent of reported recycling by weight. **Table 5-3** summarizes commercial/institutional recycling efforts as reported by individual municipalities via a survey in 2019. Eight (8) Wayne County municipalities report that commercial/institutional recycling is provided by some establishments. Six (6) report recycling in commercial establishments and six (6) report recycling is conducted at schools or government buildings.

Table 5-3 Commercial/Institutional Recycling Service Summary

Municipality ^[1]	Commercial Recycling	Institutional Recycling
Berlin Twp	✓	
Canaan Twp	✓	✓
Damascus Twp	✓	
Dreher Twp	✓	✓
Honesdale Boro	✓	✓
Preston Twp		✓
Salem Twp	✓	✓
Texas Twp		✓

Source: Municipal survey (2019)

^[1] Only municipalities indicating some commercial/institutional recycling programs are shown.

5.7 YARD WASTE AND LEAF COLLECTION

Residential yard waste collection and diversion to recycling in Wayne County is limited due to these conditions:

- ◆ Collection costs are increased due to sparse housing density.
- ◆ No in-county permitted compost sites are available.
- ◆ Residents compost leaves and trimmings naturally in place, which is easier and more cost-effective than other alternatives.

Few municipalities offer curbside leaf and/or yard waste collection services, and there are no registered compost or land application sites (e.g., farms) accepting yard waste or leaves in the County. As needed, private companies including landscapers, construction companies, tree companies, and wood mills, manage wood and yard wastes. Most yard wastes in Wayne County are not recovered for processing, and since no permitted compost facilities are reporting to the County, quantities are unknown.

5.8 RECYCLING POTENTIAL

An estimated 50 percent of the County’s municipal solid waste stream is comprised of materials that are recyclable or compostable. Many factors, including the following, influence the types and quantities of material that can be feasibly diverted to reuse or recycling:

- ◆ Level of involvement by local and county governments
- ◆ Costs (e.g., fees, revenues, grant funding, etc.)
- ◆ Recyclables collection and hauling service levels
- ◆ Access to end-markets and processing capability
- ◆ Implementing mechanisms (e.g., contracts, collection service, ordinances, regulations)

Table 5-4 presents estimates of recyclables and non-recyclables in Wayne County’s waste stream, which clarifies the total tons of potentially recyclable material. Using EPA waste generation rates and 2019 population data, an estimated 21,300 tons of recyclables and 21,100 tons of non-recyclable waste is generated annually. The reported five-year annual recycling average for 2014-2018 was 7,939 tons which reflects a realistic recyclable capture rate for a rural county.

Table 5-4 Wayne County Annual Recycling Potential

Material	% of MSW [1]	Estimated Tons in MSW [2]
Glass (Clear and Colored)	4.4%	1,900
Aluminum Cans	0.5%	200
Steel and Bimetallic Cans	0.7%	300
Newsprint	2.6%	1,100
Office Paper	1.7%	700
Corrugated Paper	11.9%	5,100
Plastic (PET, HDPE only)	4.2%	1,800
Yard Waste	13.2%	5,600
Tires	2.2%	900
Appliances	2.6%	1,100
Wood	6.2%	2,600
Recyclables Subtotals	50.3%	21,300
Non-recyclable Material	49.7%	21,100
MSW Totals	100.0%	42,400

[1] Source: U.S. EPA. *Advancing Sustainable Materials Management: 2015 Tables and Figures Assessing Trends in Material Generation, Recycling, Composting, Combustion with Energy Recovery and Landfilling in the U.S.* July 2018. MSW Generation applied to year 2019 population estimates.

[2] Estimated tons rounded to the nearest hundredth.

5.9 RECYCLING PROGRAM ENVIRONMENTAL BENEFITS

Recycling ensures the proper processing of materials which conserves landfill space, saves natural resources and reduces energy and gas resources consumed during material manufacturing – all of which help to reduce greenhouse gas emissions or “carbon footprint.” Additionally, the County’s waste management system strives to minimize illegal dumping, prevent community blight, protect waterways,

CHAPTER 5 – RECYCLING

and preserve land and property values. Integrated recycling and resource conservation encourage community development and growth through tourism and recreation while providing numerous direct and indirect benefits.

Table 5-5 summarizes the environmental benefits of county, municipal, and commercial recycling activities based on the County’s five-year averages for disposed waste and recyclables (2014-2018) data in the U.S. EPA Waste Reduction Model (WARM).

Table 5-5 Wayne County Recycling Environmental Benefits (5-year Average)

Benefit	Metric
Quantity Recycled	7,939 tons
Net Reductions in Greenhouse Gas Emissions	6,155 Metric Tons of Carbon Equivalent (MTCE) 22,568 Metric Tons of Carbon Dioxide Equivalent (MTCO2e)
Net Energy Savings	116,837 Million British Thermal Units (BTUs)

Source: U.S. EPA Waste Reduction Model (WARM)-Version 15. May 2019.

5.10 MEASURES TO ACHIEVE 35 PERCENT DIVERSION

Using 2019 estimates for MSW Generation and recycling applied to the population, Wayne County’s recycling rate is twenty-two (22) percent. This rate is an excellent recycling rate for a large, rural county with minimal curbside recycling and limited access to recyclables processors. As detailed in **Table 5-4**, there are many additional tons available for recycling in the County’s waste stream.

On a case by case basis and as resources allow, Wayne County pursues cost-effective programs to increase its diversion rate toward the Pennsylvania recycling goal of thirty-five (35) percent. It is vital to the County that existing, new and enhanced recycling programs provide a clear benefit to Wayne County, its residents and/or businesses and are economically sustainable. As feasible, the County will explore opportunities to improve and expand proper waste disposal and recycling services to residents and businesses and priorities the following planning and implementation initiatives to enhance waste diversion:

Table 5-6 Measures to Increase Waste Diversion

Increase/Diversify Funding	<ul style="list-style-type: none"> Evaluate funding sources to support proper solid waste management and waste diversion to assure sustainability for existing, enhanced, and proposed programs (e.g., Grants, General Funds, User Fees, cost-sharing, donations, in-kind services).
Operating Efficiency	<ul style="list-style-type: none"> As feasible, evaluate and implement measures to improve the operating efficiency of the Wayne County Recycling Center.
Enhance Recycling Center Services	<ul style="list-style-type: none"> As feasible, evaluate and implement new and/or enhanced recycling services provided by the Wayne County Recycling Center. Examples identified during Plan development include Electronics, household hazardous waste and Styrofoam (densified).
Drop-off Program Efficiency	<ul style="list-style-type: none"> As feasible, evaluate and implement measures to improve the efficiency and effectiveness of County recyclables drop-off sites. As feasible, evaluate and implement new or enhanced services: Reduce contamination, increase quantities of clean recyclables recovered, and reduce costs.
Target high-value commodities	<ul style="list-style-type: none"> As feasible, target additional recovery of higher value commodities and/or materials prevalent in the waste stream, including materials that are often disposed illegally. Examples of target materials include cardboard, scrap metal, and electronics.
Encourage voluntary recycling by municipalities	<ul style="list-style-type: none"> Encourage municipalities to implement voluntary recycling programs as feasible and to report recycling efforts and quantities to the County.
Enhance/Standardize Education	<ul style="list-style-type: none"> Enhance the effectiveness of recycling education across the County by working toward a simple, standard educational message and utilizing standardized recycling education materials and labeling to the extent feasible across County, local municipal, and businesses.
Enhance Business Recycling and Reporting	<ul style="list-style-type: none"> Encourage increased recycling at commercial/institutional establishments and encourage reporting of recycling efforts and quantities to the County.

CHAPTER 6 – SELECTION & JUSTIFICATION

This Chapter describes the process for selecting the Wayne County municipal waste management system and justifies the selected waste system and its components. Descriptions of the selected disposal facilities, recycling initiatives, and funding sources for managing County-generated municipal waste for the 10-year planning period (2020 – 2029) are provided.

6.1 SUMMARY OF CURRENT WASTE SYSTEM

The County waste system is operated by public and private organizations that provide services in response to waste generation rates and waste characteristics of this large rural County. Public and private waste generators, Wayne County and its Solid Waste Department, local governments (e.g., boroughs and township), private organizations, and other stakeholders share waste management responsibilities and service providers. The private sector primarily manages residential curbside collection services and on-site collection of wastes and recyclables from businesses.

Through the operation of the Wayne County Recycling Center, the Wayne County Solid Waste Department plays an integral role in the County waste system. The Recycling Center provides affordable public access to environmentally responsible alternatives to disposal, including the recovery of recyclable materials and special items (e.g., tires). The Wayne County Solid Waste Department provides administrative services including public education, waste and recyclables data tracking, marketing, and the development and implementation of the County Municipal Waste Management Plan.

6.2 WASTE SYSTEM SELECTION PROCESS

The County and its Solid Waste Department elect to continue the waste system without significant change or deviation. The selected waste system reinforces the planning goals and objectives established in Chapter 1 that, in summary, include:

- ***Encourage access to affordable waste and recycling services to protect health, safety, welfare and to preserve Wayne County's natural resources.***

The County strives to meet waste and recyclables collection and processing needs through public and private services and partnerships that collectively meet the diverse waste management needs of County residents, businesses, and local governments. The Recycling Center is vital to public waste diversion opportunities, and funding is required to sustain the Recycling Center operation and staff. The SWAC confirmed that establishing programs for special items such as electronics is beneficial to Wayne County and its residents. Special items recovery, including acceptance of electronics at the Recycling Center, was evaluated during Plan development.

The following implementation processes and documents establish the basis for continuing the County waste system for the 2020 – 2029 planning period while recognizing programs may be enhanced or modified based on feasibility:

- **County Municipal Waste Management Plan (2020):** Developed with input from the public, local governments, and other stakeholders. The Plan describes the County waste system, defines planning goals and objectives, and provides initiatives to encourage proper waste management over the 10-year planning period.
- **Wayne County Municipal Waste Management Ordinance (2019):** Updated in 2019 to accurately reflect the County waste system and current legal framework.

CHAPTER 6 – SELECTION & JUSTIFICATION

- **Disposal Capacity Request for Proposals (RFP) and Disposal Capacity Agreements (2019):** An open, fair, and competitive process was used to enter agreements with State-permitted disposal facilities. These agreements:
 - Confirm disposal capacity is available for all County-generated municipal waste
 - Secure funding to be remitted by designated disposal facilities to Wayne County to support integrated waste management
 - Secure in-kind services from designated disposal facilities including donated or free disposal for specified quantities of illegally dumped waste

6.3 JUSTIFICATION OF WASTE SYSTEM SELECTION

The County and its Solid Waste Department have a proven history of successful Plan implementation. Through education, data collection, recycling data reporting, contract administration, and assistance to municipalities, the County encourages proper recovery and diversion of materials recycling, disposal facilities and other markets. The reasons and justification for the continuation of the County municipal waste system over the 10-year planning period, which are provided, include:

- **Existing Waste System and Regional Markets Are Working:** The combination of private and public collectors, material recovery facilities, transfer facilities, scrap yards, and other markets located in and outside the County have the capacity to manage all County-generated municipal wastes and source-separated recyclables. Due to sparse residential and commercial density, drop-off programs for recyclables and special items are cost-effective alternatives - compared to curbside collection - that can be implemented by public and private organizations.
- **Fulfill County and Public Need:** The SWAC confirmed County waste management priorities are aligned with public interests. This Plan supports initiatives to protect the health, safety, welfare, and the natural resources of Wayne County through responsible solid waste management practices.
- **Wayne County Recycling Center and County-wide Drop-off Program:** The Recycling Center is expected to serve as a primary public drop-off center available to County residents and businesses. The County may enter arrangements to accept materials from out of County when deemed in the best interest of the County. As needed, the County may administer cooperative arrangements with municipalities that host one or more drop-off sites. On an ongoing basis, the County and Solid Waste Department will evaluate recycling opportunities including the recovery of special items.
- **Townships/Boroughs:** There are no Act 101-mandated communities required to implement curbside recycling programs. Interested local governments are expected to continue voluntary recycling with assistance from the County as feasible. Nothing prevents individual townships and boroughs from implementing programs to collect recyclables or other materials. Townships and boroughs may manage the proper collection and disposal of residential waste and/or recyclables through ordinances and/or through contracts with private waste haulers.
- **Commercial, Municipal, and Institutional Establishments:** County businesses are expected to continue to manage municipal waste, including recyclables independently using private haulers and/or self-haul to local and regional processors and disposal locations. Businesses may continue to use public drop-off programs for recyclables and special items.
- **Open, Fair, and Competitive Solicitation for Disposal Capacity:** Through open solicitation for municipal waste disposal capacity, the County secured adequate disposal capacity to manage all of its municipal waste over the 10-year planning period. Waste haulers operating in the County may choose waste transfer and final disposal facilities. Individual municipalities may negotiate directly with transfer or disposal facilities to secure waste services.

CHAPTER 6 – SELECTION & JUSTIFICATION

6.3.1 WASTE SYSTEM SELECTION & MATERIALS

The selected waste system demonstrates an adequate capacity to collect, transport, process, recycle and dispose municipal waste and source-separated recyclables.

- **Municipal Solid Waste:** Public and private arrangements for collection, transport, disposal, and processing of landfill-bound wastes are expected to continue. The County has secured adequate landfill disposal capacity via contracts with regional disposal facilities. The County Recycling Center and other intermediate processors and markets have capacity for processing recyclables.
- **Construction/Demolition Waste:** Private arrangements for C/D collection, disposal, and recycling are expected to continue, and adequate processing capacity is available.
- **Yard Waste:** Yard waste collection includes a combination of public and private collection with processing (e.g., brush grinding) primarily performed by the private sector landscapers and tree companies. Curbside leaf collection is minimal but expected to continue. The majority of yard waste is expected to be handled by landowners and renters and be managed on-site to compost naturally.
- **Biosolids:** Biosolids and septage shall continue to be managed through the combination of wastewater treatment facilities, on-site treatment systems, and septage haulers. This activity includes the treatment of liquid biosolids and proper disposal of dewatered biosolids that are primarily landfilled. WWTPs demonstrate sufficient capacity to manage biosolids and septage, and the designated disposal facilities have the capacity to accept dewatered sludges annually, and over the 10-year planning period. No alternatives programs or infrastructure are anticipated or needed to manage biosolids.
- **Regulated Medical Waste:** Regulated medical waste, including infectious and chemotherapeutic waste, shall continue to be managed by the private sector, primarily through on-site and/or off-site incineration. No alternative programs or infrastructure is being considered to manage regulated medical waste.
- **Ash and Asbestos:** Ash and asbestos will continue to be managed by the generators that are required to properly manage and dispose this material at a permitted disposal facility. The current system has sufficient capacity to manage ash and asbestos over the next ten (10) years.
- **Residual Waste:** Residual waste collection, treatment, transport, processing, and disposal activities are expected to continue, and regional landfills demonstrate ample permitted capacity to process residual waste and for managing residual wastes.
- **Illegal Dump Waste:** There is sufficient disposal and processing capacity for litter and illegally dumped waste, but illegal dumping persists in the County. This Plan documents illegal dumping activities in Wayne County and considers the associated impacts, costs, and measures to prevent and clean up litter and illegally dumped materials. Protecting natural resources and preserving the aesthetics of natural areas has heightened value to Wayne County since the natural features are primary attractions for tourism that is important to the County economy. Littering, illegal dumping, and improper solid waste management can contribute to environmental risks and economic impacts, such as:
 - Degrading surface water, groundwater, and drinking water
 - Impacting environmentally sensitive areas and habitats (e.g., wetlands)
 - Lowering residential, commercial, and public property value including diminishing the real and perceived value of lands and public space attractions
 - Reducing local collection, hauling, disposal, equipment, and recycling business opportunities

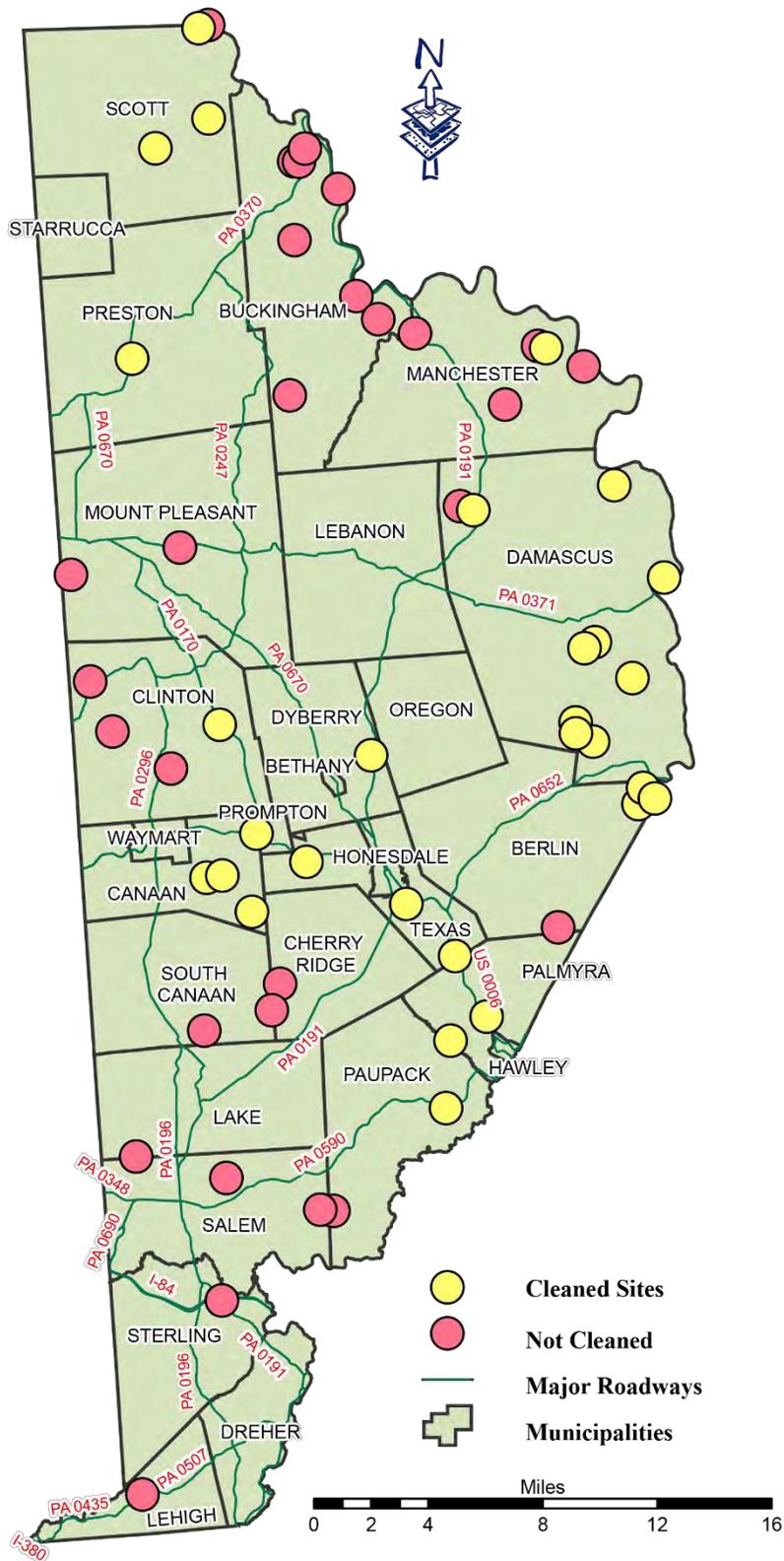
CHAPTER 6 – SELECTION & JUSTIFICATION

- Reducing tourism by impacting the aesthetic value and public perception of County natural features and tourist areas
- Transferring the economic burden of cleanup to the host municipalities and/or the private property or business impacted by improper disposal

In 2012, Keep Pennsylvania Beautiful (KPB) conducted an illegal dumping survey which identified forty-three (43) dumpsites in Wayne County containing nearly seventy-two (72) tons of waste. Almost twenty (20) percent of these dumpsites were located within fifty (50) feet of a waterway or body of water. Loose and bagged household trash, construction and demolition waste, and tires were common materials. From 2015 through 2018, the Pennsylvania Environmental Council (PEC) performed an extensive cleanup effort that was made possible by funding originating from enforcement action by PADEP. PEC, under its Community Illegal Dumpsite Cleanup Program, coordinated and conducted dumpsite cleanups with assistance from nearly 150 volunteers, municipalities, and other stakeholders and partners. Over the 4-year cleanup period that ended in 2018, twenty-nine (29) dumpsites in Wayne County were cleaned. Twenty-seven (27) tons of waste, eleven (11) tons of scrap metal, and over 1,000 tires, or fourteen (14) tons, were removed and disposed or recycled. **Figure 6-1** shows the distribution of cleaned and uncleaned or existing sites.

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Figure 6-1 Map of Illegal Dump Sites



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6.4 DESIGNATED MSW DISPOSAL FACILITIES

6.4.1 LOCATION

The County openly and fairly executed disposal capacity agreements with five (5) out-of-County landfills (Appendix A – Disposal Capacity Agreements) and designated these selected disposal facilities within this Plan. These disposal facilities have contracts to accept all or part of the municipal waste generated on an annual basis over the 10-year planning period (2019 – 2029). The addresses for each designated disposal facility are presented in Table 6-1, and the facility locations are illustrated in Figure 6-2.

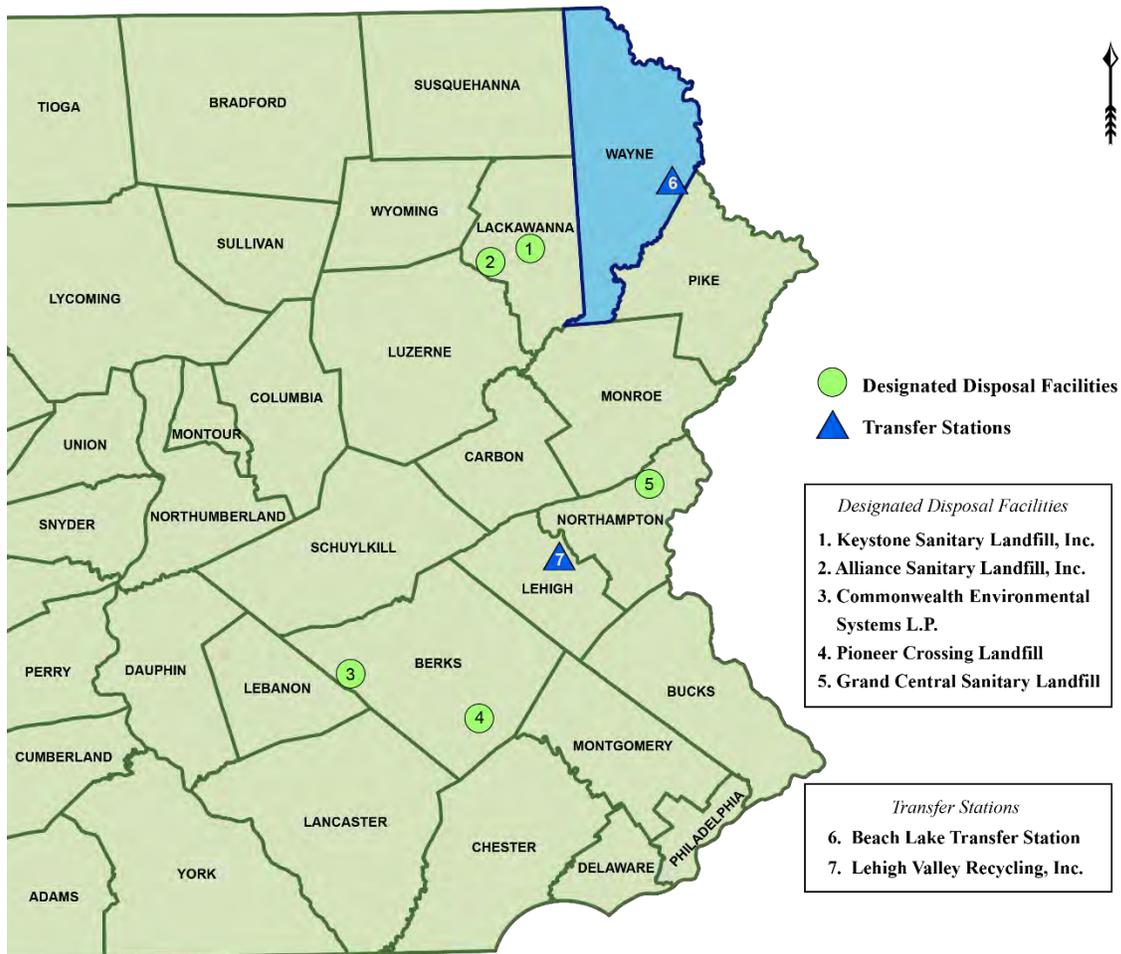
Transfer stations do not provide “disposal capacity” but have a role in the County waste system. The Beach Lake Transfer Station and Lehigh Valley Recycling, Inc. (transfer facility) executed transfer facility agreements with the County. Combined, these two facilities are permitted to transfer 14,200 tons per year or 142,000 total tons over the 10-year planning period. The Beach Lake Transfer Station is adjacent to the Wayne County Recycling Center and is expected to continue to serve as a primary transfer facility during the 10-year planning period. The address and locations of the Beach Lake Transfer Station and Lehigh Valley Recycling, Inc. are also shown in **Table 6-1** and **Figure 6-2**, respectively.

Table 6-1 Designated Municipal Waste Disposal and Transfer Facilities

Designated Facility	Owner	Distance (miles)	County	Facility Address
Disposal Facilities				
Alliance Sanitary Landfill	Waste Management	37	Lackawanna	398 South Keyser Ave., Taylor, PA 18517
Commonwealth Environmental Systems (CES)	Keystone Landfill, Inc. and L&D Management, Inc.	109	Schuylkill	99 Commonwealth Road, Hegins, PA 17938
Grand Central Sanitary Landfill	Waste Management	77	Northampton	910 W Pennsylvania Ave., Pen Argyl, PA 18072
Keystone Sanitary Landfill	Keystone Landfill, Inc.	36	Lackawanna	249 Dunham Drive, Dunmore, PA 18512
Pioneer Crossing Landfill	J.P. Mascaro & Sons, Inc.	134	Berks	727 Red Lane Road, Birdsboro, PA 19508
Transfer Stations				
Beach Lake Transfer Station	Waste Management	7	Wayne	165 Rosencranse Rd, Beach Lake, PA 18405
Lehigh Valley Recycling Transfer Station	J.P. Mascaro & Sons, Inc.	84	Lehigh	3942 Portland St Coplay, PA 18037

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Figure 6-2 Map of Designated Municipal Waste Disposal and Transfer Facilities



6.4.2 DISPOSAL CAPACITY ASSURANCE

Haulers collecting County-generated wastes shall dispose municipal wastes at the disposal facilities designated in the Plan. **Table 6-2** summarizes information for each contracted designated disposal facility, including the approximate distance from Wayne County, accepted materials, available permitted capacity (tons), and years remaining until facility closure. As shown, the five (5) designated disposal facilities have a combined available capacity of about 100,000 tons annually and over 870,000 tons of capacity over the 10-year planning period. The disposal capacity secured via executed disposal capacity agreements far exceeds County municipal waste disposal requirements estimated at 36,000 tons for the year 2019 and declining to 34,000 tons for the year 2029.

6.4.3 IN-KIND DISPOSAL SERVICES

Wayne County's Request for Proposals (RFP) to secure MSW disposal capacity included a request for in-kind services to support the County's municipal waste management system. The RFP highlighted the value of illegal dumping prevention and cleanup and asked respondents to offer in-kind services and free disposal to reduce certain costs associated with managing illegally dumped materials.

Table 6-3 summarizes the in-kind services provided by regional landfills and transfer stations that have been incorporated within executed disposal capacity agreements.

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Table 6-2 Wayne County Designated Disposal Capacity Summary

Designated Facility	Owner	Distance to Facility (miles)	Years of Remaining Capacity ^[1]	Accepted Materials ^[2]	Annual Disposal Capacity Available to Wayne County (tons)	10-Year Capacity Available to Wayne County (tons) ^[3]
Alliance Sanitary Landfill	Waste Management	37	26	MSW, R, SS, C/D, IC, A	25,000	250,000
Commonwealth Environmental Systems (CES)	Keystone Landfill, Inc. and L&D Management, Inc.	109	16	MSW, C/D, SS, BW	17,220	172,200
				Residual	2,460	24,600
Grand Central Sanitary Landfill	Waste Management	77	9	MSW, C/D, SS, A	10,400	93,600
Keystone Sanitary Landfill	Keystone Sanitary Landfill Company	30	3.26	MSW, C/D, SS, BW	17,040	55,550
				Residual	1,420	4,629
Pioneer Crossing Landfill ^[4]	J.P. Mascaro & Sons, Inc.	134	12	MSW, C/D, IC, BW, SS	30,000	300,000
				Residual	Not Provided	Not Provided
Total Municipal Waste ^[5]					99,660	871,350
Total Residual Waste					3,880	29,229

[1] Years of remaining permitted capacity only assume approved expansions. Pending expansions would increase the available disposal capacity upon approval.

[2] Waste Types: MSW - Municipal Solid Waste, SS - Sewage Sludge, C/D - Construction/Demolition, IC - Infectious/Chemotherapeutic, A - Asbestos, IA - Incinerator Ash, BW - Bulky. Accepted materials may include incidental quantities of specific waste types delivered mixed with MSW.

[3] The annual estimated capacity available to Wayne County provided by the landfill multiplied by the years of remaining capacity up to a maximum of 10 years. For landfills providing a range of available capacity (tons), the minimum value (tons) is shown in the table.

[4] Pioneer Crossing provides capacity in coordination with Lehigh Valley Recycling, Inc. that is permitted to transfer municipal waste, C/D, and approved residual wastes.

[5] The aggregate of all non-hazardous residential/commercial/institutional municipal solid wastes including C/D, regulated medical waste, asbestos, sewage sludge, and other accepted "special handling" municipal wastes, excluding residual. This represents the total municipal waste disposal capacity include all accepted waste types under "municipal waste."

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Table 6-3 Wayne County In-Kind Services for MSW Management

Disposal Facility	Distance to Facility (miles)	Materials Accepted ^[1] (without charge)	Annual Maximum Donated (tons)	10-Year Maximum Donated (tons)	Other In-kind Services Offered
Alliance Sanitary Landfill	37	Illegally dumped MSW, Appliances without Freon	100	1,000	Recycling education assistance.
Commonwealth Environmental Systems L.P. (CES)	109	Illegally dumped MSW, Residential C/D, Bulky waste, Clean scrap metal	60	600	Case-by-case consideration of specific dumpsite cleanup waste.
Grand Central Sanitary Landfill	77	Illegally dumped MSW, Appliances without Freon	100	1,000	Recycling education assistance.
Keystone Sanitary Landfill	30	Illegally dumped MSW, Residential C/D, Bulky waste, Clean scrap metal	60	196	Case-by-case consideration of specific dumpsite cleanup waste.
Beach Lake Transfer Station	7	Illegally dumped MSW, Appliances without Freon	50	500	Recycling education assistance.
Total			370	3,296	

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6.4.4 PROCEDURE TO ADD DESIGNATED FACILITIES

Haulers, disposal facilities, and/or municipalities have the option to petition to use a disposal or processing facility for County-generated municipal waste other than those designated through an executed Disposal Capacity Agreement with Wayne County as established under this Plan revision. Any facility added to the Plan using this procedure below may accept County-generated MSW in accordance with the negotiated Disposal Capacity Agreement.

1. The entity shall submit a written petition to the County Commissioners to be included in the Plan as a designated disposal facility.
2. Within fifteen (15) working days of receiving the petitioning, the County will forward a copy of the solicitation documents to the facility requested for inclusion in the Plan.
3. Upon receipt of the completed solicitation documents by the County Commissioners from the facility, the County will review and provide a response (approval or denial) to the facility within twenty (20) working days.
4. For any approved designated facility to be added to the Plan, the County will mail an executed Disposal Capacity Agreement to be duly executed and returned to the County Commissioners.
5. Upon receipt of a fully executed Disposal Capacity Agreement, the County will notify all County municipalities and PADEP that an additional designated facility has been added to the Plan as a non-substantial Plan revision. The Disposal Capacity Agreement shall be provided to PADEP and attached to the Plan.

6.5 MATERIALS MANAGEMENT GOALS & OPPORTUNITIES

This section describes planning goals, materials management opportunities, and strategies that may be advanced during the 10-year planning period to benefit the County waste system. The selection of preferred materials management and diversion strategies take in to account these County solid waste system characteristics:

- Rural areas with low housing and business density underscore the value of leveraging economies of scale to overcome elevated material collection and transportation costs. The cost-benefit for drop-off recycling programs is high.
- The County's natural resources and historic setting attract visitors, and tourism is vital to the economy. However, transient populations create seasonal variations in waste generation and contribute to illegal dumping and littering.
- Wayne County townships and boroughs do not contract for waste collection services but are impacted by improper management of municipal waste within their jurisdictional boundary. Managing illegal dumping and the handling of special items is challenging for communities with limited resources. Many residents are not willing or able to pay additional hauler fees for special item collection services or curbside trash collection.

Broad planning goals for materials management include those listed below. **Table 6-4** presents the opportunities for materials management and diversion.

- **Advance economically feasible municipal waste collection, reduction and diversion programs** that reduce costs through efficiency, market competition, and avoided disposal.
- **Enhance recovery of special items as feasible** for hard-to-recycle items and special items that require special handling (e.g., electronics, HHW, tires, bulk items).
- **Strengthen public and private partnerships** to promote efficient, cost-effective and environmentally responsible materials management.

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- **Implement illegal dumping prevention and cleanup strategies** to preserve the natural and scenic areas of the County that are vital to tourism and the local economy.
- **Encourage cooperation and resource sharing among the County and local municipal governments and strategic partners** to promote proper solid waste management and environmental stewardship.
- **Raise public and stakeholder awareness** through education addressing County-specific waste system challenges, opportunities, services, and programs to increase participation in programs that reduce costs and impacts and protect natural resources.

Table 6-4 Materials Management and Diversion Opportunities

Material Management & Diversion Opportunities	Description
Program Standardization	Streamline County and municipal materials management program implementation and education by standardizing key program elements such as materials definitions, list of targeted recyclables, targeted items requiring special collection (e.g., electronics), implementation documents (e.g., ordinances and contracts), and education materials, etc.
Enhance Recycling Center Diversion Programs	<p>Enhance materials recovery at the Recycling Center, with prioritization to evaluate and implement these services as feasible:</p> <p><u>Evaluate New Programs</u></p> <ul style="list-style-type: none"> • Electronics • HHW <p>Assure financial sustainability through user fees (e.g., \$20 per TV).</p>
Leverage Public-Private Partnerships & Stakeholder Engagement	Engage key stakeholders in solid waste topics, share resources, and identify volunteers to raise awareness and to address waste management challenges. Partners may include environmental groups (e.g., Conservation District, environmental groups, Game Commission, hunting clubs, private companies, foundations, disposal facilities and other processors).
Public Education and Market Information	Improve the effective delivery of waste and recycling information to benefit the public and stakeholders. Use standard messaging that targets waste and recycling priorities and initiatives. Leverage the County website, meetings, and seminars to share information and to discuss challenges, opportunities, and implementation strategies. Maintain the Material Markets Summary database developed during this planning process and make it available to the public to increase awareness about recycling and disposal options in the region.
Illegal Dumping Prevention/Cleanup	Form partnerships with non-profit illegal dumping organizations, including PEC, KPB, and or KAB. Leverage these resources to provide technical and financial assistance to support litter prevention and cleanup. Use the “free disposal” services for illegal dump waste provided by the landfills and transfer stations that were secured via contract during this Plan development. Evaluate and implement feasible programs to recover special items including tires, appliances, electronics and similar materials. Enhance relationships with enforcement agencies including police, codes, District Justice, Game Commission, Fish and Boat Commission, PENNDOT, and others to strengthen enforcement efforts relating to littering and illegal dumping.

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6.6 COUNTY WASTE SYSTEM FUNDING

Private sector costs for waste collection, transportation, and processing services will continue to be driven by many economic factors including market conditions and competition among service providers. Markets for recyclable commodities continue to be unpredictable. Since 2018, the costs for processing recyclables have increased and commodity values have decreased significantly in response to material export bans placed on U.S. commodities. Increasingly stringent requirements regarding acceptable contamination and/or residue levels in recovered recyclables is a crucial consideration, and the value of keeping source-separated recyclables free of contaminants is high.

Table 6-5 summarizes waste system funding alternatives that were evaluated in detail in the previous Plan (2009) and reviewed with the SWAC during Plan development. Notably, some waste system funding alternatives are not viable in Wayne County because the alternative does not garnish public and/or political support.

Table 6-5 Solid Waste System Funding Alternatives

Funding Alternative	Description
Waste Management Millage	A tax assessed to property owners based on a percentage of the residential property value to fund annual County waste management programs and Plan administration costs. The expressed millage rate is multiplied by the total taxable value of the property to arrive at the property taxes due.
Utility Billing	Establishing a local utility, or piggybacking on a local utility, such as sewer/water to charge user fees to waste generators or residential and/or commercial customers. Solid waste charges can be added to existing utility bills and the User Fee established for materials management is determined by the County. Creating a new solid waste billing system can be complex and expensive.
Non-Ad Valorem Tax Assessment	Tax assessed based on the area of a property or the number of units. The levying authority sets the Non-Ad Valorem assessment based on establishing a justified cost of the service provided to the property. The Non-Ad Valorem tax is a reliable revenue source that can be allocated equitably.
Solid Waste Service Contracts	MSW collection, hauling, and/or processing contracts, often resulting from a competitive procurement process. Leverage procurement to improve economies of scale, manage competition, reduce costs, and even recover revenue. Solicitations (e.g., bids) shall clearly define service requirements and be structured to distribute risks among involved parties equitably. Since Wayne County Townships and Borough rarely enter waste collection contracts, this funding alternative is very limited.
County-Owned Transfer Facility (Tip Fees)	Constructing a County-owned transfer facility designated for all County-generated waste via waste flow control ordinance. Transfer facility tip fee rates can be set to cover County waste system operating and administrative costs (plus disposal fees) and serve as a primary funding mechanism. The County is not interested in this high-cost and complex alternative at this time given market conditions, nearby transfer station, and County priorities.
Recycling Sustainability Fee	The fee assessed by the County within the disposal capacity agreements executed with designated disposal facilities. The revenue remitted to the County is calculated based on the per-ton-fee established by the County multiplied by the reported MSW tons originating from the County.

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6.6.1 WASTE SYSTEM AND SOLID WASTE DEPARTMENT FUNDING

The primary funding requirement for the County waste system is the operation of the Wayne County Recycling Center and Wayne County Solid Waste Department. The Recycling Center and network of public drop-off sites are the centerpiece of recycling infrastructure and services that assure the public has affordable recycling opportunities. Each ton diverted to recycling and reuse avoids the cost of waste disposal and reduces environmental harms like those associated with illegal dumping. **Table 6-6** presents the annual Operating Result for the Recycling Center including the estimated income and expenses experienced in a typical operating year. Based on ten (10) years of financial information, the estimated annual operating cost of the Recycling Center is approximately \$400,000. Various revenue sources and grants offset costs. The General Fund and/or Solid Waste Fund is used to balance the annual Operating Result (shown as \$0 in Table 6-6). The amount needed to balance the budget fluctuates based on the amount of revenue and expenses experienced in a given year.

The Recycling Center and County drop-off sites are extraordinarily cost-effective and provide significant value to residents and businesses. **Table 6-7** presents the funding sources available to sustain the beneficial public waste and recycling services provided by the County through its Solid Waste Department. In the interest of the financial sustainability of the Recycling Center, the primary recommendation is for the Solid Waste Department to utilize service fees/user fees to offset the cost to the extent feasible and minimize annual draws from the General Fund and Solid Waste Fund. This recommendation applies to existing services and for any new or enhanced services such as electronics recovery programs that may be implemented during the planning period.

Table 6-6 Wayne County Annual Estimated Recycling Center Operating Result

INCOME	
Revenue	
Recycling Sustainability Fee	\$113,000
Commodity Sales	\$140,000
Service/User Fees	\$10,000
General Fund/Solid Waste Fund	\$13,000
Grants	
Act 101 Section 902 Recycling Grant	\$54,000
Act 101 Section 903 Recycling Coordinator Grant	\$34,000
Act 101 Section 904 Recycling Performance Grant	\$35,000
Total Income	\$399,000
EXPENSES	
Salaries	\$300,000
Maintenance	\$25,000
Utilities	\$16,000
Misc. Expenses	\$20,000
Capital Outlay	\$38,000
Total Expenses	\$ 399,000
OPERATING RESULT	\$ 0

CHAPTER 6 – SELECTION & JUSTIFICATION

Table 6-7 County Waste System Funding Sources

Funding Source	Description
Recycling Sustainability Fee/Solid Waste Fund	Through the per ton fee established within executed disposal capacity agreements between designated disposal facilities and the County, the County recovers approximately \$80,000 annually. The fee revenue is calculated by multiplying the per-ton-fee by the tons of County-generated municipal waste disposed. Fee revenue is retained in a Solid Waste Fund that is used to offset Recycling Center/Solid Waste Department expenses.
Recyclable Commodity Sales	The County Solid Waste Department markets recyclable commodities and recovers revenue through commodity sales.
Recycling Center Customer User Fees	Customer user fees are currently in place for specific materials (e.g., tires, refrigerant removal, etc.) at the Recycling Center. As needed, the Recycling Center will assess user fees to recover some or all costs associated with recycling services. Assessing user fees is integral to the financial sustainability of the Recycling Center, particularly when adding or expanding services (e.g., accepting electronics).
Grants	While grants <i>are not guaranteed revenue</i> , grants offset eligible recycling program costs and continue to benefit County recycling programs. The County will continue to pursue Act 101 Recycling Grants and other grants to support beneficial programs.
General Fund	General funds offset certain costs of County-implemented recycling programs. General fund expenditures are limited to the extent feasible through the use of other funding sources and grants.

CHAPTER 7 – PLAN IMPLEMENTING ENTITY

7.1 WAYNE COUNTY SOLID WASTE DEPARTMENT

The Wayne County Solid Waste Department, under the direction of the Wayne County Board of Commissioners, provides Plan administrative and implementation services including the management and operation of the Wayne County Recycling Center. The Wayne County Commissioners are designated via ordinance responsibilities for municipal waste management including Plan development and implementation. Planning initiatives developed for the 10-year planning period (2010 – 2029) were developed with input from the SWAC. Plan implementation functions under the responsibility of the County Commissioners and Solid Waste Department are presented in **Table 7-1**.

Table 7-1 Plan Implementation Responsibilities

Implementation Item	Function
Municipal Waste Management Plan	Complete subsequent Plan revisions. Advance Plan initiatives, including feasible recycling alternatives that reduce disposal costs.
Recycling & Materials Management	Advance sustainable material recovery initiatives and programs, including operation of the County Recycling Center and assistance to townships, boroughs, citizens and agencies interested in diversion. Implement responsible alternatives to disposal including recycling and recovery of hard-to-recycle items and special handling items (e.g., tires) that are often disposed illegally.
County Municipal Waste Ordinance	Administer the County Municipal Waste Ordinance.
Public Education	Provide ongoing public education to promote responsible disposal and materials recovery, resource conservation, and material diversion to recycling.
Stakeholder Engagement	Encourage stakeholder engagement and education, including resource development and sharing among municipalities, COG, and stakeholders (businesses, environmental groups, etc.).
Funding	Allocate resources for Plan implementation, including funds to support the County Recycling Coordinator/Solid Waste Director and County programs and to apply for grants to offset costs.
Data Collection and Reporting	Complete annual recycling reports as required under Act 101 of 1988. Administer recycling data collection from municipalities and commercial and institutional establishments. Encourage data collection best practices, including disposal and recycling data provision by haulers within residential curbside collection contracts.
Illegal Dumping Prevention/ Cleanup	Encourage dumping prevention through education, stakeholder engagement, and resource sharing. Monitor illegal dumpsites and roadside litter activity. Leverage donated (no cost) disposal capacity secured during this Plan in coordination with local businesses, environmental groups, and affiliates (e.g., KPB, KAB, PEC) to secure volunteers, supplies, and resources for dumping prevention and cleanup activities.

CHAPTER 7 – PLAN IMPLEMENTING ENTITY

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CHAPTER 8 – PUBLIC FUNCTION

In accordance with Title 25, Chapter 272.230, this Chapter describes Wayne County’s public function and activities pertaining to the ownership and operation of a municipal waste processing or disposal facility. Wayne County does not own or operate a state-permitted landfill or other waste disposal facility. Wayne County intends to use multiple out-of-county landfills for the ultimate disposal of municipal wastes, with a portion of County-generate municipal waste passing through the Beach Lake Transfer Station.

Wayne County owns and operates the Wayne County Recycling Center, which services as a public drop-off site for various recyclable commodities and special handling items (e.g., tires). The Solid Waste Department, through its Recycling Center, will continue to manage recyclables, including collection, consolidation, and transportation to permitted recycling facilities and markets. The County Commissioners retain the responsibility of execution and oversight of Disposal Capacity Agreements. Regional recyclables markets and processing continues to be available through an open market comprised of public and private material recovery facilities and small processors. Individual generators and the private sector shall continue to be responsible for the processing and disposal of sewage sludge, septage and regulated medical waste including infectious and chemotherapeutic waste via on-site processing and off-site processing and disposal.

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CHAPTER 9 – PLAN IMPLEMENTING DOCUMENTS

9.1 COUNTY IMPLEMENTING DOCUMENTS

The documents governing municipal waste management in association with this Plan are collectively referred to as “Plan Implementing Documents”. In accordance with Title 25, Chapter 272.231 and Chapter 272.245, the Plan shall include ordinances, contracts and other requirements used to ensure disposal capacity is available to process or dispose County-generated MSW over the 10-year planning period. Final and/or executed County Plan implementing documents shall be submitted to PADEP within one year of Plan approval and appended to the Plan. Implementing documents under the responsibility of the County for Plan implementation are presented in **Table 9-1**.

Table 9-1 Wayne County Plan Implementing Documents

Implementing Document	Description
County Waste Management Ordinance	An ordinance specifying persons/entities transporting County-generated MSW shall deliver waste to County-designated disposal facilities over the 10-year planning period (Appendix B – County Municipal Waste Management Ordinance). Waste haulers may use any of the designated facilities identified in the Plan.
Disposal Capacity Agreements	Contracts executed between the Wayne County Board of Commissioners and the owner/operators of permitted MSW disposal facilities to assure (Appendix A – Disposal Capacity Agreements).
Plan Resolution of Adoption)	A resolution executed by County Board of Commissioners marking the adoption of the completed Pan (Appendix C – Plan Resolution of Adoption).

9.2 OTHER IMPLEMENTING DOCUMENTS

Additional implementing documents related to municipal waste and recycling may be developed during the 10-year planning period. Wayne County, its municipalities, or other entities shall exercise their respective authorities for the development, adoption and execution of documents deemed necessary to carry forth waste management obligations and to implement this Plan. Examples include: municipal solid waste ordinances, solid waste collection, recycling, and disposal contracts, and cooperative or affiliation agreements among municipalities and/or environmental groups, businesses and other stakeholders.

CHAPTER 9 – PLAN IMPLEMENTING DOCUMENTS

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CHAPTER 10 – ORDERLY EXTENSION

This Plan update has been developed in accordance with Act 101 of 1988 and Title 25, Chapter 272 of the PA Code, and PADEP guidance and does not conflict with any state, regional, or local plans. This Plan has been updated using demographic information reviewed by the Wayne County Solid Waste Department and the County GIS Department. This Plan builds upon planning concepts in the previously approved Plan. Demographic data, solid waste data, and knowledge of the Wayne County solid waste system have been applied to assure this Plan provides for the orderly extension of municipal waste management programs aligned with the needs of Wayne County.

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CHAPTER 11 – NON-INTERFERENCE

In accordance with Act 101 of 1988, Wayne County ensures its municipal waste management plan does not interfere with the design, construction, operation, financing or contractual obligations of any municipal waste processing, disposal, or resource recovery which is part of an approved municipal waste management Plan submitted to PADEP. There are no disposal facilities located within or proposed to be constructed within Wayne County. The Wayne County Recycling Center has been in operation for over 20 years. There is no significant expansion or operational changes proposed for the Recycling Center that would interfere with municipal waste processing, disposal or resource recovery.

This Plan does not restrict the use of remaining permitted disposal capacity, or capacity resulting from facility expansion. The County shall not interfere with the efforts of existing disposal or processing facilities to secure arrangements to process or dispose municipal waste from customers outside Wayne County provided these arrangements do not conflict with the executed Disposal Capacity Agreements associated with this Plan.

CHAPTER 11 – NON-INTERFERENCE

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CHAPTER 12 – PUBLIC PARTICIPATION

Public participation was an essential component of developing this Plan revision. Input from individuals, the Solid Waste Advisory Committee (SWAC), the Solid Waste Department, Board of Commissioner, and other stakeholders influenced planning information, concepts, strategies and initiatives proposed for the 10-year planning period. Public participation shaped realistic, implementable and cost-effective Plan initiatives compatible with the existing system and County Recycling Center. The SWAC was formed by soliciting for representation via email and letter correspondence to the groups listed below. **Table 12-1** show the SWAC meeting schedule.

- (1) All classes of municipalities within the county.
- (2) Citizen organizations.
- (3) Industry.
- (4) Private solid waste industry (in County).
- (5) Private recycling or scrap industry (in County).
- (6) County Recycling Coordinator.

Table 12-1 Wayne County SWAC Meeting Schedule

Meeting	Date
SWAC (1)	12-06-18
SWAC (2)	08-08-19
SWAC (3)	TBD

Key elements of the Public Participation included input, engagement, and shared resources among the following:

- Solid Waste Advisory Committee (SWAC)
- Wayne County Board of Commissioners
- Wayne County Solid Waste Department
- Disposal facility Representatives
- Wayne County Planning Department/GIS

Essential outcomes from public participation efforts included:

- SWAC meeting discussions and input guided the selection and justification of the County waste management system.
- The SWAC weighed in on preferred and realistic materials management strategies
- The SWAC and all municipalities were provided quarterly status reports and given the opportunity to review and comment on draft Plan chapters.
- Involvement by County staff in negotiation with disposal facilities and execute disposal capacity agreements.

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