



2023 SOLID WASTE MANAGEMENT PLAN

Logan County Solid Waste
Management District

PREPARED BY:



recycle.com

COMMISSIONED BY:



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SECTION i SOLID WASTE MANAGEMENT

DISTRICT INFORMATION

Table i-1 Solid Waste Management District Information

SWMD Name	Logan County Solid Waste Management District
Member Counties	Logan County
Coordinator's Name (main contact)	Angel Payne
Job Title	Coordinator
Street Address	1100 S. Detroit Street
City, State, Zip Code	Bellefontaine, Ohio 43311
Phone	937-599-1253
Fax	
E-mail address	angel@LoganCountyRecycles.com
Webpage	www.logancountyrecycles.com

Table i-2 Members of the Policy Committee/Board of Trustees

Member Name	Representing
Logan County	
Mark Robinson	County Commissioners
Ben Stahler, Mayor	Municipal Corporations
David Jackson, Harrison Township	Townships
Travis Irvan, MPH	Health District
Shannon Reese, Small Nation	Generators
Spencer Reames	Citizens
Scott Coleman, P.E.	Public

Table i-3 Chairperson of the Policy Committee or Board of Trustees

Name	Mark Robinson
Street Address	117 E Columbus Avenue
City, State, Zip Code	Bellefontaine, Ohio 43311
Phone	937-599-7284
Fax	
E-mail address	markr@co.logan.oh.us

Table i-4 Board of County Commissioners/Board of Directors

Commissioner Name	County	Chairperson/President
Paul Benedetti	Logan	
Mark Robinson	Logan	President
Joe Antram	Logan	Vice-President

Technical Advisory Committee: Not utilized for this Plan Update.

Consulting Information



Resource Recycling Systems
416 Longshore Drive
Ann Arbor, Michigan 48105
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CHAPTER 1 INTRODUCTION

A. Brief Introduction to Solid Waste Planning in Ohio

In 1988, Ohio faced a combination of solid waste management problems, including declining disposal capacity at existing landfills, increasing quantities of waste being generated and disposed, environmental problems at many existing solid waste disposal facilities, and increasing quantities of waste being imported into Ohio from other states. These issues combined with Ohio's outdated and incomplete solid waste regulations caused Ohio's General Assembly to pass House Bill (H.B.) 592. H.B. 592 revised Ohio's outdated solid waste regulatory program and established a comprehensive solid waste planning process.

There are three overriding purposes of this planning process: to reduce the amount of waste Ohioans generate and dispose of; to ensure that Ohio has adequate, protective capacity at landfills to dispose of its waste; and to reduce Ohio's reliance on landfills.

B. Requirements of County and Joint Solid Waste Management Districts

1. STRUCTURE

As a result of H.B. 592, each of the 88 counties in Ohio must be a member of a solid waste management district (SWMD). A SWMD is formed by county commissioners through a resolution. A board of county commissioners has the option of forming a single county SWMD or joining with the board(s) of county commissioners from one or more other counties to form a multi county SWMD. Ohio currently has 52 SWMDs. Of these, 37 are single county SWMDs and 15 are multi county SWMDs.¹

A SWMD is governed by two bodies. The first is the board of directors which consists of three county commissioners from each of counties in the SWMD. The second is a policy committee. The policy committee is responsible for developing a solid waste management plan for the SWMD. The board of directors is responsible for implementing the policy committee's solid waste management plan.² Policy committees prepare/monitor plans and create details and authorities to spend toward implementation, while the Board carries out the day-to-day implementation.

2. SOLID WASTE MANAGEMENT PLAN

In its solid waste management plan, the policy committee must, among other things, demonstrate that the SWMD will have access to at least 10 years of landfill capacity to manage all of the SWMD's solid wastes that will be disposed. The solid waste management plan must also show how the SWMD will meet the waste reduction and recycling goals established in Ohio's state solid waste management plan and present a budget for implementing the solid waste management plan.

¹Counties have the option of forming either a SWMD or a regional solid waste management authority (Authority). The majority of planning districts in Ohio are SWMDs, and Ohio EPA generally uses "solid waste management district", or "SWMD", to refer to both SWMDs and Authorities.

²In the case of an Authority, it is a board of trustees that prepares, adopts, and submits the solid waste management plan. Whereas a SWMD has two governing bodies, a policy committee and board of directors, an Authority has one governing body, the board of trustees. The board of trustees performs all of the duties of a SWMD's board of directors and policy committee.

Solid waste management plans must contain the information and data prescribed in Ohio Revised Code (ORC) 3734.53, Ohio Administrative Code (OAC) Rule 3745-27-90. Ohio EPA prescribes the format that details the information that is provided and the manner in which that information is presented. This format is very similar in concept to a permit application for a solid waste landfill.

The policy committee begins by preparing a draft of the solid waste management plan. After completing the draft version, the policy committee submits the draft to Ohio EPA. Ohio EPA reviews the draft and provides the policy committee with comments. After considering and appropriately revising the draft to address Ohio EPA's comments, the policy committee makes the plan available to the public for comment, holds a public hearing, and revises the plan as necessary to address the public's comments.

Next, the policy committee ratifies the plan. Ratification is the process that the policy committee must follow to give the SWMD's communities the opportunity to approve or reject the draft plan. Once the plan is ratified, the policy committee submits the ratified plan to Ohio EPA for review and approval or disapproval. From start to finish, preparing a solid waste management plan can take up to 33 months.

The policy committee is required to submit periodic updates to its solid waste management plan to Ohio EPA. How often the policy committee must update its plan depends upon the number of years in the planning period. For an approved plan that covers a planning period of between 10 and 14 years, the policy committee must submit a revised plan to Ohio EPA within three years of the date the plan was approved. For an approved plan that covers a planning period of 15 or more years, the policy committee must submit a revised plan to Ohio EPA within five years of the date the plan was approved.

C. District Overview

The SWMD's first solid waste management plan was approved by the Direct of Ohio EPA on December 18, 1991. Since 1991, solid waste management plans were prepared, ratified, and implemented to ensure residents had adequate solid waste disposal capacity and meet the state plan goals. The District has had four plan updates since 1991; the first plan update was approved on December 24, 1996, the second of December 28, 2005; the third on March 15, 2010 and the fourth update on August 16, 2016.

The SWMD's role is to administer the programs in the solid waste management plan. These programs reduce the reliance on landfills through diversion. Equally important is the assurance of landfill capacity for the waste generated that is not diverted. The County's landfill, where the majority of the District's waste is disposed, has approximately 40 more years of capacity remaining. Logan County SWMD is striving to lengthening the landfill's lifetime and achieve a higher level of sustainability through its recycling, composting and other programs.

The Logan County SWMD's waste management strategy is integrated with a mix of several waste management approaches for managing the waste stream: source reduction, recycling, composting, and landfilling. Collection services of trash and recyclables are self-haul, or private provided. The drop-off collection programs are pay-as-you-throw (PAYT) programs, which incentivizes reduction of trash and increase of recycling. Processing of recyclables relies on the County's facility to bale materials to be sent to market or regional facilities. There are a few private sector businesses that provide recycling infrastructure within a reasonable transport distance.

The SWMD has extensive recycling infrastructure in the form of PAYT drop-off recycling centers. The centers are spread through the County and continue to be high performing centers compared to other recycling drop-offs in the state. The focus of the SWMD Plan has not only developed infrastructure opportunities but has also created a culture for the residents and businesses to actively reduce, reuse and recycle. Designed strategies and program

implementation has resulted in a consistently high residential/commercial diversion rate. As have the partnerships and opportunities private industry provides in the County. The rate was an average of 52% from 2015 to 2019.

Monitoring program performance across sectors – residential, commercial, institutional, industrial – the SWMD has identified new food diversion programs, and improvements to existing program and data collection methods. These improvements are designed to provide more opportunities and increase efficiencies. This 2022 Plan Update outlines the SWM's program opportunities, informed by historic data, trends, market conditions, infrastructure, potential challenges, and gaps.

D. Waste Reduction and Recycling Goals

As explained earlier, a SWMD must achieve goals established in the state solid waste management plan. The current state solid waste management plan is the *2009 Solid Waste Management Plan* (2009 State Plan). The 2009 State Plan established nine goals as follows:

1. The SWMD shall ensure that there is adequate infrastructure to give residents and commercial businesses opportunities to recycle solid waste.
2. The SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector and at least 66 percent of the solid waste generated by the industrial sector.
3. The SWMD shall provide the following required programs: a Web site; a comprehensive resource guide; an inventory of available infrastructure; and a speaker or presenter.
4. The SWMD shall provide education, outreach, marketing and technical assistance regarding reduction, recycling, composting, reuse, and other alternative waste management methods to identified target audiences using best practices.
5. The SWMD shall provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.
6. The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.
7. The SWMD will use U.S. EPA's Waste Reduction Model (WARM) (or an equivalent model) to evaluate the impact of recycling programs on reducing greenhouse gas emissions.
8. The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.
9. The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

All nine SWMD goals in this state plan are crucial to furthering solid waste reduction and recycling in Ohio. However, by virtue of the challenges posed by Goals 1 and 2, SWMDs typically have to devote more resources to achieving those two goals than to the remaining goals. Thus, Goals 1 and 2 are considered to be the primary goals of the state plan.

Each SWMD is encouraged to devote resources to achieving both goals. However, each of the 52 SWMDs varies in its ability to achieve both goals. Thus, a SWMD is not required to demonstrate that it will achieve both goals.

Instead, SWMDs have the option of choosing either Goal 1 or Goal 2 for their solid waste management plans. This affords SWMDs with two methods of demonstrating compliance with the State's solid waste reduction and recycling goals. Many of the programs and services that a SWMD uses to achieve Goal 1 help the SWMD make progress toward achieving Goal 2 and vice versa.

A SWMD's solid waste management plan will provide programs to meet up to eight of the goals. Goal 8 (market development) is an optional goal. Goal 9 requires submitting annual reports to Ohio EPA, and no demonstration of achieving that goal is needed for the solid waste management plan.

See Chapter 5 and Appendix I for descriptions of the programs the SWMD will use to achieve the nine goals.

CHAPTER 2 DISTRICT PROFILE

Purpose of Chapter 2

This chapter provides context for the SWMD's solid waste management plan by providing an overview of general characteristics of the SWMD. Characteristics discussed in this chapter include:

- The communities and political jurisdictions within the SWMD;
- The SWMD's population in the reference year and throughout the planning period;
- The available infrastructure for managing waste and recyclable materials within the SWMD;
- The commercial businesses and institutional entities located within the SWMD;
- The industrial businesses located within the SWMD; and
- Any other characteristics that are unique to the SWMD and affect waste management within the SWMD or provide challenges to the SWMD.

Understanding these characteristics helps the policy committee make decisions about the types of programs that will most effectively address the needs of residents, businesses, and other waste generators within the SWMD's jurisdiction.

Population distribution, density, and change affect the types of recycling opportunities that make sense for a particular community and for the SWMD as a whole.

The make-up of the commercial and industrial sectors within the SWMD influences the types of wastes generated and the types of programs the SWMD provides to assist those sectors with their recycling and waste reduction efforts.

Unique circumstances, such as hosting an amusement park, a large university, or a coal burning power plant present challenges, particularly for providing waste reduction and recycling programs.

The policy committee must take into account all of these characteristics when developing its overall waste management strategy.

A. Profile of Political Jurisdictions

1. COUNTIES IN THE SOLID WASTE MANAGEMENT DISTRICT

Logan County is a single county solid waste management district composed of Logan County and the local units of governments within the County borders, except for the Village of Ridgeway, which is included in the Allen-Champaign-Hardin-Madison-Shelby-Union Joint solid waste management district. The District has been a single county solid waste management district since its formation March 9, 1989. The District has not undergone any reconfiguration since it was formed.

2. COUNTY OVERVIEW

Logan County is located in central Ohio and is positioned roughly a one-hour drive from Dayton, and Columbus metro areas. The county seat is the City of Bellefontaine, which is the largest population center and only city in the county. Bellefontaine is centrally located. There are twelve villages, and seventeen townships within the county. Population density is 97 people per square mile.

Logan County is flat and heavily rural, with 64% of land in the County used for cultivated crops. Only approximately 8% is developed land. Indian Lake, the largest body of water in the County, is located in the northwest part of the county.

B. Population

1. REFERENCE YEAR POPULATION

In 2019, Logan County was the 51st most populous county in Ohio out of 88 total counties³. Ohio law requires that the entire population of a municipality located in more than one solid waste management district be added to the solid waste management district containing the largest portion of the jurisdiction's population. As mentioned above, the Village of Ridgeway straddles between Logan County and Hardin County, with the majority of the population residing in Hardin County. The population of Ridgeway residents residing in Hardin County is subtracted from the County population.

Table 2-1 Population of District in the Reference Year

	Logan County
Before Adjustment	45,672
Additions	
None	0
Subtractions	
Village of Ridgeway	113
After Adjustment	45,559
Total Adjusted Population	45,559

2. POPULATION DISTRIBUTION

Table 2-2 shows the largest community in each county and the size of the community relative to the total population of the county. The largest community in Logan County is the City of Bellefontaine, accounting for 29% of the SWMD's population.

Table 2-2 Population Distribution in the Reference Year

County		Largest Political Jurisdiction		
Name	Population	Community Name	Population	Percent of Total County Population
Logan	45,559	City of Bellefontaine	13,249	29%

³ Ohio Development Services Agency 2019 Ohio County Population Estimate, <https://development.ohio.gov/files/research/P5007.pdf>

Table 2-3 shows distribution of the population in cities, villages, and townships, and the distribution of the population in incorporated versus unincorporated areas. Over half of all Logan County residents reside in unincorporated townships, 29% reside in cities, and 20% reside in villages.

Table 2-3 Population Distribution

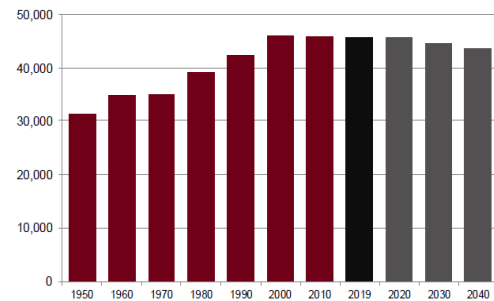
County	Percent of Population in Cities	Percent of Population in Villages	Percent of Population in Unincorporated Township
Logan	29%	20%	51%

3. POPULATION CHANGE

According to the Ohio Development Services Agency (ODSA), Office of Statistical Research, Logan County's population grew from 1950 to 2000 then declined by 0.72% from 2000 to 2019. While the SWMD's population declined, Ohio's population grew 3% from the same time period.

Total Population

Census			Estimated		
1800		1910	30,084	2014	45,473
1810		1920	30,104	2015	45,250
1820	3,159	1930	28,981	2016	45,128
1830	6,440	1940	29,624	2017	45,198
1840	14,015	1950	31,329	2018	45,332
1850	19,162	1960	34,803	2019	45,672
1860	20,996	1970	35,072	Projected	
1870	23,028	1980	39,155	2020	45,600
1880	26,267	1990	42,310	2030	44,590
1890	27,386	2000	46,005	2040	43,590
1900	30,420	2010	45,858		



Source: Ohio Development Services Agency, "Ohio County Profiles Logan County", 2020.

Population projections gauge future demand for services, however, in projection calculations many factors contribute adding to the difficulty associated with forecasting. For this solid waste management Plan the District is using MORPC projections demonstrating a relatively flat population for planning waste generation, disposal, and recovery estimates.

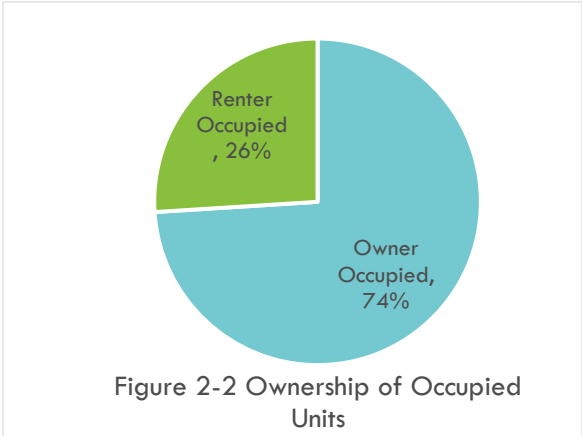
4. IMPLICATIONS FOR SOLID WASTE MANAGEMENT

The profile of the SWMD can provide key insights into solid waste management planning. Factors such as population density, housing characteristics, and poverty rates apply when assessing which programs and program structure are needed to meet residential needs for solid waste management.

Population density and area characteristics impact waste collection, management, and disposal activities. Logan County is a rural SWMD with a population density of 97 people per square mile. In the City of Bellefontaine, the community with the highest population and population density, residents have access to universal curbside trash and recycling service. Universal curbside recycling is also provided to single family dwelling residents of Lake Township and West Liberty. Providing curbside recycling to the rural low-density areas of the County can be challenging and cost prohibitive. Villages offer more density and continue to explore curbside services. The SWMD provides sixteen recycling drop-offs throughout the county to service areas with less population density, serving over 80% of the SWMD’s population.

There are over 23,000 housing units in Logan County. The majority of housing structures are single family homes (78%).⁴ Of the total housing units, approximately one-fourth are renter occupied (Figure 2-2). This is about three-quarters the average rate for the state of Ohio (34% of occupied homes are rentals). This is important for solid waste management planning because renters tend to be more mobile than homeowners, and can present some different challenges when engaging and educating renters about recycling programs. As the County has a higher percentage of owner-occupied homes, the SWMD can provide residents with recycling education more consistently and reach out more quickly about program changes or material focuses.

According to the US Census, the poverty rate in Logan County was 11.4% in 2019 – or roughly 5,200 people within the county live in poverty. While this is lower than Ohio state average of 14% and the national average of 13.4%, it does impact finding economic and equitable solutions for sustainable waste management.

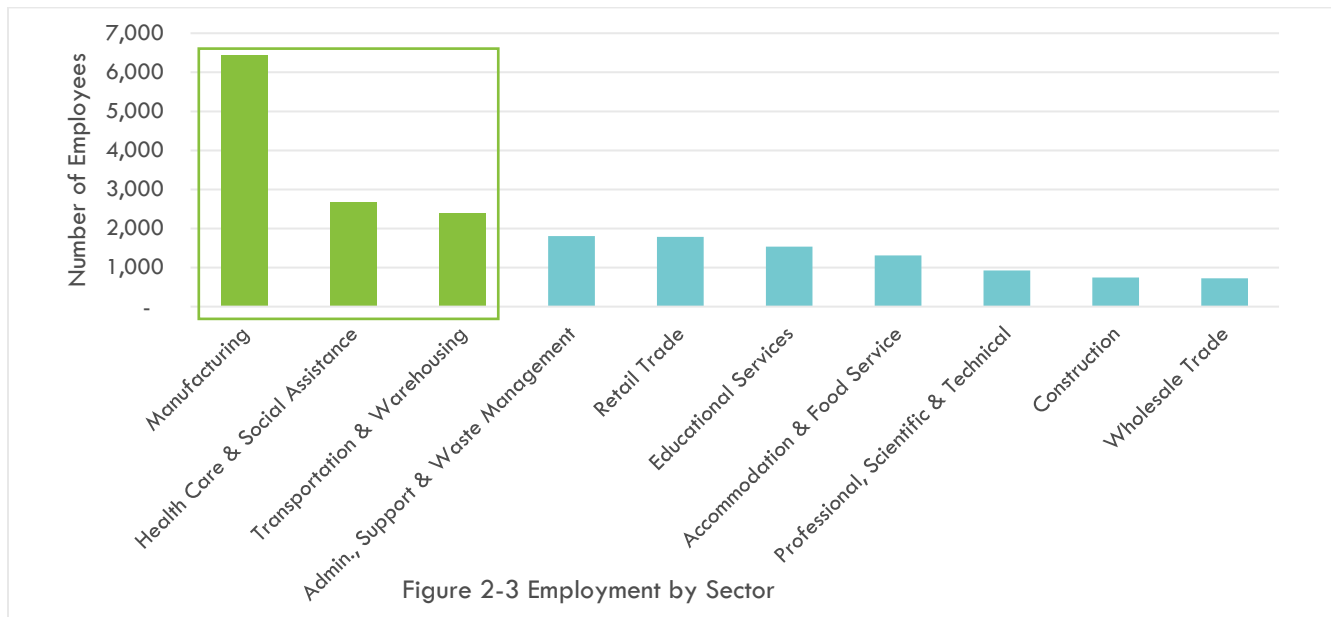


Source: Census Reporter. American Community Survey 2018 5-year <https://censusreporter.org/profiles/05000US39091-logan-county-oh/>

C. Profile of Commercial and Institutional Sector

Logan County’s top industry sectors by number of employees are as follows: manufacturing (29%), health care and social assistance (12%), and transportation and warehousing (11%). These top three employment sectors account for over half of the total employment in the County (51%). The top ten employment sectors employ 90% of the County’s employed population – or over 20,300 people (shown in Figure 2-3).

⁴ Census Reporter. American Community Survey 2018 5-year. <https://censusreporter.org/profiles/05000US39027-putnam-county-oh/>



Source: Ohio Economic Profile Logan County, July 2019. Ohio Department of Job and Family Services, Office of Workforce Development.
https://ohiolmi.com/_docs/EconomicProfiles/LoganCounty2019.pdf

The major employers in Logan County are shown in Table 2-4. The major employers are disbursed throughout Logan County, in or close to major population centers. Over 70% of employees live less than 30 minutes from their job by commute time.

Table 2-4 Top Employers by Employment in Commercial and Institutional Sectors

Business Name	Industry Sector
Bellefontaine City Schools	Government
Indian Lake Local	Government
Mary Rutan Hospital	Service
Nash-Finch Co.	Trade
Wal-Mart Stores Inc.	Trade

Source: Ohio County Profiles for Logan County 2020. <https://development.ohio.gov/files/research/C1047.pdf>

Notes: Acusport Corporation was a top employer in the County before mass layoffs in May 2019.

From 2013 to 2018, Logan County's total employment in the private sector increased by 5.3%. However, increases were not uniform across all sectors, some sectors saw declines in employment numbers. Four sectors saw the most dramatic increases in employment during that time, with over 15% increases in each: 1) natural resources and mining 2) construction 3) trade, transportation, and utilities and 4) leisure and hospitality. In the public sector, the number of employees increased by 2.6% for the federal, state, and local government jobs.

D. Profile of Industrial Sector

Logan County has a strong goods-producing or industrial sector in terms of number of establishments, employments, and growth. In 2018, Logan County had 139 industrial sector establishments, which include natural resource mining, construction, and manufacturing. While only roughly a third of the industrial sector establishments are in manufacturing, manufacturing accounts for more than 87% of industrial sector employment and 29% of all employment in the County. Manufacturing sector comprises establishments engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. From 2013 to 2018, the

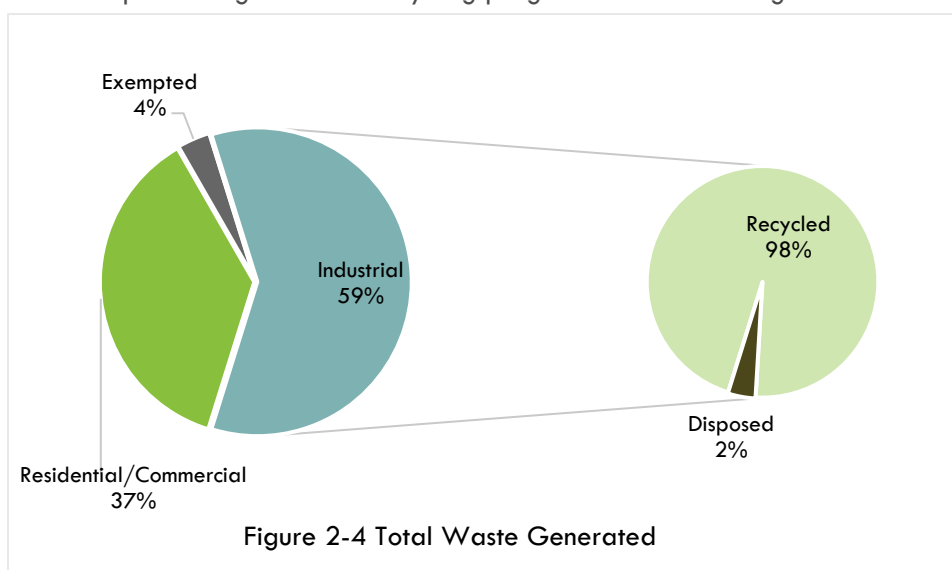
employment in the industrial sector grew by 4.8%, with over 15% growth in both natural resources/mining and construction. Manufacturing employment grew by 3.4% during that same time period.⁵ The top manufacturing employers in the County are listed in Table 2-5. The State of Ohio is a leader in manufacturing jobs, with 14,000 establishments.

Table 2-5 Top Employers by Employment in Manufacturing Sectors

Business Name	Industry Sector
AGC Glass Co.	Manufacturing
BelleTech Corp.	Manufacturing
HBD Industries	Manufacturing
Honda Motor Co. Ltd.	Manufacturing

Source: Ohio County Profiles for Logan County 2020. <https://development.ohio.gov/files/research/C1047.pdf>

Industries are financially responsible for implementing their own recycling programs and contracting for trash and recycling services. The industrial sector in Logan County accounts for about 59% of the total waste generated in the County (based on averages from 2015 to 2019) but the sector also diverts 98% of its waste generated (see Figure 2-4). However, that 2% not diverted still represents 10% of the County's total waste disposed annually.



E. Other Characteristics

Logan County is most densely populated in the areas of Bellefontaine and the Lake. These population centers represent about half of the total county population and are connected to Columbus by the only interstate (look alike SR 33) in the county. As a result, there has been incremental evolution of the culture by this connectivity – gradually moving the county's culture away from its historic closeness to Dayton and toward Columbus - culminating in the county recently joining the Mid-Ohio Regional Planning Commission. This shift will further institutionalize Columbus centric life, including road development and the predictable development along the roadways. The connectivity lends high mobility of Columbus area residents into Logan County for industrial jobs and recreation while Logan County residents' mobility into Columbus for the myriad of shopping, jobs, and entertainment. There is much back and forth, altering the demand for services.

⁵ Ohio County Profiles for Logan County 2020. <https://development.ohio.gov/files/research/C1047.pdf>

Logan County is an aging community. Many young people who attend college elsewhere relocate after college. However, the exploding cost of entering the housing market will likely reverse this trend because higher-end apartments are available in Logan County for a fraction of the urban Columbus costs.

A lack of higher-end housing inventory has held the county back in the recent exodus from the densely populated cities. Recent improvements in the variety of offerings in downtown Bellefontaine will increase migration into Bellefontaine when the housing inventory provides a better match with demand. The combination of migration into the county, higher end real estate and diverse urban offerings in a small-town environment are likely to yield a more diversified economy and the accompanying waste changes and demands for services.

These changes will add pressure for commercial services, especially geared toward recycling for businesses, and apartments.

Prior to the buildup of solid waste infrastructure, many rural residents were known to burn waste. It is believed that affordable services have attenuated these behaviors somewhat and will continue to alter behaviors in the future.

The SWMD annually sees an influx of visitors and tourists to the county with Indian Lake, which seasonally adds over 1 million visitors. The Indian Lake region has become a destination for boating and fishing enthusiasts. It is the host for several major fishing tournaments each year as well as weekly contests held by local bass clubs. In the winter, ice fishing and snowmobiling have become greatly popular in the area.

CHAPTER 3 WASTE GENERATION

Purpose of Chapter 3

This chapter of the solid waste management plan provides a summary of the SWMD's historical and projected solid waste generation. The policy committee needs to understand the waste the SWMD will generate before it can make decisions regarding how to manage the waste. Thus, the policy committee analyzed the amounts and types of waste that were generated within the SWMD in the past and that could be generated in the future.

The SWMD's policy committee calculated how much solid waste was generated for the residential/commercial and industrial sectors. Residential/commercial waste is essentially municipal solid waste and is the waste that is generated by a typical community. Industrial solid waste is generated by manufacturing operations. To calculate how much waste was generated, the policy committee added the quantities of waste disposed of in landfills and reduced/recycled.

The SWMD's policy committee obtained reduction and recycling data by surveying communities, recycling service providers, collection and processing centers, commercial and industrial businesses, owners and operators of composting facilities, and other entities that recycle. Responding to a survey is voluntary, meaning that the policy committee relies upon an entity's ability and willingness to provide data. When entities do not respond to surveys, the policy committee gets only a partial picture of recycling activity. How much data the policy committee obtains has a direct effect on the SWMD's waste reduction and recycling and generation rates.

The policy committee obtained disposal data from Ohio EPA. Owners/operators of solid waste facilities submit annual reports to Ohio EPA. In these reports, owners/operators summarize the types, origins, and amounts of waste that were accepted at their facilities. Ohio EPA adjusts the reported disposal data by adding in waste disposed in out-of-state landfills.

The policy committee analyzed historic quantities of waste generated to project future waste generation. The details of this analysis are presented in Appendix G. The policy committee used the projections to make decisions on how best to manage waste and to ensure future access to adequate waste management capacity, including recycling infrastructure and disposal facilities.

A. Solid Waste Generated in Reference Year

Waste generation refers to the volume of materials that enter the waste stream before recycling, composting, landfilling or other waste management. To determine a waste generation, estimate JBRSWA collected data from several sources including:

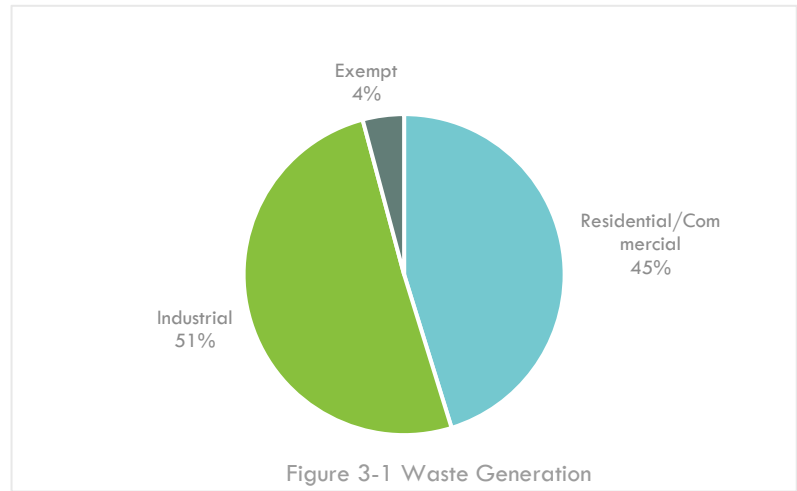
- Ohio EPA Facility Data (some facilities are required to submit annual reports to Ohio EPA)
- Surveys of commercial and industrial businesses recyclers, buybacks, brokers, and scrap dealers (these surveys are voluntary and relies on the willingness of any company to provide the data)
- Ohio EPA MRF reports (Ohio EPA collects data from commercial 'big box stores and material recovery facilities)

$$\text{Waste Generation} = \text{Wastes Disposed} + \text{Wastes Diverted}$$

In 2019, Logan County generated 128,679 tons of material, as shown in Figure 3-1.

Table 3-1 Solid Waste Generated in the Reference Year

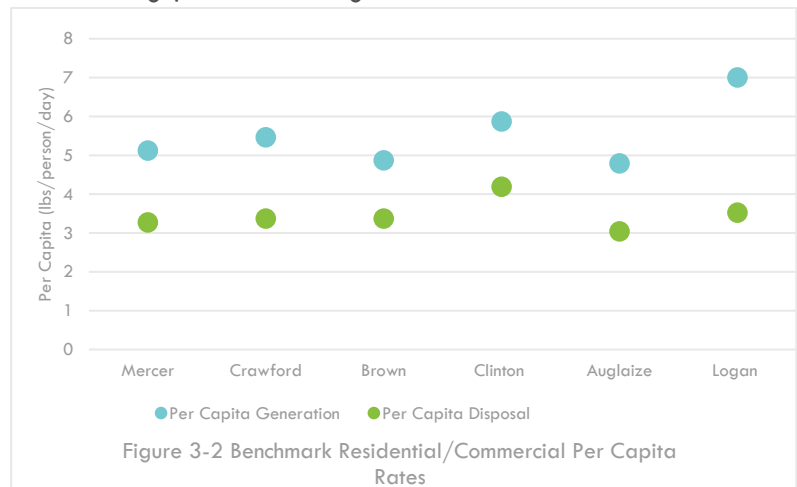
Type of Waste	Quantity Generated (tons)
Residential/ Commercial	58,189
Industrial	65,130
Excluded	5,360
Total	128,679



1. Residential/Commercial Waste Generated in the Reference Year

Logan County generated 58,189 tons of waste in the residential/commercial sector. This estimated generation indicates each person generates approximately 7.00 pounds per day. Benchmarking this generation to other rural District's demonstrates Logan County's generation is high, as shown in Figure 3-2.

Logan County leads other districts with its material management practices, PAYT programs and collection of data, resulting in a high diversion rate of 50%. Waste generation may be higher due to mis-identified waste at the landfill. That is, waste from other District's may be mis-identified as Logan County waste. The District's fee structure is lower than neighboring solid waste management district fees. Another possibility is that industrial waste could be classified as commercial waste at the landfill which could inflate the residential/commercial generation data.



2. Industrial Waste Generated in the Reference Year

The industrial sector generated 65,130 tons of waste, accounting for approximately 51% of total waste generated in the County. Logan County's industrial sector is dominated by manufacturing and includes auto parts and auto manufacturing companies.

3. Excluded Waste Generated in the Reference Year

Excluded waste is waste material exempt from the definition of solid waste in ORC 3734.01. All exempt waste is also fee exempt. Ohio EPA Format 4.0 adds a threshold for exempt waste which excludes exempt waste from calculations if it is less than 10% of total waste generated. Exempt waste for Logan County accounts for less than 10% of the waste generated and is not considered in the analysis of this plan.

B. Historical Waste Generated

1. Historical Residential/Commercial Waste Generated

Residential/commercial waste generation has fluctuated very minimally, as shown in Figure 3-3. During this time, population was flat so that generation is not tracking any change in population.

Disposal for residential/commercial sector followed a slightly rising trend. Recycling, the other part of the equation, is collected through voluntary data reporting and by nature succumbs to data fluctuations. Excluding 2016, recycling followed a slightly rising trend. Recovery in 2016, jumped higher than other historical data years which is attributable to a scrap tire clean-up.

2. Historical Industrial Waste Generated

Industrial waste generation held relatively flat and then dropped in 2019. In the 2019 data year, there was a 5%, drop in number of tons recovered. This appears to be mainly due to the number of respondents to the survey; from 2015-2018 there were an average of 59 respondents and there were 9 respondents in 2019. Additionally, industrial disposal documented higher tonnages over the 2016, 2017, and 2018 timeframe. These years included waste sent to a neighboring state waste-to-energy facility. Another contributing factor is the highly volatile economic environment in 2019.

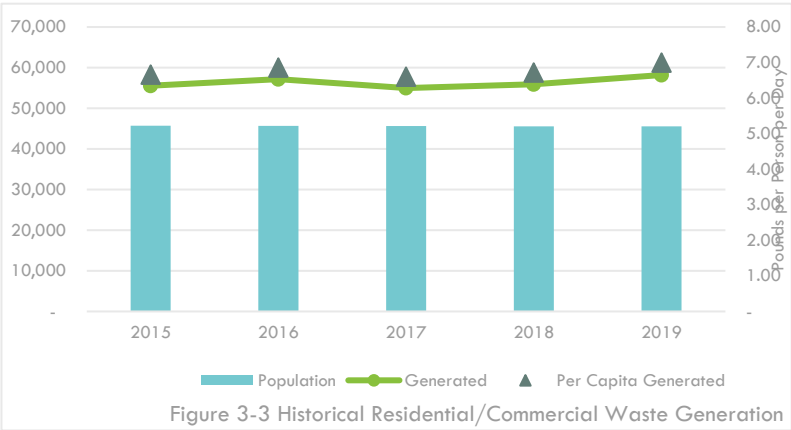


Figure 3-3 Historical Residential/Commercial Waste Generation

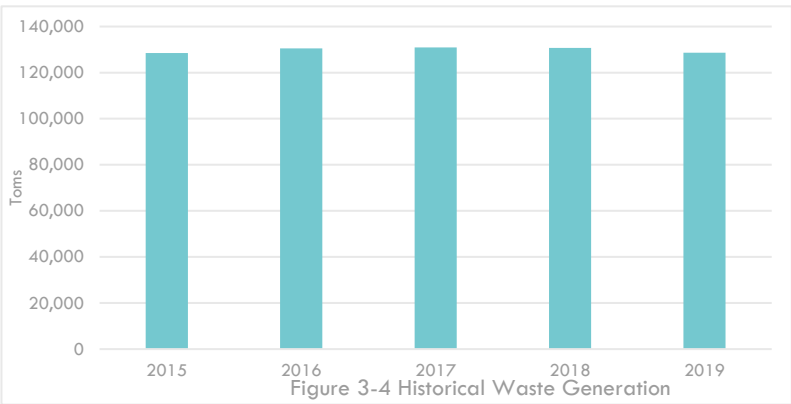


Figure 3-4 Historical Waste Generation

C. Waste Generation Projections

Table 3-2 presents projected waste generation for the first 6 years of the planning period.

Table 3-2 Waste Generation Projections

Year	Residential Commercial Waste	Industrial Waste	Excluded Waste	Total
	Waste (tons)	Waste (tons)	Waste (tons)	Waste (tons)
2023	56,198	68,200	5,296	129,694
2024	56,237	69,519	5,280	131,036
2025	56,273	70,865	5,265	132,403
2026	56,310	70,865	5,249	132,425
2027	56,309	70,865	5,233	132,408
2028	56,308	70,865	5,217	132,391

In the residential/commercial sector the historical and reference year data assists in forecasting waste generation. Residential and commercial waste generation is anticipated to grow at a slow rate throughout the planning period. This growth projected is based on a steady per capita generation rate so that the decrease in disposal is mainly attributed to the decreasing projected population. Diversion is projected to remain stable with the current recycling program options available and increase slightly with the new food scrap drop-off program and the addition of small quantity generators and apartment recycling programs to Bellefontaine's service contract.

To project the industrial sector generation, the District looked to economic indicators. Prior to COVID-19 pandemic which began in the US in March 2020, predictions expected a gross domestic product growth of 1.7% annually through 2023. Taking this into consideration, the SWMD is conservatively estimating industrial sector diversion to increase at a 2% rate till 2024 then hold flat. Industrial disposal is projected to remain stable so that industrial waste generation will hold flat throughout the planning period.

Estimation and forecasting explanations are provided in more detail in Appendices D, E, F and G.

CHAPTER 4 WASTE MANAGEMENT

Purpose of Chapter 4 (Content in this box is authored by Ohio EPA)

Chapter 3 provided a summary of how much waste the SWMD (refers to both SWMDs and Authorities) generated in the reference year and how much waste the policy committee estimates the SWMD will generate during the planning period. This chapter summarizes the policy committee's strategy for how the SWMD will manage that waste during the planning period.

A SWMD must have access to facilities that can manage the waste the SWMD will generate. This includes landfills, transfer facilities, incinerator/waste-to-energy facilities, compost facilities, and facilities to process recyclable materials. This chapter describes the policy committee's strategy for managing the waste that will be generated within the SWMD during the planning period.

To ensure that the SWMD has access to facilities, the solid waste management plan identifies the facilities the policy committee expects will take the SWMD's trash, compost, and recyclables. Those facilities must be adequate to manage all of the SWMD's solid waste. The SWMD does not have to own or operate the identified facilities. In fact, most solid waste facilities in Ohio are owned and operated by entities other than the SWMD. Further, identified facilities can be any combination of facilities located within and outside of the SWMD (including facilities located in other states).

Although the policy committee needs to ensure that the SWMD will have access to all types of needed facilities, Ohio law emphasizes access to disposal capacity. In the solid waste management plan, the policy committee must demonstrate that the SWMD will have access to enough landfill capacity for all of the waste the SWMD will need to dispose of. If there isn't adequate landfill capacity, then the policy committee develops a strategy for obtaining adequate capacity.

Ohio has more than 30 years of remaining landfill capacity. That is more than enough capacity to dispose of all of Ohio's waste. However, landfills are not distributed equally around the state. Therefore, there is still the potential for a regional shortage of available landfill capacity, particularly if an existing landfill closes. If that happens, then the SWMDs in that region would likely rely on transfer facilities to get waste to an existing landfill instead of building a new landfill.

Finally, SWMD has the ability to control which landfill and transfer facilities can, and by extension cannot, accept waste that was generated within the SWMD. The SWMD accomplishes this by designating solid waste facilities (often referred to flow control). A SWMD's authority to designated facilities is explained in more detail later in this chapter.

A. Waste Management Overview

Logan County manages waste through a combination of landfills and incinerators, recycling programs and facilities, transfer stations, and composting facilities. Figure 4-1 depicts total waste generation management in the reference year. More than 70% of the waste generated is diverted—meaning the majority of generation is being recycled or composted.

Table 4-1 presents projected waste generation for the first 6 years of the planning period. The District is expecting slight growth in recycling and composting and a slight decline in landfilling.

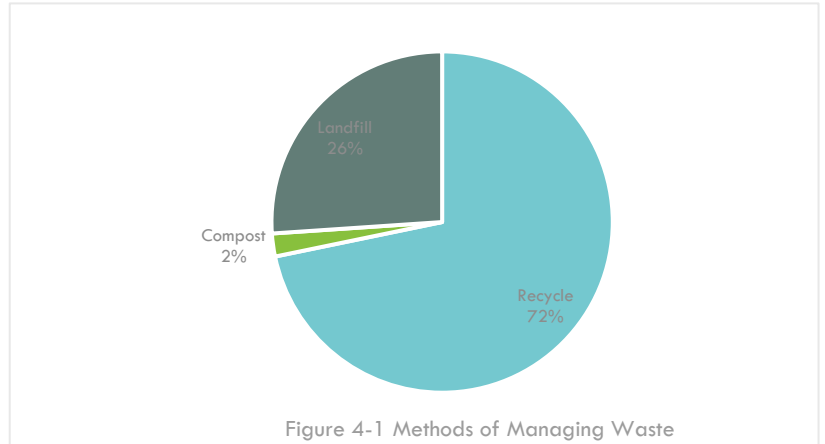


Figure 4-1 Methods of Managing Waste

Table 4-1 Methods for Managing Waste Projections

Year	Generate ¹	Recycle ²	Compost ³	Transfer ⁴	Landfill ⁵
2019	128,679	89,167	2,699	4,418	32,395
2023	129,694	92,485	2,985	4,107	34,224
2024	131,036	93,814	3,014	4,105	34,208
2025	132,403	95,167	3,044	4,103	34,191
2026	132,425	95,175	3,075	4,101	34,175
2027	132,408	95,175	3,075	4,099	34,158

Source:

¹Reference Year Appendix Table G-1 and Projections Table G-2

²Reference Year Appendix Table E-5 and Projections Table K-3 subtracting compost

³Reference Year Appendix Table B-5 and Projections Table E-7

⁴Reference Year Appendix Table D-2 and Projections Table D-5

⁵Reference Year Appendix Table D-3 and Projections Table D-5

Includes exempt waste and Landfill column includes Transfer waste.

Sample Calculation:

Generate = Recycle + Compost + Landfill

B. Profile of Waste Management Infrastructure

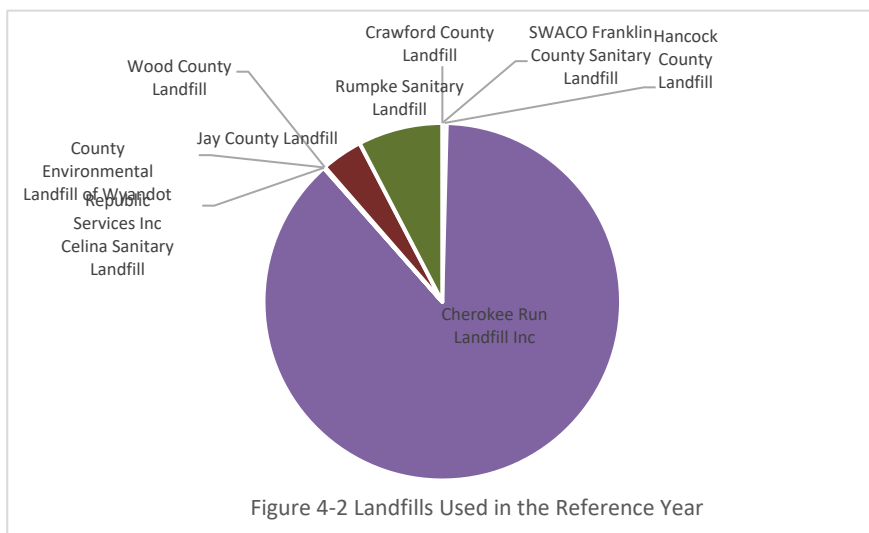
This next section identifies waste management infrastructure and identifies gaps and needs to handle the expected growth.

1. Landfill Facilities

Municipal solid waste landfills were used in the reference year. A wide variety of wastes are disposed in municipal solid waste landfills and includes waste generated from households, commercial businesses, institutions, and industrial plants. In addition, asbestos (if permitted to do so), construction and demolition debris, dewatered sludge, contaminated soil, and incinerator ash may also be disposed in municipal solid

waste landfills.

Roughly 83% of the municipal solid waste (includes direct hauled and transferred) is disposed in the in-county landfill Cherokee Run Landfill (Figure 4-2). Additionally, there are several landfills within reasonable direct haul and transfer distance. The volume of waste each landfill receives is dependent on its own collection and transport capabilities or upon its relationships with independent haulers, and its permit to accept approved daily waste tons. The majority of the landfills are owned and operated by the private sector.



2. Transfer Facilities

Public haulers, private haulers, or self-haul provide waste collection service in Logan County. Waste flows to landfills either by direct haul or through a transfer facility. Approximately 88% of the waste was direct hauled, meaning a refuse truck picked up waste from clients and directly hauled that waste to a landfill for disposal. Direct hauled waste is disposed in in-state and out-of-state landfill facilities. The remaining 12% was transferred before disposed in a landfill. Seven transfer facilities were used in the reference year. There are no transfer facilities in Logan County.

3. Composting Facilities

There are four Class IV facilities (yard waste) in the SWMD. One, Cherokee Run Landfill, is publicly available to all in the County. The two in Bellefontaine are available to City of Bellefontaine residents. The Village of West Liberty's compost facility is only accessible to the village.

4. Processing Facilities

The Logan County Recycling Center processes material from the County drop-offs and the curbside recycling programs. In addition, there are several different MRFs/processors utilized to process County materials that are located outside the District.

5. Waste Collection

The Village of West Liberty and Belle Center operates their own municipal waste collection services. Outside of these two, municipal solid waste is collected from residents, businesses, and institutions and transported to landfills by private waste operators or self-haul.

C. Solid Waste Facilities Used in the Reference Year

1. Landfill Facilities

Table 4-2 lists the landfills received waste from Logan County in the reference year, which is direct hauled, i.e., not transferred through a transfer facility.

Table 4-2 Landfill Facilities Used by the District in the Reference Year (2019 Direct Hauled)

Facility Name	Location		Waste Accepted from SWMD (tons)	Percent of all SWMD Waste Disposed	Remaining Capacity (years)
	County	State			
<i>In-District</i>					
Cherokee Run Landfill	Logan	Ohio	32,197	99%	40
<i>Out-of-District</i>					
Crawford County Landfill	Crawford	Ohio	6	0.02%	22
SWACO Franklin County Sanitary Landfill	Franklin	Ohio	0	0.00%	42
Hancock County Landfill	Hancock	Ohio	142	0.44%	28
Republic Services Inc Celina Sanitary Landfill	Mercer	Ohio	12	0.04%	1
County Environmental Landfill of Wyandot	Wyandot	Ohio	23	0.07%	13
Wood County Landfill	Wood	Ohio	15	0.05%	38
Total			32,394	100%	184

Source: "Analytics Solid Waste Flows to Landfills and Incinerators in Ohio" Table 14
Appendix D, Table D-1

2. Transfer Facilities

Table 4-3 lists the transfer facilities receiving waste from Logan County in the reference year before landfilling.

Table 4-3 Transfer Facilities Used by the District in the Reference Year (2019)

Facility Name	Location		Waste Accepted from District (tons)	Percent of all District Waste Transferred	Landfill Where Waste was Taken to be Disposed
	County	State			
In-District					
None					
Out-of-District					
Rumpke Allen County Transfer Station	Allen	Ohio	4	0.09%	Rumpke Allen County Transfer Station
Waste Management of Ohio Inc - Lima	Allen	Ohio	1,379	31.21%	Waste Management of Ohio Inc - Lima
Rumpke Waste Inc Greenville Transfer Facility	Darke	Ohio	2,807	63.54%	Rumpke Waste Inc Greenville Transfer Facility
Delaware County Transfer Facility	Delaware	Ohio	33	0.74%	Delaware County Transfer Facility
Republic Services Inc Reynolds Ave Transfer Facility	Franklin	Ohio	2	0.05%	Republic Services Inc Reynolds Ave Transfer Facility
Montgomery County South Transfer	Montgomery	Ohio	72	1.62%	Montgomery County South Transfer
Shelby County Transfer Facility	Shelby	Ohio	121	2.74%	Shelby County Transfer Facility
Out-of-State					
None					
Total			4,418	100%	0

Source: "2019 Ohio Facility Data Report Tables". Ohio EPA.
Appendix D, Table D-2

3. Incinerator Facilities

Table 4-4 lists the incinerator facilities receiving materials from Logan County in the reference year.

Table 4-4 Incinerator Facilities Used by the District in the Reference Year (2019)

Facility Name	Facility Type	Location		Total (tons)
		County	State	
Covanta Environmental Solutions, LLC	Waste to Energy	Marion	IN	2,268
Total				2,268

4. Composting Facilities

Table 4-5 lists the permitted composting facilities receiving materials from Logan County in the reference year.

Table 4-5 Compost Facilities Used by the District in the Reference Year (2019)

Facility Name	Location (County)	Material Composted (tons)	Percent of all Material Composted
In District			
Village of West Liberty	Logan	462	17%
Cherokee Run Landfill Inc	Logan	73	3%
City of Bellefontaine	Logan	302	11%
Troy Road Compost Facility	Logan	1,861	69%
New Day Farms, North - Pullet Farm	Logan	not creditable	
Quincy Village	Logan	2	0.07%
Out-of-District			
None			0%
Total		2,699	100%

Source:

Appendix B, Table B-5

5. Processing Facilities

Table 4-6 lists the processing facilities receiving materials from Logan County in the reference year.

Table 4-6 Processing Facilities Used by the District in the Reference Year (2019)

Name of Facility	Location		Facility Type	Recyclables Accepted from District (tons)
	County	State		
In-District				
Logan County Recycling Center	Logan	OH	Dual Stream MRF	3,200
Allied Waste Commercial Cardboard Collection	Logan	OH	Single Material Processor – corrugated cardboard	Unknown*
Out-of-District				
Rumpke Recycling – Dayton	Montgomery	OH	SS, MS MRF	299

Name of Facility	Location		Facility Type	Recyclables Accepted from District (tons)
	County	State		
WM Recycling – Columbus	Franklin	OH	Multi-Stream	3
Out-of-State				
None				
Total				3,502

Source:

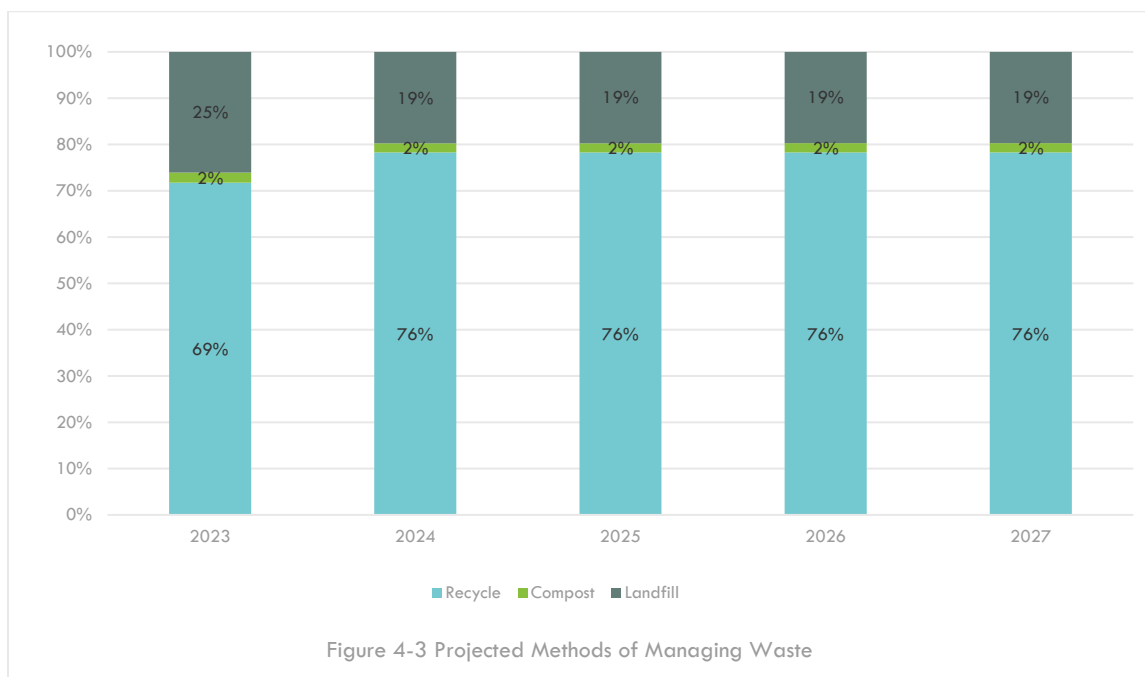
Appendix B, Table B-7

Note: *most included in Logan County Recycling Center tonnages

D. Use of Solid Waste Facilities During the Planning Period

The District continues to support an open market for the collection, transport, and disposal of solid waste. There is sufficient access to municipal solid waste landfill capacity for the planning period and access to transfer facilities to manage waste. Landfill capacity remains abundant and exceeds available volume of waste generated locally.

Logan County is not expecting changes in the management of waste through the planning period. Following historical trends, the planning period expects waste to be similarly managed as shown in Figure 4-3. Logan County does not expect any changes to the recyclable processing facilities or flows to processing facilities during the planning period. Additional capacity is not needed.



E. Siting Strategy

(Content in this box is authored by Ohio EPA)

As explained earlier, the solid waste management plan must demonstrate that the SWMD will have access to enough capacity at landfill facilities to accept all of the waste the SWMD will need to dispose of during the planning period. If existing facilities cannot provide that capacity, then the policy committee must develop a plan for obtaining additional disposal capacity.

Although unlikely, the policy committee can conclude that it is in the SWMD's best interest to construct a new solid waste landfill facility to secure disposal capacity. In that situation, Ohio law requires the policy committee to develop a strategy for identifying a suitable location for the facility. That requirement is found in Ohio Revised Code Section 3734.53(A)(8). This strategy is referred to as a siting strategy. The policy committee must include its siting strategy in the solid waste management plan. The siting strategy is located in Appendix S.

The District will rely upon the Ohio EPA siting strategy contained in Ohio Administrative Code 3745-27, 3745-30, and 3745-37 as well as other available siting criteria guidance from Ohio EPA's Southwest District Office.

F. Designation

Purpose of Designation (Content in this box is authored by Ohio EPA)

Ohio law gives each SWMD (refers to both SWMDs and Authorities) the ability to control where waste generated from within the SWMD can be taken. Such control is generally referred to as flow control. In Ohio, SWMDs establish flow control by designating facilities. SWMDs can designate any type of solid waste facility, including recycling, transfer, and landfill facilities.

Even though a SWMD has the legal right to designate, it cannot do so until the policy committee specifically conveys that authority to the board of directors. The policy committee does this through a solid waste management plan. If it wants the SWMD to have the ability to designate facilities, then the policy committee includes a clear statement in the solid waste management plan giving the designation authority to the board of directors. The policy committee can also prevent the board of directors from designating facilities by withholding that authority in the solid waste management plan.

Even if the policy committee grants the board of directors the authority to designate in a solid waste management plan, the board of directors decides whether or not to act on that authority. If it chooses to use its authority to designate facilities, then the board of directors must follow the process that is prescribed in ORC Section 343.014. If it chooses not to designate facilities, then the board of directors simply takes no action.

Once the board of directors designates facilities, only designated facilities can take the SWMD's waste. That means, no one can legally take waste from the SWMD to undesignated facilities and undesignated facilities cannot legally accept waste from the SWMD. The only exception is in a situation where, the board of directors grants a waiver to allow an undesignated facility to take the SWMD's waste. Ohio law prescribes the criteria that the board must consider when deciding whether to grant a waiver and how long the board has to make a decision on a waiver request.

If the board of directors designates facilities, then the next section will provide a summary of the designation process and Table 4-6 will list currently designated facilities.

1. Description of the SWMD's Designation Process

The Logan County Board of County Commissioners is hereby authorized to designate solid waste management facilities in accordance with ORC Section 343.014, and reserves the right to do so during the period covered by the Plan update. At this time, the Board chooses not to designate facilities and will allow any industry, political jurisdiction, and solid waste hauler to use any solid waste management facility. If circumstances change and the Board of Directors determines it is appropriate to designate, the designation process outlined in Ohio Revised Code shall be followed.

2. List of Designated Facilities

There are no facilities currently designated.

CHAPTER 5 WASTE REDUCTION AND RECYCLING

Purpose of Chapter 5

As was explained in Chapter 1, a SWMD (refers to SWMDs and Authorities) must have programs and services to achieve reduction and recycling goals established in the state solid waste management plan. A SWMD also ensures that there are programs and services available to meet local needs. The SWMD may directly provide some of these programs and services, may rely on private companies and non-profit organizations to provide programs and services, and may act as an intermediary between the entity providing the program or service and the party receiving the program or service.

Between achieving the goals of the state plan and meeting local needs, the SWMD needs to ensure that a wide variety of stakeholders have access to reduction and recycling programs. These stakeholders include residents, businesses, institutions, schools, and community leaders. These programs and services collectively represent the SWMD's strategy for furthering reduction and recycling in its member counties.

Before deciding on the programs and services that are necessary and will be provided, the policy committee (board of trustees for an Authority) performed a strategic, in-depth review of the SWMD's existing programs and services, recycling infrastructure, recovery efforts, finances, and overall expectations. This review consisted of a series of 14 analyses that allowed the policy committee to obtain a holistic understanding of the SWMD by answering questions such as:

- Is the SWMD adequately serving all waste generating sectors?
- Is the SWMD recovering high volume wastes such as yard waste and cardboard?
- How well is the SWMD's recycling infrastructure being used/how well is it performing?
- What is the SWMD's financial situation and ability to fund programs?

Using what it learned, the policy committee drew conclusions about the SWMD's abilities, strengths and weaknesses, operations, existing programs and services, outstanding needs, available resources, etc. The policy committee then compiled a list of actions the SWMD could take, programs the SWMD could implement, or other things the SWMD could do to address its conclusions. The policy committee used that list to make decisions about the programs and services that will be available in the SWMD during the upcoming planning period.

After deciding on programs and services, the policy committee projected the quantities of recyclable materials that would be collected through those programs and services. This in turn allowed the policy committee to project its waste reduction and recycling rates for both the residential/commercial sector and the industrial sector (See Appendix E for the residential/commercial sector and Appendix F for the industrial sector).

A. Solid Waste Management District Priorities

Priority areas to focus efforts in the 2023 Plan include:

Priority Program	Priority Area
Food Scrap Drop-off	Diverting food waste from landfill
PAYT Drop-off	Bag fee rate increases
Commercial and Industrial Business Surveys	Collecting data
Community Curbside Grant Assistance	Grant per household financial assistance to communities implementing curbside recycling.
MRF	MRF capital improvements to improve processing – better sorting to attract end markets and higher commodity pricing
Organics Initiatives	Cover crops project is a test method for building up soil, so more water can be absorbed/recycled. It's quicker and makes use of what is available for community to get better yields and save money.

B. Program Descriptions

This section briefly describes major programs and services available during the planning period. Appendix I contains complete descriptions.

1. Residential Recycling Programs

Curbside Recycling Services

The District does not haul curbside recycling or waste services.

Table 5-1 Curbside Recycling Services

ID#	Name of Curbside Service/Community Served	Service Provider	When Service Was/Will be Available
NSC1	Bellefontaine City PAYT/Curbside Recycling	Republic	ongoing
NSC2	Lake Township PAYT/Curbside Recycling	Republic	ongoing
NSC3	West liberty PAYT/Curbside Recycling	Republic	ongoing

Drop-off Recycling Locations

The District hauls drop-off recycling services.

Table 5-2 Drop-off Recycling Locations

ID	Name	Start Date	End Date	Goal
Full-Time Urban Drop				
FTU1	Bellefontaine PAYT Drop-off (Campbell Hill)	ongoing	ongoing	1 and 2
FTU2	Bellefontaine PAYT Drop-off	ongoing	ongoing	1 and 2
ID	Name	Start Date	End Date	Goal
Full-Time Rural Drop-off				
FTR1	North Side (Stokes Twp) PAYT Drop-off	ongoing	ongoing	1 and 2
FTR2	Belle Center Village PAYT Drop-off (Richland Twp)	ongoing	ongoing	1 and 2
FTR3	DeGraff Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR4	East Liberty PAYT Drop-off	ongoing	ongoing	1 and 2
FTR5	Huntsville Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR6	Lakeview Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR7	Middleburg PAYT Drop-off (Zane Township)	ongoing	ongoing	1 and 2
FTR8	Moundwood PAYT Drop-off (Washington Twp)	ongoing	ongoing	1 and 2
FTR9	Quincy Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR10	Rushsylvania Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR11	Russells Point PAYT Drop-off	ongoing	ongoing	1 and 2
FTR12	West Liberty Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR13	West Mansfield PAYT Drop-off (Bokescreek Twp)	ongoing	ongoing	1 and 2
FTR14	Zanesfield (Jefferson Township) PAYT Drop-off	ongoing	ongoing	1 and 2

Drop-off recycling locations are convenient, easy to use, pleasant to visit, available 24/7, and include the concept of PAYT. Locations include a small shed, fencing, landscaping, lights, and video surveillance cameras. Each drop-off site has at least three 33-yard roll-offs for recyclables, 8-yard roll-offs for trash (number of containers varies per site), and a bag vending system (housed in the shed). The District owns the containers and equipment to service and process recyclables collected.

Residents' drop-off recyclable materials and trash in the appropriate well-marked containers. Anyone using the drop-off sites for trash disposal must use the green colored PAYT bags that can be purchased at the on-site vending machine or at select retail locations in the County. User fees are charged for trash bags only. PAYT bag fees are set to increase in this 2023 Plan.

Materials accepted are cardboard, mixed paper, and commingled recyclables. Separate containers are provided for the three collection streams. Mixed paper includes: newspaper, magazines, glossy inserts, junkmail, chipboard, and paper. Commingled recyclables include: glass (clear, brown, and green), plastics #1 and #2, aluminum cans, bi-metal cans, steel cans, and cartons. Household batteries are placed in separate material slots at the shed. Plastic film is only accepted at the Bellefontaine (1100 S Detroit) location.

With the increasing residential/commercial disposal rate the SWMD is planning to create tiered bag fee increases throughout this 2023 Plan to continue encouraging diversion. In addition, the SWMD will introduce a minibag option to further incentivize source reduction and recycling. The minibag, expected to be introduced in 2023, is subject to manufacturing constraints. The actual introduction may be sooner or later but will not be later than 2024. Minibag rates are not expected to impact revenues as the cost/gallon of disposal will remain relatively constant.

2. Commercial/Institutional Sector Reduction and Recycling Programs

These programs are programs directly provided by District staff.

Name	Description
<i>Fiber Collection – Commercial & Institutional Recycling Assistance</i>	<p>Schools are provided trailers, desk side baskets, and classroom containers to collect paper and cardboard. Each school administrator is provided a 7-gallon desk side basket and each classroom a 14-gallon container. The District also operates a collection route to haul the recyclables to the MRF.</p> <p>The District assists commercial businesses in their recycling efforts by identifying available haulers offering services. Commodity rebates are offered to incentivize diversion.</p> <p>County government office buildings are provided containers, collection, and processing by the District.</p>

Name	Description
<i>Agricultural Community Assistance</i>	<p>The District has a relationship with the Co-op Extension office, Soil and Water Conservation District and Farm Bureau to assist with recycling services to the agricultural community on an as needed basis.</p> <p>Assistance with a demonstration project identified as Cover Crops Project. This demonstration project is over 500 acres and will consist of planting cover crops between crop seasons. The District will select the farms and conduct sampling.</p>

3. Industrial Sector Reduction and Recycling Programs

Name	Description
<i>Industrial Committee</i>	<p>The SWMD will work with KLCB to develop a formal program to re-engage the industrial sector. The initial challenge KCLM will be tasked with is to develop an outreach contact database and personally invite contacts to the industrial committee meetings. The SWMD envisions 3 meetings a year with the first year focused on exploring barriers to complete the annual surveys and collaborate on methods to streamline the survey.</p>

Name	Description
<i>Commercial and Industrial Business Surveys</i>	See description under line item 9. <i>Data Collection</i>

Name	Description
<i>Technical Assistance</i>	The District conducts waste assessments and audits, provides education, resource materials, and assistance to the commercial and industrial sectors on source reduction, reuse, and recycling. Assistance to set up recycling programs is also provided.

4. *Restricted/Difficult to Manage Wastes*

Name	Description
<i>CHaRM (Center for Hard to Recycle Materials)</i>	CHaRM is a collection drop-off for hard to recycle materials. Residents may bring acceptable materials to the building marked CHaRM where materials are unloaded from vehicles and weighed in the covered drive thru building.

Name	Description
<i>HHW Education</i>	The District provides technical support, awareness, and education on household hazardous wastes. The SWMD will boost website and social to educate on reducing or eliminating HHW.

Name	Description
<i>Lead Acid Battery Strategy</i>	The District directs residents to proper outlets for managing lead-acid batteries properly. Outlets include retailers take back programs, auto service centers (repair and maintenance), and CHaRM. Proper management guidance is located on the website as well as communicated to phone inquiries.

Name	Description
<i>Household Battery Collection</i>	Household batteries such as AA, AAA, C, D, button batteries, and 9-volt batteries can all be dropped off at any one of the drop-off recycling centers. No user fees are charged for residents recycling batteries. Collected batteries are weighed, packaged in buckets, and shipped to a battery recycler, which is labor intensive on the SWMD.

Name	Description
<i>Waste Tire Management Program</i>	The District accepts scrap tires from residents at CHaRM. User fees are assessed. In addition, private businesses and processors

	provide alternative outlets for scrap tires at a nominal fee. A service provided by the District to the County is location and servicing of a drop-box for scrap tires at the County Engineer's office for use only by engineers.
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Name	Description
<i>Yard Waste Infrastructure</i>	Infrastructure available for yard waste management is not funded by the District. Infrastructure is a combination of private and public facilities and collection operations. The District is available and serves the role to consult with the known facilities and services for technical support and strategic assistance.

Name	Description
<i>Organics Initiatives</i>	No infrastructure is anticipated in the next planning cycle. Additional strategies to implement to encourage market expansion of compost: <ul style="list-style-type: none"> • Boots on the ground initiative to work with the current compost facilities and their practices to encourage (if not already doing so) to create a soil rich amendment rather than mulch. • Working with County Engineer and parks division departments to include the use of compost in projects to help drive demand.

Name	Description
<i>Food Scrap Drop-off Program</i>	This is a new program to begin in 2021. The SWMD is selecting a site to place food scrap containers that will be available to divert food scraps for registered users. Users will be assessed a fee. The SWMD will arrange site, containers, collection, and processing.

5. Funding/Grants/Economic Incentives/Market Development

Name	Description
<i>Grant Subsidies Program</i>	The District may provide one-time funding in the form of grant subsidies to governmental entities for purchase of materials or items made from recycled materials. Funding is limited and is solely dependent on monies leftover from regular budget items.

Name	Description
<i>Market Development Projects</i>	The District may give funding to various agencies for approved market development projects. The funding provided is to be administered strictly at the Board of Director's discretion. To maintain appropriate funds to approved projects requesting 50%

	funding or less. Any funds disbursed will be unused funds after regular budget items are disbursed.
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Name	Description
<i>Program Improvements/Revisions</i>	<p>All interested parties may seek these funds. Project specific grants will be awarded based on projected audience size and improved participation and/or tons diverted. All grant applications will be required to project these achievements. Awards will require reporting on actual achievements in terms of surveyed improvements in participation or empirical estimates of increased diversion or decreased violations.</p> <p>Consulting with the community, the Board of Directors determines on an annual basis how to best spend the available allocation to implement new or improved programs. Allocations are likely to change from year to year and may be made in any proportion deemed most promising, based on real opportunities to improve diversions. Likely uses include: grants or allocations to study or pilot program improvements, capital improvements at facilities to increase diversions, and community incentive programs (rewards/rebates).</p> <p>Any funds disbursed will be unused funds after regular budget items are disbursed.</p>

Name	Description
<i>PAYT Incentive Program</i>	The PAYT Rebate Program is an incentive program for PAYT Recycling Centers. The SWMD provides monetary incentive funds to an eligible community based on the weight of residential recyclable material collected through the community's PAYT Recycling Center program.

Name	Description
<i>Community Curbside Grant Assistance</i>	This is a new program to begin in 2021. Community Curbside Grant Assistance is an incentive program for communities implementing curbside recycling programs. The SWMD is budgeting to provide monetary incentive funds up to \$2 per household for trash collection and \$2 per household for curbside recycling to an eligible community.

6. Feasibility Studies

Name	Description
<i>Waste Generation Rate Study</i>	Discussions with the landfill are ongoing to attempt to harmonize their disposal reports with SWMD estimates.

Name	Description
<i>MRF Ownership and Operation Study</i>	This study is planned to evaluate public ownership and operation of the MRF versus a publicly owned and privately operated (specifically a separate non-profit entity) MRF.

Name	Description
<i>Transfer Facility Development</i>	The district is authorized to establish the need and timing of a transfer station and begin development of a transfer station as funds are allocated in this plan starting in 2030. If the need precedes the schedule and expenses are less than \$200,000 (approximately 10% of the planned SWMD expenses found in Table O-8) for one year, that is, the expenses do not succeed into subsequent planning years, then the District will not ratify an amended plan budget. If the need precedes the schedule for funding this development, and significant resources are needed before 2030 that succeed into subsequent planning years, the district will ratify an amended budget to move the investment forward sooner.

7. Facility Ownership/Operations

Name	Description
<i>Material Processing Center (MRF)</i>	The Material Processing Center (MRF) sits on a 4.49-acre lot housed a 26,700 square foot building with 9,000 square feet for mixed office and education space located at 1100 S. Detroit Street, Bellefontaine, Ohio. Materials are processed in a dual stream (fiber and commingled), baled, stored, and marketed. The basic sorting line relies on manual separation of commingled recyclables. The SWMD is planning to continue improvements to restore and improve overall financial sustainability.

8. Other

Name	Description
<i>Health Department Assistance</i>	<p>\$80,000 annually is budgeted for assistance in monitoring the Cherokee Run Landfill, which included ground water monitoring and litter prevention and littering calls.</p> <p>The Health Department is required to submit yearly reports on the activities implemented each year with the funding provided by the District.</p>

Name	Description
<i>Local Law Enforcement - litter</i>	The District provides funding to the Sheriff's Department for a dedicated deputy to enforce laws prohibiting litter and illegal dumping as well as laws related to the transportation of solid waste and to transport inmate labor daily to the MRF.

Name	Description
<i>County Assistance</i>	The Board of Directors of the District has the authority to administer funds to the "County to defray the added costs of maintaining roads and other public facilities and of providing emergency and other public services resulting from the location and operation of a solid waste facility within the county under the District's approved solid waste management plan." Revenues are not appropriated to this program.

Name	Description
<i>Municipal / Township Assistance</i>	The Board of Directors of the District has the authority to administer funds "...to individual municipal corporations and townships within the district to defray their added costs of maintaining roads and other public facilities and of providing emergency and other public services resulting from the location and operation within their boundaries of composting, energy or resource recovery, incineration, or recycling facility that either is owned by the district or is furnishing solid waste management facility or recycling services to the district or pursuant to a contract or agreement with the board of county commissioners or directors of the district". Revenues are not appropriated to this program.

Name	Description
<i>Disaster Debris Management</i>	The Logan County EMA's emergency operations plan includes provisions establishing a debris management team that names the director of the Logan County Emergency Management Agency and the District Coordinator as co-chairs. In addition to acting as co-chair of the debris management team, the District Coordinator will also serve as the debris manager during a debris-generating event.

Name	Description
<i>Waste Sort</i>	A waste sort is not planned for the short term next 5 years of this 2023 Plan.

Name	Description
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<i>Private Recyclers / Processors</i>	Private recyclers/processors operate in the District and accept materials from residents/businesses for recycling. The District does not provide funding to these recyclers/processors.
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Name	Description
<i>Other District Recycling Collections</i>	Any recycling provided by the District which does not fall into another waste reduction or recycling program. Namely roadside litter collection, however, any other recycling opportunities were included. Roadside clean-up programs with jail inmates and juvenile offenders; Adopt-A-Road groups, and continuous monitoring of the roads and highways by police and sheriff deputies continued.

Name	Description
<i>SWMD Accounting Review</i>	Ohio law limits how solid waste management districts can spend disposal fee and generation fee revenue to 10 allowable uses outlined in ORC 3734.57(G). There are other revenue mechanisms solid waste management districts may use that are not regulated to the 10 allowable uses. The SWMD uses both regulated and unregulated revenue mechanisms to support operations, programs, and activities. In this planning cycle the SWMD will begin a more conscious effort to divide revenues and expenses into “District Administration” and “Operations” categories to identify regulated and unregulated revenues and expenses.

Name	Description
<i>Countywide Collection Agreement</i>	The district is authorized to establish the need and timing of countywide collection agreements and begin development of such agreements. .

9. Data Collection

Name	Description
<i>Commercial and Industrial Business Surveys</i>	The SWMD annually surveys commercial and industrial businesses to track recycling and source reduction in the previous calendar year.

10. Outreach, Education, Awareness, and Technical Assistance

Minimum education requirements prescribed by Goal 3:

- District maintains a website at www.logancountyrecycles.com.
- District’s webpage serves as a resource guide.
- Solid Waste Management Plan and website serve as an infrastructure inventory.
- District staff are available for presentations.

Supplying information and seeking behavior changes is the central objective for the District's outreach and marketing. The District will employ various collateral and promotions. The key is to integrate communication such that promotional efforts are effective with the marketing activities. Incorporating the strategies and best practices described below provides a multi-layered, multi-faceted marketing and outreach strategy. Flyers, ads, postcards, print/digital advertisements, etc. are all District branded with consistent recognizable look that ties the resident/business back to the District. The following table lists the education/outreach programs.

Education/Outreach Program	Target Audience				
	Residents	Schools	Industries	Institutions and Commercial Businesses	Communities and Elected Officials
HHW Education	X				
Fiber Collection		X		X	
Industrial Committee			X		
Technical Assistance		X	X	X	X
Food Scrap Drop-off – Outreach Priority	X				
Elected Official Outreach					X
School Outreach		X			
General Public Outreach	X				
Social Media Outreach	X	X	X	X	X
Advertisements and Promotional Item Distribution	X	X	X	X	X

The District's programs, although unconventional, are the district's best outreach. Drop-off programs for PAYT and recycling provide a voluntary, non-subscription countywide outreach. The economic incentives alone explain the reception of these programs with increasing participation each year. In addition, the availability of complete, reliable, and affordable has increased the word of mouth in ways a puppet show, or Facebook contest could not. However, the District has just past "scratching the surface". Many more residents and most businesses have yet to access the current services.

As the district approaches higher level of diversions, the costs of services and outreach as well as the empirical success of these programs will have less bang for the buck. Therefore, funding new programs will require a serious turn toward user fees and registration fees, such as for food waste diversion programs and business services.

Name	Start Date	End Date	Goal
HHW Education	Ongoing	Ongoing	4

Described earlier in this Chapter.

Name	Start Date	End Date	Goal
Fiber Collection	Ongoing	Ongoing	4

Education happens one-on-one basis. Entities serviced by the SWMD occurs more frequently. Businesses contracting with haulers may contact the SWMD as needed. The website lists contact information.

Name	Start Date	End Date	Goal
Industrial Committee	Ongoing	Ongoing	4

Described earlier in this Chapter.

Name	Start Date	End Date	Goal
Technical Assistance	Ongoing	Ongoing	4

The District conducts waste assessments and audits, provides education, resource materials, and assistance to the commercial and industrial sectors on source reduction, reuse, and recycling. Assistance to set up recycling programs is also provided.

Emphasis on available business recycling. apartment recycling and long-term planning for improves recycling infrastructure will be the first priority for coordination with Bellefontaine in years 3-5, moving out to the Lake area and the rest of the county in years 4 though 8.

Name	Start Date	End Date	Goal
Food Scrap Drop-off – OUTREACH PRIORITY	2021	Ongoing	4

Start date is expected in 2021.

Research

Research demonstrates food scraps as a material being landfilled. The SWMD is piloting a demonstration of food scrap composting to begin in 2021 and expected to grow and continue through the planning period. Recognizing this is a new program, the District needs to be ready to implement a communication strategy to inform users.

Baseline food scraps disposed in 2019 is 4,060 tons.

Outreach Planning and Implementation

There are two audience groups the District is targeting.

1. Restaurants and Cafeterias
2. Residents

The behavior change desired is that they divert food scraps at the food scrap drop-off location.

Target Audience	Tier	Tactic	Deliverable	Metrics
Audience: Restaurants and Cafeterias sign up as a user for the food scrap drop-off program	1	Educate restaurants and cafeterias to new program specifics.	SUMMER 2021 Staff pre-educate restaurants and cafeterias that a new opportunity to divert food scraps is coming and when to expect change. District release a press release. District will develop collateral of	Establish baseline tonnage at food scrap drop-off.

Target Audience	Tier	Tactic	Deliverable	Metrics
Problem (Desired Behavior Change): Divert food scraps from the landfill			how to divert food scraps (photos, videos, etc.)	
	1	Provide pre-training to restaurant and cafeteria staff.	SUMMER 2021 Develop signs for back of house and front of house to educate on what can be composted. Develop list of procedures for restaurants and cafeterias to follow.	Provide training to 100% of users signed up to participate.
	1	After food scrap drop-off location is open observe behavior and conduct onsite interviews with recycling users to understand barriers and obstacles to using the program.	FALL 2021 Staff locations and / or use sandwich education signs to show best practices. Obtain quotes from users for social media.	Define barrier to craft message. Track media posts messages and frequencies.
	1	After four weeks, staff food scrap drop-off location to obtain feedback.	FALL 2021 Discover incidents barriers and benefits.	Track registered users. Define barrier to craft communication message.
	1	Continued outreach to users.	WINTER 2022 Use signs and show stats to show impact of diverting food scraps.	Using measurement baseline determine campaign success after 3 months of implementation

Target Audience	Tier	Tactic	Deliverable	Metrics
Audience: Residents sign up as a user for the food scrap drop-off program Problem (Desired Behavior Change): Divert food scraps from the landfill	1	Educate residents to new program specifics: opportunity, materials accepted, user-based fees,	SUMMER 2021 Staff pre-educate residents that a new opportunity to divert food scraps is coming and when to expect change. District release a press release. District will develop collateral of how to divert food scraps (photos, videos, etc.)	Establish baseline tonnage at food scrap drop-off.
	1	After food scrap drop-off location is open observe behavior and conduct onsite interviews with recycling users understand what media platform to use to reach the audience.	FALL 2021 Staff locations and / or use sandwich education signs to show best practices. Obtain quotes from users for social media.	Define barrier to craft message. Track media posts messages and frequencies.
	1	After four weeks, staff food scrap drop-off location to obtain feedback.	FALL 2021 Discover incidents barriers and benefits.	Track registered users. Define barrier to craft communication message.
	1	Continued outreach to users.	WINTER 2022 Use signs and show stats to show impact of diverting food scraps.	Using measurement baseline determine campaign success after 3 months of implementation

Evaluation

The District tracks recycling annually from a variety of sources. The District plans to monitor the annual tonnage of food scraps recovered to measure for impacts from outreach and infrastructure changes as well as the number of users registered.

Name	Start Date	End Date	Goal
Elected Official Outreach	Ongoing	Ongoing	4

At a minimum of once one a year the SWMD reaches out one-on-one to community officials hosting PAYT drop-off locations via email and/or phone. Conversations include discussion of the sites, any issues, future changes, and discussion of the PAYT Incentives.

The new Community Curbside Grant Assistance program will also involve outreach to elected officials. At a minimum of once a year the SWMD will reach out one-on-one to community officials with curbside programs via email and/or phone. Conversations include discussion of the program, any issues, future changes, assistance with contracts, and discussion of the Community Curbside Grant Assistance.

Name	Start Date	End Date	Goal
School Outreach	Ongoing	Ongoing	4

The SWMD holds tours and speaking presentations for schools.

Name	Start Date	End Date	Goal
General Public Outreach	Ongoing	Ongoing	4

General Public Outreach provides awareness education as well as engaging outreach tactics for all SWMD programming.

The SWMD also provides booths at various festivals and fairs. Additionally, the SWMD is able to display, gather information and hand out promotional items.

Small group presentations are requested and the SWMD speaks to Girl Scouts, 4-H, Exchange Club, etc.

Name	Start Date	End Date	Goal
Social Media Outreach	Ongoing	Ongoing	4

The SWMD uses Facebook and Twitter as social media outlets and regularly posts information about SWMD events. The SWMD will use postings to drive traffic to the webpage. The type of posts to Facebook will also direct residents to social norms of recycling, composting, and reducing waste.

The SWMD will aim to increase the number of Facebook followers by 10% by year 2026 by including Facebook on all collateral and creating engaging posts.

Name	Start Date	End Date	Goal
Advertisements and Promotional Item Distribution	Ongoing	Ongoing	4

The SWMD uses various media to reinforce messaging. All advertisements and marketing collateral are branded with SWMD logo, colors, and fonts to create and reinforce brand identity. These forms of advertising were used to alert residents about various recycling opportunities including drop-off sites, CHaRM, litter cleanup activities, and education programs. Where appropriate at outreach activities, SWMD staff distributes promotional materials such as recycled-content pens, pencils, magnets, and notepads to further reinforce the recycling, litter prevention, and/or waste reduction message(s) being presented.

CHAPTER 6 BUDGET

Purpose of Chapter 6

Ohio Revised Code Section 3734.53(B) requires a solid waste management plan to present a budget. This budget accounts for how the SWMD will obtain money to pay for operating the SWMD and how the SWMD will spend that money. For revenue, the solid waste management plan identifies the sources of funding the SWMD will use to implement its approved solid waste management plan. The plan also provides estimates of how much revenue the SWMD expects to receive from each source. For expenses, the solid waste management plan identifies the programs the SWMD intends to fund during the planning period and estimates how much the SWMD will spend on each program. The plan must also demonstrate that planned expenses will be made in accordance with ten allowable uses that are prescribed in ORC Section 3734.57(G).

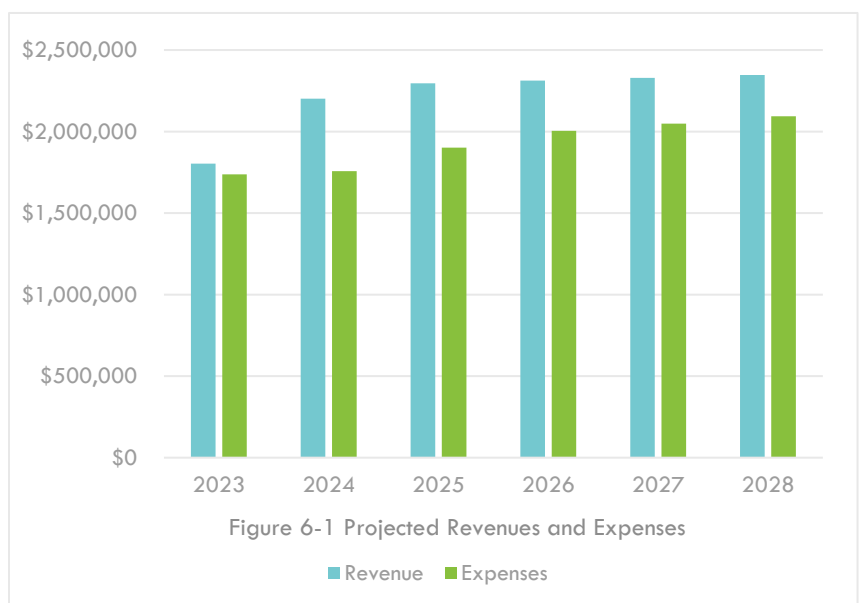
Ultimately, the solid waste management plan must demonstrate that the SWMD will have adequate money to implement the approved solid waste management plan. The plan does this by providing annual projections for revenues, expenses, and cash balances.

If projections show that the SWMD will not have enough money to pay for all planned expenses or if the SWMD has reason to believe that uncertain circumstances could change its future financial position, then the plan must demonstrate how the SWMD will balance its budget. This can be done by increasing revenues, decreasing expenses, or some combination of both.

This chapter of the solid waste management plan provides an overview of the SWMD's budget. Detailed information about the budget is provided in Appendix O.

A. Overview of SWMD's Budget

The activities and services described in Chapter 5 are supported through tier disposal fees, recycling revenue, user fees, and miscellaneous other revenues. The District projects to receive an annual average of \$2.2 million in revenues over the first six years of the planning period (2023-2028). The first six years of District expenses are projected to average an annual of \$1.9 million. Expenses are projected higher than revenues in the first three years of the planning period. This expected net loss due to MRF capital improvements and new program start-ups draws down the reserve balance.



B. Revenue

Overview of How Solid Waste Management Districts Earn Revenue

There are a number of mechanisms SWMDs can use to raise the revenue necessary to finance their solid waste management plans. Two of the most commonly used mechanisms are disposal fees and generation fees.

Before a SWMD can collect a generation or disposal fee it must first obtain approval from local communities through a ratification process. Ratification allows communities in the SWMD to vote on whether they support levying the proposed fee.

Disposal Fees (See Ohio Revised Code Section 3734.57(B))

Disposal fees are collected on each ton of solid waste that is disposed at landfills in the levying SWMD. There are three components, or tiers, to the fee. The tiers correspond to where waste came from – in-district, out-of-district, and out-of-state. In-district waste is solid waste generated by counties within the SWMD and disposed at landfills in that SWMD. Out-of-district waste is solid waste generated in Ohio counties that are not part of the SWMD and disposed at landfills in the SWMD. Out-of-state waste is solid waste generated in other states and disposed at landfills in the SWMD.

Ohio's law prescribes the following limits on disposal fees:

- The in-district fee must be at least \$1.00 and no more than \$2.00;
- The out-of-district fee must be at least \$2.00 and no more than \$4.00; and
- The out-of-state fee must be equal to the in-district fee.

Generation Fees (see Ohio Revised Code Section 3734.573)

Generation Fees are collected on each ton of solid waste that is generated within the levying SWMD and accepted at either a transfer facility or landfill located in Ohio. The fee is collected at the first facility that accepts the SWMD's waste. There are no minimum or maximum limits on the per ton amount for generation fees.

Rates and Charges (see Ohio Revised Code Section 343.08)

The board of directors can collect money for a SWMD through what are called rates and charges. The board can require anyone that receives solid waste services from the SWMD to pay for those services.

Contracts (see Ohio Revised Code Sections 343.02 and 343.03)

The board of directors can enter into contracts with owners/operators of solid waste facilities or transporters of solid waste to collect generation or disposal fees on behalf of a SWMD.

Other Sources of Revenue

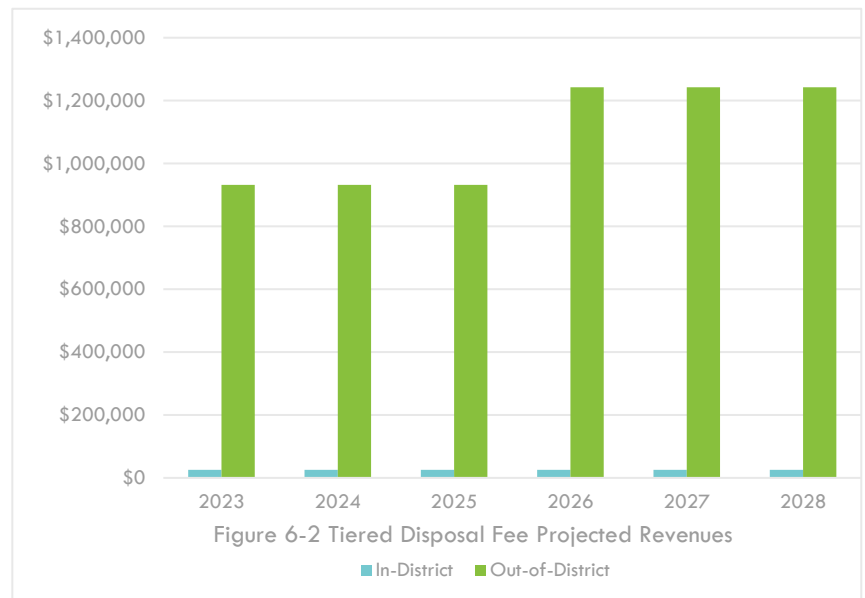
There are a variety of other sources that SWMDs can use to earn revenue. Some of these sources include:

- Revenue from the sale of recyclable materials;
- User fees (such as fees charged to participate in scrap tire and appliance collections);
- County contributions (such as from the general revenue fund or revenues from publicly-operated solid waste facilities (i.e., landfills, transfer facilities));
- Interest earned on cash balances;
- Grants;
- Debt; and
- Bonds.

1. Disposal Fee

The District collects: \$1.00 per ton of solid waste in-district; \$3.00 per ton of solid waste out-of-district; and \$1.00 per ton of solid waste out-of-state. Thus, for every ton generated by the District and disposed at landfills in the District \$1.00 per ton is received. For every ton generated out of district by other Ohio counties, the District receives \$3.00 per ton. The District receives \$1.00 per ton on out-of-state generated waste.

Evaluating historical revenues, in-district waste has been fairly stable from 2015 to 2020, averaging approximately \$25,900. Out-of-district revenue from the disposal fee has fluctuated but the from 2015 to 2020 is approximately \$1 million. An increase in revenue in 2016 corresponds to the fee increase from \$2 to \$3 per ton. To forecast through the planning period the District calculated the 2015 to 2020 average annual tonnage projecting that to hold steady through the planning period. The revenue is projected to increase in 2024 with a planned fee increase to \$4 per ton to be ratified with this 2023 Plan Update.



Note: Out of State fees not shown in Figure 6-2

2. Generation Fee

The District does not receive revenues from generation fees.

3. Fees collected via Designation Agreements

The District does not receive revenues from designation fees.

4. Other Funding Mechanisms Reimbursements

- a. Reimbursements: The reimbursement revenues are from how the SWMD manages contract costs for programs, essentially as administrative pass-through. Projected revenues beginning in year 2021 are held constant at the 2015 to 2019, 5-year average.
- b. Recycling Revenue: Income from sale of recyclable materials. Recycling revenue fluctuates with the markets. From 2015 to 2020, the SWMD received an average of \$308,710 per year in recycling revenue. However, the recycling revenue for the SWMD fluctuated significantly – the SWMD received \$415,225 in revenue in 2017 and a low of \$210,962 in 2019, a roughly \$240,000 difference. The 5-year 2015 to 2019 average revenue is \$314,363. Conservatively the SWMD is projecting \$300,000 revenue in 2021 followed by a 10% increase annually till 2025 when the projection is held constant at \$439,230.
- c. User Fees: User fees are another key funding source for the SWMD. User fees are charged on trash bags and materials accepted at CHaRM. The SWMD charges a fee for trash bags at the drop-off recycling centers as way to incentivize recycling. The price of bags has increased from \$2 per bag in 2013 to its current rate of \$2.50 per bag in 2020. The price of bags is intended to

be structured to pay for the program expenses including trash pick-up and disposal costs. Total collected in user fees dipped slightly from 2015 to 2016 but since 2016 have increased every year, with an average of \$327,000 collected annually from 2015 to 2020.

Projections for CHaRM user fees are held constant at \$13,093, the 5-year average from 2015 to 2019. Projected revenues from PAYT drop-off bag fees are calculated to increase. A \$0.25 annual increase is applied till bag prices reach \$3.50 each.

- d. Grants: In the 2016 Plan, the SWMD identified grants as a priority funding mechanism for the planning period and beyond. The SWMD had planned on receiving \$150,000 every year from 2016 to 2020. The district reached 65% of that goal receiving around \$485,000 in grants out of the \$750,000 targeted. Due to COVID-19 and the resulting state revenue shortfalls for this year, the Ohio EPA is suspended their grant program for 2020. The SWMD also identified pursuing grants opportunities outside of the Ohio EPA grants, which might be more important with the funding disruptions from COVID-19. If the SWMD had received a \$150,000 grant in 2020, the SWMD would have been at 85% of their funding goal.

The SWMD received a \$200,000 Ohio EPA grant with \$100,000 in 2021 and \$100,000 in 2022. No revenue is projected in the planning period.

- e. Miscellaneous: The SWMD also receives revenue from other sources that are typically more inconsistent in frequency and amount. The sources can include donations, interest, and other projects. The SWMD received over \$100,000 total in revenue in this category from 2015 to 2020, averaging \$17,400 per year. The range in this revenue fluctuations widely, with a low of \$5,209 in 2019 and a high in 2017 with \$44,006.

Miscellaneous projected revenues beginning in year 2021 are held constant at the 2015 to 2019, 5-year average.

Table 6-1 shows the projected revenues for the first six years of the planning period

Table 6-1 Summary of Revenue

Year	Disposal Fees	Other Revenue					Total Revenue
		Reimbursements	Recycling Revenue	User Fees	Miscellaneous	Grants	
Reference Year							
2019	\$937,974	\$4,451	\$210,962	\$348,794	\$5,209	\$361	\$1,507,752
Planning Period							
2023	\$957,971	\$9,505	\$363,000	\$456,125	\$16,965	\$0	\$1,766,647
2024	\$1,268,616	\$9,505	\$399,300	\$507,443	\$16,965	\$0	\$2,125,775
2025	\$1,268,616	\$9,505	\$439,230	\$561,441	\$16,965	\$0	\$2,217,422
2026	\$1,268,616	\$9,505	\$439,230	\$577,892	\$16,965	\$0	\$2,231,522
2027	\$1,268,616	\$9,505	\$439,230	\$594,836	\$16,965	\$0	\$2,246,046
2028	\$1,268,616	\$9,505	\$439,230	\$612,288	\$16,965	\$0	\$2,261,005

Source(s) of Information:
 Year 2019 sourced from Quarterly Fee Reports
 Planning period years sourced from Appendix O
 Sample Calculations:
 Total Revenue = Generation Fes + Other Revenue

C. Expenses

Overview of How Solid Waste Management Districts Spend Money

Ohio law authorizes SWMDs to spend revenue on 10 specified purposes (often referred to as the 10 allowable uses). All of the uses are directly related to managing solid waste or for dealing with the effects of hosting a solid waste facility. The 10 uses are as follows:

1. Preparing, monitoring, and reviewing implementation of a solid waste management plan.
2. Implementing the approved solid waste management plan.
3. Financial assistance to approved boards of health to enforce Ohio's solid waste laws and regulations.
4. Financial assistance to counties for the added costs of hosting a solid waste facility.
5. Sampling public or private wells on properties adjacent to a solid waste facility.
6. Inspecting solid wastes generated outside of Ohio and disposed within the SWMD.
7. Financial assistance to boards of health for enforcing open burning and open dumping laws, and to law enforcement agencies for enforcing anti-littering laws and ordinances.
8. Financial assistance to approved boards of health for operator certification training.
9. Financial assistance to municipal corporations and townships for the added costs of hosting a solid waste facility that is not a landfill.
10. Financial assistance to communities adjacent to and affected by a publicly-owned landfill when those communities are not located within the SWMD or do not host the landfill.

In most cases, the majority of a SWMD's budget is used to implement the approved solid waste management plan (allowable use 2). There are many types of expenses that a solid waste management district incurs to implement a solid waste management plan. Examples include:

- salaries and benefits;
- purchasing and operating equipment (such as collection vehicles and drop-off containers);
- operating facilities (such as recycling centers, solid waste transfer facilities, and composting facilities);
- offering collection programs (such as for yard waste and scrap tires);
- providing outreach and education;
- providing services; and
- paying for community clean-up programs.

Table 6-2 summarizes the types of expenses the District expects for implementation of this Plan Update. Detailed information regarding expenses is provided in Appendix O.

Table 6-2 Summary of Expenses

	Year						
Expense Category	Reference Year	Planning Period					
	2019	2023	2024	2025	2026	2027	2028
Plan Monitoring/Prep.	\$109,332	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Personnel	\$349,683	\$623,504	\$654,679	\$687,413	\$708,036	\$729,277	\$751,155
Overhead	\$159,782	\$235,000	\$240,000	\$244,500	\$249,225	\$254,186	\$259,396
MRF	\$304,994	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000
Curbside	\$11,437	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
Drop-off	\$185,689	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Combined Curbside	\$0	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
Tire Collection	\$5,035	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
HHW Collection	\$22,197	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Electronics Collection	\$11,868	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
Yard Waste/Other Organics	\$0	\$49,000	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000
Education	\$45,969	\$87,660	\$58,340	\$59,040	\$59,761	\$60,504	\$61,269
Emergency Management Debris	\$2,750	\$0	\$0	\$0	\$0	\$0	\$0
Loan Payment	\$0	\$0	\$0	\$85,000	\$125,000	\$125,000	\$125,000
Health Department Enforcement	\$60,000	\$0	\$0	\$0	\$0	\$0	\$0
Open Dump/Litter Law Enforcement	\$124,401	\$205,579	\$211,858	\$218,450	\$225,373	\$232,642	\$240,274
Total Expenses	\$1,393,139	\$1,712,743	\$1,726,877	\$1,866,404	\$1,949,395	\$1,993,609	\$2,039,094

Source(s) of Information:
Year 2019 sourced from Quarterly Fee Reports
Planning period years sourced from Appendix O
Sample Calculations:
Total Expenses = sum of expenses category

D. Budget Summary

Table 6-3 Budget Summary

Year	Revenue	Expenses	Net Difference	Ending Balance
Reference Year				
2019	\$1,507,752	\$1,393,139	\$114,613	\$1,817,060
Planning Period				
2023	\$1,803,566	\$1,717,743	\$85,823	\$1,549,858
2024	\$2,201,829	\$1,736,877	\$464,952	\$2,014,810
2025	\$2,295,757	\$1,881,404	\$414,354	\$2,429,164
2026	\$2,312,208	\$1,964,395	\$347,813	\$2,776,977
2027	\$2,329,152	\$2,008,609	\$320,543	\$3,097,520
2028	\$2,346,604	\$2,054,094	\$292,510	\$3,390,030

Source(s) of Information:
Year 2019 sourced from Quarterly Fee Reports

Planning period years sourced from Appendix O
Sample Calculations:
Net Difference = Revenue – Expenses
Ending Balance = Net Difference + Previous Year Ending Balance

E. Major Facility Project

Purpose of a Budget for a Major Facility Project

SWMDs can own and operate solid waste management facilities, and a number already do. Other SWMDs include feasibility studies or strategies to build new or make renovations to existing facilities in their solid waste management plans.

The types of facilities solid waste management districts own and operate include landfills, transfer facilities, material recovery facilities, recycling centers, household hazardous waste collection centers, and composting facilities.

Solid waste facilities represent major financial undertakings that can result in substantial capital investments along with ongoing operating costs. For this reason, when the policy committee decides that the SWMD will develop a new or make extensive renovations to an existing solid waste management facility, the solid waste management plan provides a specific budget for that facility.

This chapter of the solid waste management plan provides a summary of the SWMD's major facility budget. The full details of the budget are provided in Section D of Appendix O.

A major facility project is not scheduled in this 2023 Plan Update.

APPENDIX A MISCELLANEOUS INFORMATION

Appendix A establishes the reference year used for this plan update, planning period, goal statement, material change in circumstances and explanations of differences in data.

A. Reference Year

The reference year for this solid waste management plan is 2019.

B. Planning Period

The planning period for this solid waste management plan is 2023 to 2037.

C. Goal Statement

The District will achieve the following Goal:

Goal 1: The SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector.

D. Explanations of differences between data previously reported and data used in the solid waste management plan

- Differences in quantities of materials recovered between the annual district report and the solid waste management plan.

Slight differences between data presented and used in the reference year for this Plan Update and the 2019 Annual District Report. The table below highlights and describes the differences.

Material	Quantity (tons)	2019 ADR Submitted	Difference
Appliances/ "White Goods"	0	-	
Household Hazardous Waste	9	9	
Used Motor Oil	163	163	
Electronics	86	109	Internal issues with access databases double counting. Total is 86 tons.
Scrap Tires	764	764	Scrap tire transporters show 653 tons. The difference is uncaptured tonnage.
Dry Cell Batteries	1	1	
Lead-Acid Batteries	14	14	
Food	127	127	
Glass	70	70	
Ferrous Metals	8,034	8,034	
Non-Ferrous Metals	568	568	

Material	Quantity (tons)	2019 ADR Submitted	Difference
Corrugated Cardboard	7,367	7,370	Discrepancy crediting industrial recycling to commercial
All Other Paper	1,638	1,637	
Plastics	1,410	1,410	
Textiles	398	398	
Wood	3,453	3,453	
Rubber	0	-	
Commingled Recyclables (Mixed)	1,552	1,552	
Yard Waste	3,145	3,133	Ohio EPA reports were adjusted after the initial submission reporting higher volumes of yard waste recovered.
Other (Aggregated)	152	152	
Total	28,952	28,965.6	

b. Differences in financial information reported in quarterly fee reports and the financial data used in the solid waste management plan.

None.

E. Material Change in Circumstances/Contingencies

While this Plan Update is written for a fifteen-year planning period, in accordance with ORC Section 3734.56(A), an amended plan will be submitted to the director every five years on or before the anniversary date of the approval of this Plan Update. Should a material change in circumstances occur within the District from those addressed in this Plan Update prior to the required update submission, the Board of County Commissioners may request the preparation of a draft-amended plan. The process used for determining when a material change in circumstances has occurred will be the following:

Criteria and Monitoring:

Waste Generation – Planning period waste generations are projected in Appendix G. A large increase or decrease in waste generation from these projections could result in a material change in circumstances. Increased waste generations could impair the ability of the facilities identified in the plan to adequately process District-generated waste. If the District can secure arrangements for managing the increase in waste generation at any other licensed and permitted solid waste management facility, then a material change in circumstances has not occurred. The District will annually monitor generation through commercial and industrial surveys and with Ohio EPA's *Annual District Report Review Form*. Slight increases will be noted, if however, the increases become significantly larger than the projections described in Appendix G, the District will begin steps to ensure adequate disposal capacity. Slight decreases will be noted, if however, the decrease becomes significantly larger than the projections described in Appendix G, the District will ensure the changes in waste generation do not decrease disposal fee revenues such that the plan implementation is adversely affected. A significant change is defined as a thirty percent increase or decrease in the amount of solid waste that is disposed in landfills in any one year.

Capacity – Waste management methods identified in Appendix D and M ensure proper disposal, processing, and management of solid waste generated within the District through the planning period. A capacity shortfall would not ensure adequate management of solid wastes and may be deemed a material change. The District will measure a capacity shortfall by an unexpected closure and/or a twenty percent or greater reduction in the ability to process or dispose of District waste of any facility currently used by the District that receives twenty percent or more of the District's waste stream. If, however the District identifies proper disposal, processing, and management methods capable of handling the capacity shortfall created then a material change in circumstances has not occurred. The District will annually monitor landfill capacity by obtaining copies of landfill annual reports from each landfill identified as accepting District waste.

Waste Reduction and Recycling - Strategies for waste reduction and/or recycling have many dependent factors. The District is committed to promote recycling; however, funding, markets, and District recycling needs may change. Strategies that cannot be implemented or need to be discontinued, which are not required to demonstrate State Plan Goals #1 or #2, may not be deemed as a material change in circumstances. The District will monitor any significant changes to strategies for waste reduction and recycling and significant delays in program implementation. A significant change to strategies for waste reduction and recycling is defined as the discontinuance or alteration of programs as provided in the Plan Update that prevents the District from implementing the Plan Update. A significant delay in program implementation is defined as a delay in implementing any scheduled program from the Plan Update that is greater than one year from the deadlines established in the Plan Update.

Revenues for Plan Implementation – Changes in the availability of funds for the District resulting in significant deviation in the implementation schedule of the approved plan could result in a material change. If the District can modify programs thus reducing costs while continuing to maintain compliance, then a material change in circumstances has not occurred. The District, in order to maintain budget solvency, reserves the right to adjust the amount of funds allocated to individual programs without causing a material change in circumstance.

A reduction in revenues that would initiate a review for a potential material change in circumstances is defined as either: a calendar year in which revenues received by the District are equal to or greater than twenty-five percent below the revenues projected for that year in this Plan Update; or a calendar year in which revenues received by the District are equal to or greater than fifteen percent below revenues received in the previous year. An increase in expenses that would initiate a review for a potential material change in circumstances is defined as either: a calendar year in which actual expenses exceed anticipated expenditures as projected in the Plan Update by ten percent; or a calendar year in which actual expenditures exceed expenditures from the previous year by \$200,000 and the extra expenditures were unexpected. Any of the situations described in this paragraph have the potential to negatively impact the District's ability to fund planned activities.

The District Coordinator will annually prepare a financial report of revenues and expenses for the previous year to be discussed at the annual meeting with the Policy Committee.

Timetable and Notification

During the annual meeting with the Policy Committee, the Board of County Commissioners will review the previous year Annual District Report and any subsequent and substantial events. The Board of County Commissioners then has sixty days to determine whether a substantive change has occurred. Within these sixty days the Board may require the Policy Committee to provide additional data or reports to help with the determination. If it appears there has been a significant change in circumstances within thirty days after the Board of County Commissioners makes this determination, the Board shall notify Ohio EPA and direct the Policy Committee to prepare a Plan Update and proceed to adopt and obtain approval of the amended plan in accordance with ORC 3734.55 (A) through (C).

APPENDIX B RECYCLING INFRASTRUCTURE INVENTORY

Appendix B provides an inventory of the recycling infrastructure that existed in the reference year. This inventory covers residential curbside collection services, drop-off recycling sites, mixed waste materials recovery facilities, waste companies providing recycling collection and trash collection services and composting facilities and yard waste management programs.

A. Curbside Recycling Services, Drop-off Recycling Locations, and Mixed Solid Waste Materials Recovery Facilities

1. Curbside Recycling Services

Table B-1a: Inventory of Non-Subscription Curbside Recycling Services Available in the Reference Year

ID #	Name of Curbside Service	Service Provider	County	How Service is Provided	Collection Frequency	Materials Collected ⁽¹⁾	Type of Collection	PAYT (Y/N)	Weight of Materials Collected from SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
NCS1	Bellefontaine	Republic Waste Services	Logan	NCS, bins	Weekly	Aluminum, glass, plastic, cans, paper, cardboard	Dual Stream, Manual	Y	535	Y
NCS2	West Liberty	Republic Waste Services	Logan	NCS, bins	Weekly	Aluminum, glass, plastic, cans, paper, cardboard	Dual Stream, Manual	Y	123	Y
NCS3	Lake Township	Republic Waste Services	Logan	NCS, bins	Weekly	Aluminum, glass, plastic, cans, paper, cardboard	Dual Stream, Manual	Y	Included in Bellefontaine's numbers	Y
Total									658	

¹Paper includes: Newspaper, Other Paper, Office Paper, Junk Mail.
Source: 2019 District data

The District has one city, twelve villages, and seventeen townships. Three jurisdictions have non-subscription residential curbside recycling program is the county. All three programs offer a pay-as-you-throw rate system to emphasize financial benefits to recycling. Bellefontaine is the county seat and most populous jurisdiction. Presently the contractor for all programs is Republic Disposal Services.

Table B-1b: Inventory of Subscription Curbside Recycling Services Available in the Reference Year

ID #	Name of Curbside Service	County	How Service is Provided	Collection Frequency	Materials Collected ⁽¹⁾	Type of Collection	PAYT (Y/N)	Weight of Materials Collected from SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
	None								
Total								0	

¹Paper includes: Newspaper, Other Paper, Office Paper, Junk Mail.
Source: 2019 District data

No local jurisdictions have subscription curbside recycling programs in the reference year.

2. Drop-Off Recycling Locations

Table B-2a: Inventory of Full Time, Urban Drop-off Sites Available in the Reference Year

ID#	Name of Drop-off Site	Service Provider	County	How Service is Provided	Days and Hours Available to the Public	Materials Collected ⁽¹⁾	Drop-off Meets All Minimum Standards (Y/N)	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
FTU1	Bellefontaine PAYT Drop-off (Campbell Hill)	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	154	Y
FTU2	Bellefontaine PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	552	Y
Total								706	

¹Paper includes: Newspaper, Cardboard, Other Paper, Office Paper, Junk Mail.
²Data is 2019 sourced from District.

Table B-2b: Inventory of Part-Time, Urban Drop-off Sites Available in the Reference Year

ID#	Name of Drop-off Site	Service Provider	County	How Service is Provided	Days and Hours Available to the Public	Materials Collected	Drop-off Meets All Minimum Standards? (Y/N)	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
PTU1	None								
Total								0	

Table B-2c: Inventory of Full-Time, Rural Drop-off Sites Available in the Reference Year

ID#	Name of Drop-off Site	Service Provider	County	How Service is Provided	Days and Hours Available to the Public	Materials Collected ⁽¹⁾	Drop-off Meets All Minimum Standards? (Y/N)	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
FTR1	North Side (Stokes Twp) PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	125	Y
FTR2	Belle Center Village PAYT Drop-off (Richland Twp)	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	127	Y
FTR3	DeGraff Village PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	144	Y
FTR4	East Liberty PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	104	Y
FTR5	Huntsville Village PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	138	Y
FTR6	Lakeview Village PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	133	Y
FTR7	Middleburg PAYT Drop-off (Zane Township)	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	87	Y
FTR8	Moundwood PAYT Drop-off (Washington Twp)	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	136	Y
FTR9	Quincy Village PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	72	Y
FTR10	Rushsylvania Village PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	87	Y
FTR11	Russells Point PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	147	Y
FTR12	West Liberty Village PAYT Drop-off	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	166	Y
FTR13	West Mansfield PAYT Drop-off (Bokescreek Twp)	District	Logan	Contract between SWMD and private hauler	24/7	Aluminum, glass, plastic, cans, paper, cardboard	Y	102	Y
FTR14	Zanesfield (Jefferson)	District	Logan	Contract between	24/7	Aluminum, glass, plastic,	Y	85	Y

ID#	Name of Drop-off Site	Service Provider	County	How Service is Provided	Days and Hours Available to the Public	Materials Collected ⁽¹⁾	Drop-off Meets All Minimum Standards? (Y/N)	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
	Township) PAYT Drop-off			SWMD and private hauler		cans, paper, cardboard			
Total								1,651	

¹Paper includes: Newspaper, Cardboard, Other Paper, Office Paper, Junk Mail.

²Data is 2019 sourced from District.

Table B-2d: Inventory of Part-Time, Rural Drop-off Sites Available in the Reference Year

ID#	Name of Drop-off Site	Service Provider	County	How Service is Provided	Days and Hours Available to the Public	Materials Collected	Drop-off Meets All Minimum Standards? (Y/N)	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
None	None								
Total								0	

3. Mixed Municipal Solid Waste Material Recovery Facility

Table B-3: Mixed Municipal Solid Waste Material Recovery Facility

Name of Material Recovery Facility	Location (County, City)	Communities Served	Types of Materials Recovered	Weight of Materials Recovered (tons)	Waste Processed (tons)	Bypass Waste (tons)	Total Waste (tons)	Recovery Rate in Reference Year (percent)
None							0	0

A mixed solid waste materials recovery facility provides residents with access to recycling opportunities by removing recyclables from the trash for the residents. The District does not use a mixed waste material recovery facility (aka dirty MRF) to separate recyclables from trash.

B. Curbside Recycling and Trash Collection Service Providers

Table B-4: Inventory Curbside Recycling and Trash Collection Service Providers in the Reference Year

Name of Provider	Counties Served	Trash Collection Services				Curbside Recycling Services		
		PAYT (Y/N)	Residential	Commercial	Industrial	Residential	Commercial	Industrial
Republic	Logan	Y	Y	Y	Y	Y	Y	Y

		Trash Collection Services				Curbside Recycling Services		
Best Way Disposal	Logan		Y	Y	Y			
Hemmelgarn Services Inc.	Logan		Y, dumpster service					
Honest Scrap	Logan		Y	Y	Y			
J&N Hallers	Logan		Y, junk removal					
Miller's Refuse	Logan		Y	Y	Y			
Soupy's Hauling	Logan		Y	Y	Y			
Waste Management	Logan		Y	Y	Y			
Village of West Liberty	Logan		Y					
Village of Belle Center	Logan		Y	Y				

Source: 2021 web and desktop research

In 2019, a count of 10 haulers were operating in the District. Since the 2016 Plan, 7 haulers are no longer operating. Only one hauler provides curbside recycling collection to the residential sector.

C. Composting Facilities

Table B-5: Inventory of Compost Facilities Used in the Reference Year

Facility Name	Compost Facility Classification	Publicly Accessible (Y/N)	Location	Food Waste (tons)	Yard Waste (tons)	Non-Creditable Animal, Ag Waste	Total
Village of West Liberty	Class IV	N	West Liberty, Logan County	0	462	0	462
Cherokee Run Landfill Inc	Class IV	Y	Bellefontaine, Logan County	0	73	0	73
City of Bellefontaine	Class IV	Y	Bellefontaine, Logan County	0	302	0	302
Troy Road Compost Facility	Class IV	Y	Bellefontaine, Logan County	0	1,861	0	1,861
New Day Farms, North - Pullet Farm	Class III	N	West Mansfield, Logan County	0	0	1,325	0
Quincy Village	Leaf collection	N	Quincy, Logan County	0	2	0	2
Total				0	2,699	1,325	2,699

Source: 2019 Ohio EPA Compost Facility Planning Analytical Report

Yard waste is a valuable organic material and when diverted from the landfill has beneficial use such as soil conditioners, erosion control, etc. Facility information for the licensed and registered compost facilities that accepted food and yard waste during the reference year was obtained from Ohio EPA. In 2019, there were four

Class IV compost facilities. Only one, the Cherokee Run Landfill facility is available for public use. Materials dropped off at this facility are assessed fees.

D. Other Food Waste and Yard Waste Management Programs

Table B-6: Inventory of Other Food and Yard Waste Management Activities Used in the Reference Year

Facility or Activity Name	Activity Type	Location	Food Waste (tons)	Yard Waste (tons)
HAULER/GROCER FOOD WASTE DATA	collection	n/a	123	0
Total			123	0

Source: 2019 Ohio EPA Compost Facility Planning Analytical Report

Hauler/Grocer food waste diverted was obtained from Ohio EPA.

E. Material Handling Facilities Used by the SWMD in the Reference Year

Table B-7: Inventory of Material Handling Facilities Used in the Reference Year

Facility Name	County	State	Type of Facility	Weight of Material Accepted from SWMD (tons)
WM Recycling: Columbus	Franklin	OH	Multi-stream MRF	3
Dayton Glass Plant	Montgomery	OH	Single Stream and Single Material MRF	299
Logan County Recycling Center	Logan	OH	Dual-Stream MRF	3,200
Allied Waste Commercial Cardboard Collection	Logan	OH	Single Material Processor	did not report
Total				3,502

Source:

Ohio's Material Recovery Facilities", Ohio EPA, January 25, 2019

Material Recovery Facility and Commercial Recycling Data", Ohio EPA, June 19, 2020.

Note: MRF = material recovery facility

Three facilities reported receiving the SWMD recyclable materials. All are material recovery facilities (MRF) and perform some level of processing materials to market.

APPENDIX C POPULATION DATA

A. Reference Year Population

Table C-1a: Reference Year Population Adjustments

	Logan
Before Adjustment	45,672
Additions	0
Subtractions	113
After Adjustment	45,559

Source: "2019 Ohio County Population Estimates" prepared by Ohio Development Services Agency, Office of Research

Table C-1b: Total Reference Year Population

Unadjusted Population	Adjusted Population
45,672	45,559

Reference year population is taken from Ohio Development Services Agency Office of Statistical Research (ODSA, OSR). OSR provided estimate populations for 2019 based on the 2010 census data by governmental unit. Note: Ohio law requires that the entire population of a municipality located in more than one solid waste management district be added to the solid waste management district containing the largest portion of the jurisdiction's population. The District has one community located in more than one solid waste management District: Ridgeway Village in Hardin County. The majority of the population of Ridgeway Village reside in Hardin County. As such a subtraction of Ridgeway's population was applied to Logan County's population.

B. Population Projections

Table C-2: Population Projections

Year	Logan
2019	45,559
2020	45,364
2021	45,363
2022	45,361
2023	45,360
2024	45,358
2025	45,357
2026	45,356
2027	45,355
2028	45,353
2029	45,352

Year	Logan
2030	45,351
2031	45,350
2032	45,349
2033	45,349
2034	45,348
2035	45,347
2036	45,346
2037	45,346

Source: Mid-Ohio Regional Planning Commissions County Growth Projections 2020-2050, updated July 26, 2019

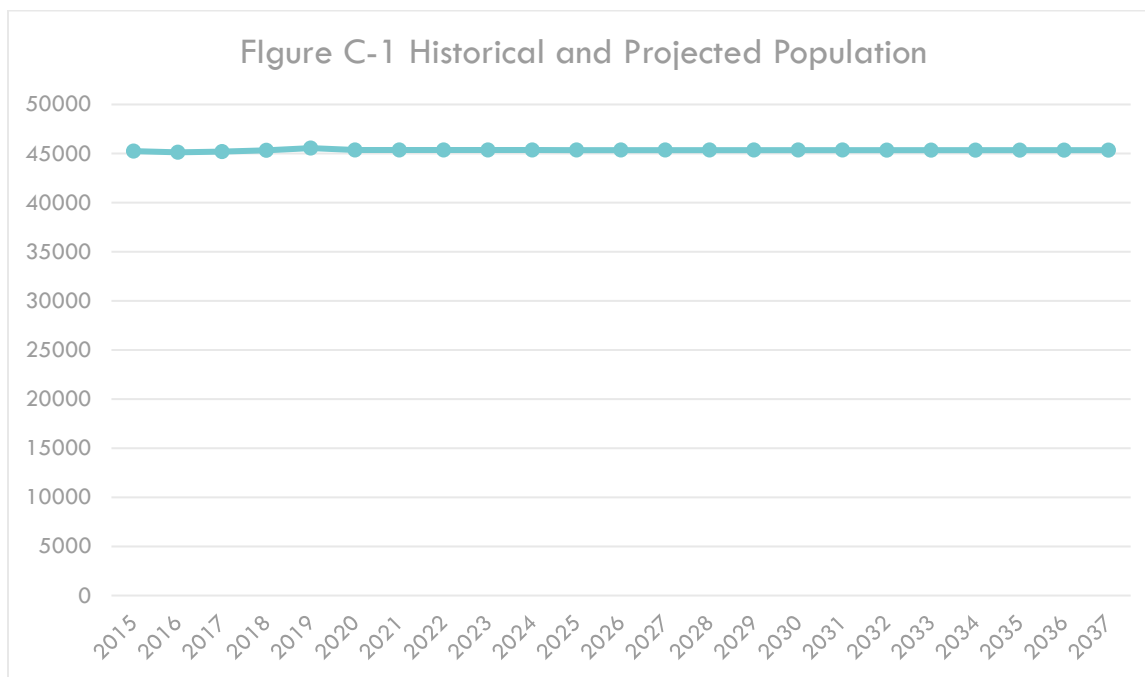
Sample Calculations:

Projected population in 2020 = 45,364

Population change 2020 to 2025 = -7

Projected population in 2021 = 2025 population – 2020 population / 5 years + 2020 Population = 45,363

Figure C-1 depicts the historical and projected population for Logan County demonstrating a relatively flat population.



Mid-Ohio regional Planning Commission (MORPC) projects a 0.04% decline in population from 2020 to 2040. Web research conducted to look for increased economic development and housing trends showed an increase between 2018 and 2019 of approximately 0.75% but no other supporting evidence showed significant increasing population for the County.

Population projections gauge future demand for services, however, in projection calculations many factors contribute adding to the difficulty associated with forecasting. For this solid waste management Plan the District is using MORPC projections demonstrating a relatively flat population for planning waste generation, disposal, and recovery estimates.

APPENDIX D DISPOSAL DATA

A. Reference Year Waste Disposed

Table D-1a: Waste Disposed in Reference Year – Publicly Available Landfills (Direct Haul)¹

Facility Name	Location		Waste Accepted from the SWMD			
	County	State	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
Crawford County Landfill	Crawford	OH	-	-	6	6
SWACO Franklin County Sanitary Landfill	Franklin	OH	0	-	-	0
Hancock County Landfill	Hancock	OH	142	-	-	142
Cherokee Run Landfill Inc	Logan	OH	24,649	2,212	5,336	32,197
Republic Services Inc Celina Sanitary Landfill	Mercer	OH	12	-	-	12
County Environmental Landfill of Wyandot	Stark	OH	23	-	-	23
Wood County Landfill	Wood	OH	15	-	-	15
Total			24,841	2,212	5,342	32,395

¹ The facilities listed in Table D-1a and identified as able to accept waste from the SWMD (in Appendix M) will constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

Excluded wastes are classified as slag, uncontaminated earth, non-toxic fly ash, spend non-toxic foundry sand and material from mining, construction, or demolition operations.

Source:

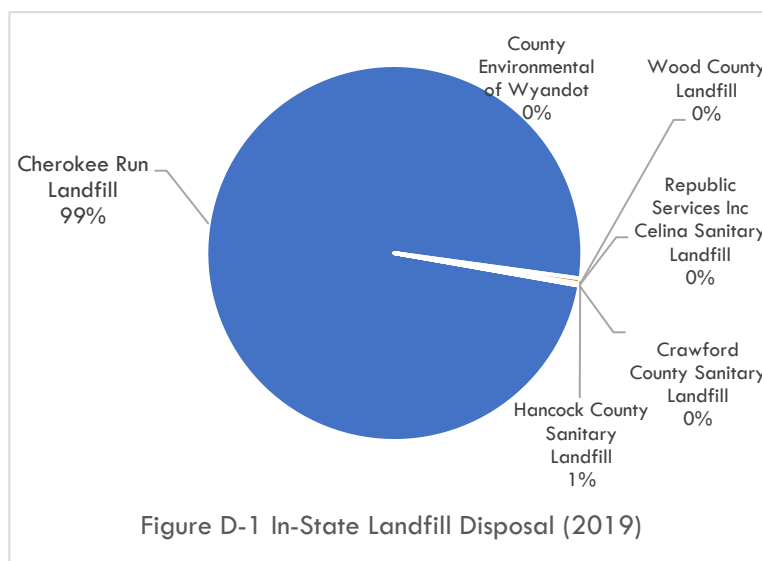
Ohio EPA. "2019 Ohio Facility Data Report Tables". February 17, 2021.

Ohio EPA. "Disposal Recycling and Generation Analytic. Summary for 2019"

Waste disposal in Indiana Facilities reported by Ohio EPA as Logan Exports.xlsx

A wide variety of wastes are disposed in municipal solid waste landfills and includes waste generated from households, commercial businesses, institutions, and industrial plants. In addition, asbestos (if permitted to do so), construction and demolition debris, dewatered sludge, contaminated soil, and incinerator ash may also be disposed in municipal solid waste landfills. Excluded wastes are classified as slag, uncontaminated earth, non-toxic fly ash, spend non-toxic foundry sand and material from mining, construction, or demolition operations.

Public, private haulers or self-haul provide waste collection service in the SWMD. Waste flows to landfills either by direct haul or through a transfer facility. Direct hauled waste is disposed in in-state and out-of-state landfill facilities.



Waste is either direct hauled or transferred to a landfill. Roughly 99% of waste direct hauled was hauled to Cherokee Run Landfill, the in-district landfill. Table D-1a depicts the landfills used for waste disposal in the reference year waste.

Table D-1b: Waste Disposed in Reference Year – Captive Landfills¹

Facility Name	Location		Waste Accepted from the District		
	County	State	Industrial (tons)	Excluded (tons)	Total (tons)
None.					0
Total			0	0	0

¹ The facilities listed in Table D-1a and identified as able to accept waste from the SWMD (in Appendix M) will constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

Source(s) of Information:

Ohio EPA. "2019 Ohio Facility Data Report Tables". February 17, 2021.

Ohio EPA. "Disposal Recycling and Generation Analytic. Summary for 2019"

Captive landfills are landfills used to dispose of waste generated exclusively by the manufacturing company that owns the landfill. District waste was not disposed in a captive landfill in the reference year.

Table D-1c: Total Waste Disposed in Landfills (Direct Haul)

Residential/Commercial (tons)	Industrial (tons)	Excluded (tons)	Total
24,841	2,212	5,342	32,395

Excluded wastes are classified as slag, uncontaminated earth, non-toxic fly ash, spent non-toxic foundry sand and material from mining, construction, or demolition operations.

Source(s) of Information:

Ohio EPA. "2019 Ohio Facility Data Report Tables". February 17, 2021.

Ohio EPA. "Disposal Recycling and Generation Analytic. Summary for 2019"

Sample Calculations:

Residential/Commercial + Industrial + Excluded = Total

Table D-2 Reference Year Waste Transferred¹

Facility Name	Location		Waste Received from the SWMD			
	County	State	Residential/Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
Rumpke Allen County Transfer Station	Allen	OH	0	-	4	4
Waste Management of Ohio Inc - Lima	Allen	OH	1,376	3	-	1,379
Rumpke Waste Inc Greenville Transfer Facility	Darke	OH	2,807	-	-	2,807
Delaware County Transfer Facility	Delaware	OH	26	-	7	33
Republic Services Inc Reynolds Ave Transfer Facility	Franklin	OH	2	-	-	2
Montgomery County South Transfer	Montgomery	OH	72	-	-	72
Shelby County Transfer Facility	Shelby	OH	113	-	8	121
Total			4,397	3	18	4,418

¹ The facilities listed in Table D-2 and identified as able to accept waste from the SWMD (in Appendix M) will constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

Source(s) of Information:

Ohio EPA. "2019 Ohio Facility Data Report Tables". February 17, 2021.

Ohio EPA. "Disposal Recycling and Generation Analytic. Summary for 2019"

Transfer facilities are conveniently located where solid waste, delivered by collection companies and residents, is consolidated, temporarily stored, and loaded into semi-trailers for transport. Solid waste is then delivered to a processing facility or disposal site. In cases where waste is hauled from a transfer facility to a landfill, the county of origin is not recorded at the landfill. This means a load of trash disposed in a landfill from a transfer facility could have waste mixed from several counties. When a transfer facility hauls to more than one landfill, it becomes difficult to track which landfill received a county's waste. For planning purposes, the waste hauled through transfer facilities is listed separately identifying possible destination landfills.

There are no in-district transfer stations located in the District. In 2019, the Rumpke Waste Inc. Greenville Transfer facility managed the majority of waste transferred.

Table D-3 Waste Incinerated/Burned for Energy Recovery in Reference Year¹

Facility Name	Facility Type	Location		Waste Accepted from the SWMD			
		County	State	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
Covanta Environmental Solutions, LLC	Waste To Energy		IN	0.14	2,267		2,268
Total				0.14	2,267	0	2,268

¹ The facilities listed in Table D-3 and identified as able to accept waste from the SWMD (in Appendix M) will constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

Source(s) of Information:

Ohio EPA. "2019 Ohio Facility Data Report Tables". February 17, 2021.

Ohio EPA. "Disposal Recycling and Generation Analytic. Summary for 2019"

Waste disposal in Indiana Facilities reported by Ohio EPA as Logan Exports.xlsx

No waste to energy facilities were used as a management method.

Table D-4 Incinerated and Excluded Waste Percentages of Total Waste Disposed

	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)	% of Total Waste Disposed
Direct Hauled	24,841	2,212	5,342	32,395	88%
Transferred	4,397	3	18	4,418	12%
Incinerated	0	0	0	0	0%
Total	29,237	2,215	5,360	36,812	100%

Percent of Total	79%	6%	15%	100%
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Source(s) of Information:

Ohio EPA. "2019 Ohio Facility Data Report Tables". February 17, 2021.

Ohio EPA. "Disposal Recycling and Generation Analytic. Summary for 2019"

Sample Calculations:

% of Total Waste Disposed = Total Direct Hauled / Total Disposed * 100%

= 36,929 / 38,080 * 100%

= 89% Direct Hauled Waste

According to Ohio EPA Format 4.0, if excluded waste is 10% or less of total disposal in the reference year, then Districts are not required to account for excluded waste in the solid waste management plan. For Logan County SWMD, excluded waste accounts for 15% of total disposal in 2019, and therefore is included. If incinerated waste is 10% or less of total disposal, then Districts are not required to account of incinerated waste in the solid waste management plan. The 2,268 tons being incinerated is not included because it is less than 10%.

Approximately 88% of the waste was direct hauled, meaning a refuse truck picked up waste from clients and directly hauled that waste to a landfill for disposal. About 12% of waste was transferred, meaning a refuse truck picked up waste from clients and hauled that waste to a transfer facility.

B. Historical Waste Analysis

Table D-5 Historical Disposal Data

Year	Population	Residential/ Commercial Solid Waste		Industrial Solid Waste	Excluded Waste	Total Waste
		Rate (ppd)	Weight	Weight	Weight	Weight
			(tons)	(tons) ²	(tons) ³	(tons) ⁴
2015	45,698	3.08	25,660	2,375	5,746	33,781
2016	45,656	3.02	25,129	4,044	5,795	34,968
2017	45,614	3.21	26,742	4,495	5,370	36,607
2018	45,572	3.31	27,556	4,513	4,248	36,317
2019	45,559	3.52	29,237	2,215	5,360	36,812

Source:

Ohio EPA ADR Review Forms for 2015, 2016, 2017 and 2018 for population and waste disposal data. Population data for 2019 was taken from Table C-1.

Sample Calculation:

Residential/Commercial + Industrial + Excluded = Total Waste

29,237 + 2,215 + 5,360 = 36,812 tons disposed in 2019

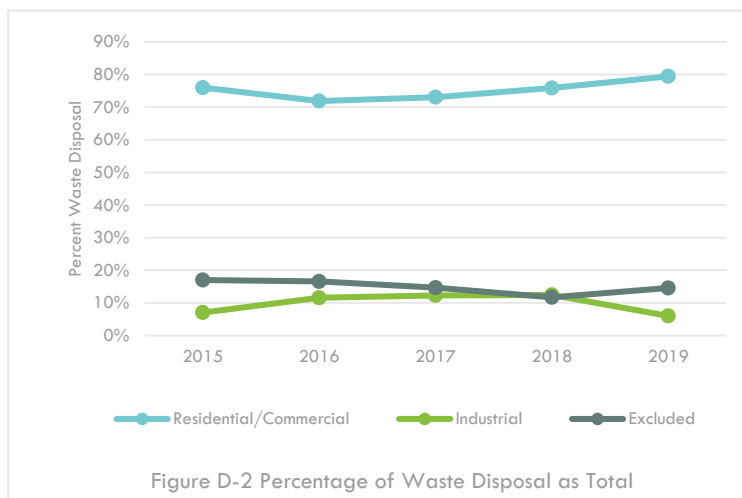
$((\text{Residential/Commercial tons} * 2,000 \text{ pounds per ton}) / 365 \text{ days}) / \text{Population} = \text{Residential/Commercial disposal rate}$

$(29,237 \text{ tons} * 2,000 \text{ pounds per ton}) / 365 \text{ days}) / 45,559 \text{ persons} = 3.52 \text{ pound per person per day}$

From 2015 to 2019 total disposal demonstrates a 9% increasing trend with average annual disposal of roughly 35,700 tons. The analysis below separates the waste disposal sectors to determine if there are any correlations for waste disposal in the SWMD.

1. Residential/Commercial

The SWMDs residential/commercial stream comprises the majority of waste disposed in the landfills as shown in Figure D-2. Also, to note is the residential/commercial waste disposal does not directly follow population trends. Actual disposal increased from 2015 to 2019 at a higher rate than population growth which increased less than a half percent.



Residential/commercial per capita disposal increased from about 3 pounds per day to 3.5 pounds per day in 2019. This higher disposal may be attributable to a better economy and low employment rate in the County during this time.

The approved 2016 Plan estimated per capita disposal would decline and tonnage of waste disposal to be 24,925 tons in 2019. Comparing to actual, disposal is about 4,300 tons more than the estimation.

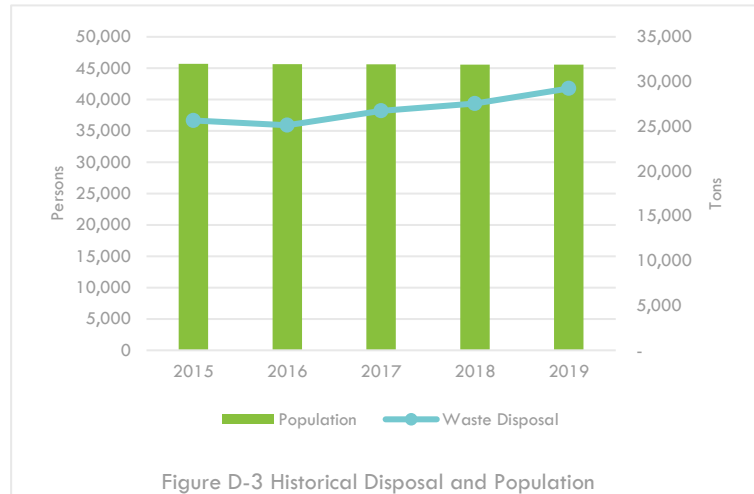


Figure D-3 Historical Disposal and Population

Table D-5a: Actual Residential/Commercial Disposal Compared to 2016 Plan Projections

Year	Actual Disposal (tons)	2016 Plan Projected Disposal (tons)
2015	25,660	26,188
2016	25,129	25,886
2017	26,742	25,575
2018	27,556	25,255
2019	29,237	24,925

The SWMD's residential and commercial per capita disposal was compared to other districts in Ohio with similar populations as shown in Figure D-4. On average, the residential and commercial disposal for compared districts was 3.80 pounds per person per day. The SWMD's residential and commercial per capita disposal is in line at 3.52 pounds per person per day. Mercer, Crawford and Brown all calculated a lower per capita disposal rate in 2019 then Logan County.



Figure D-4 Benchmark Per Capita Disposal

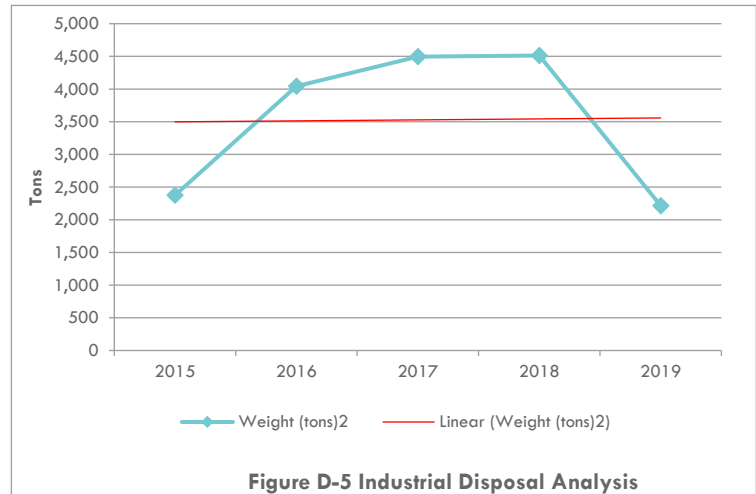
Logan County's per capita disposal falls between Ohio's 2019 statewide average of 4.68 pounds per person per day and the national average of 2.31 pounds per person per day⁶.

2. Industrial Waste

⁶ US EPA. "Advancing Sustainable Materials Management: 2017 Fact Sheet." November 2019.

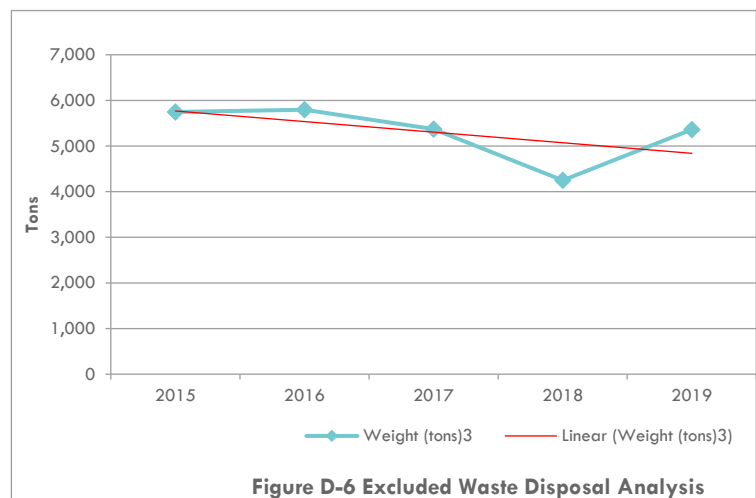
Industrial waste is not a major component of the SWMD's disposal stream, accounting for less than 13% of total disposal annually over the past 5 years. As shown in Figure D-5 industrial disposal jumped over the 2016, 2017, and 2018 timeframe. These years included waste sent to a neighboring state waste-to-energy facility.

Manufacturing data tracked from Ohio County Profiles shows the number of manufacturing establishments has held relatively flat, and the number of employees has increased about 4%⁷. Businesses have taken steps to look at their waste streams to see how, and if, materials can be re-used or re-purposed to eliminate waste disposal. Even as historical manufacturing employment has held steady, these operational reviews, changes, and sustainability movements resulted in flat industrial disposal (excluding the waste-to-energy).



3. Excluded Waste

Excluded waste has contributed between 12 to 17% of total disposal annually in the SWMD over the past 5 years. Since 2015, disposal of excluded waste has increased from 5,433 tons per year to 9,307 tons per year. Excluded wastes include slag, uncontaminated earth, non-toxic fly ash, spend non-toxic foundry sand and material from mining, construction, or demolition operations. According to Ohio EPA ADR review reports, the waste disposal is classified as construction and demolition. It should also be noted that excluded waste is fee exempt.



C. Disposal Projections

There are several methods that can be used for projecting waste disposal through the planning period, such as historical per capita, historical averages and historical trends. After conducting the historical analysis and

⁷ Ohio County Profiles. Office of Research. Logan County.

considering factors that could change historical disposal trends, waste disposal for the planning period is projected in Table D-6.

Table D-6 Waste Disposal Projections

Year	Residential/ Commercial Solid Waste	Industrial Solid Waste	Excluded Waste	Total Waste	Waste Transferred (as part of Total Disposal)
	(tons)	(tons)	(tons)	(tons)	(tons)
2019	29,237	2,215	5,360	36,812	4,418
2020	26,716	2,215	5,344	34,275	4,113
2021	26,715	2,215	5,328	34,258	4,111
2022	26,714	2,215	5,312	34,241	4,109
2023	26,713	2,215	5,296	34,224	4,107
2024	26,712	2,215	5,280	34,208	4,105
2025	26,712	2,215	5,265	34,191	4,103
2026	26,711	2,215	5,249	34,175	4,101
2027	26,710	2,215	5,233	34,158	4,099
2028	26,709	2,215	5,217	34,142	4,097
2029	26,709	2,215	5,202	34,126	4,095
2030	26,708	2,215	5,186	34,109	4,093
2031	26,708	2,215	5,171	34,093	4,091
2032	26,707	2,215	5,155	34,077	4,090
2033	26,707	2,215	5,140	34,062	4,088
2034	26,706	2,215	5,125	34,046	4,086
2035	26,706	2,215	5,109	34,030	4,084
2036	26,705	2,215	5,094	34,014	4,082
2037	26,705	2,215	5,079	33,999	4,080

Residential/Commercial: Use average annual per capita disposal rate of 3.23 lb/person/day	Residential/Commercial projections based on 2015 to 2019 average annual per capita disposal calculated at 3.23 pounds per person per day. The per capita rate of 3.23 pounds per person per day is representative of the typical per person disposal historically exhibited. Applying the 3.23 pounds per person per day to the declining population over the planning period averages a waste disposal of 26,709 tons which falls between the 25,000- and 30,000-ton fluctuation exhibited for the SWMD.
Industrial: 2019 tonnage of 2,215 held flat through planning period	Excluding 2016, 2017, and 2018, historical data shows it is not unusual for industrial sector disposal to minimally fluctuate. For planning purposes, the SWMD projected industrial waste disposal flat holding at 2019 disposal tonnages. This holds industrial waste between historical fluctuations.
Excluded: Average Annual Percent Change of -0.30%	The 5-year annual average percent change keeps the projections through the planning period within historical disposal ranges.

APPENDIX E RESIDENTIAL/COMMERCIAL RECOVERY DATA

A. Reference Year Recovery Data

Tables E-1 through E-4 account for all material being credited to the waste reduction and recycling rate for the residential/commercial sector. These tables were adjusted for double counting. Double counting occurs when the same material is reported by more than one survey respondent, typically both the generator of the material and the processor that receives the material from the generator. Material is “double counted” if the quantities from both respondents are credited to total recovery. In those instances, the total quantity recovered was adjusted to subtract the quantity reported by one source or the other to avoid crediting the material twice.

Table E-1 Commercial Survey Results

NAICS	Appliances/ "White Goods"	Electronics	Lead-Acid Batteries	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables (Mixed)	Yard Waste	Used Motor Oil	Non-Hazardous Chemicals	Scrap Tires	Other
42																			
44																			
45		43	12	0	18	31	3	2,503	13	129	322	222				0.4			2
48																			
49		6	2	2	52	951	176	3,601	234	1,236	76	3,171		24		158	60	96	90
51																			
52																			
53			1					13								0.6			
54																			
55															419				

NAICS	Appliances/ "White Goods"	Electronics	Lead-Acid Batteries	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables (Mixed)	Yard Waste	Used Motor Oil	Non-Hazardous Chemicals	Scrap Tires	Other	
56				123		7,047	389	293	95	19				331	73					
61															3					
62								42												
71																				
72				2,437				108		1		5			23					
81						5		208		13						0.2				
92									87											
Other:																				
Unadjusted Total	0	48	14	2,563	70	8,034	568	6,768	429	1,398	398	3,398	0	355	518	160	60	96	92	24,970
Adjustments				2,559			137	922	131	30		164			73				51	-4,068
Adjusted Total	0	48	14	4	70	8,034	431	5,846	298	1,368	398	3,233	0	355	446	160	60	96	40	20,902

Source(s): District surveys conducted in 2020 for 2019 data.

Sample Calculation:

Unadjusted Total – Adjustments = Adjusted Total

Table E-1 is reserved for commercial data obtained from Logan County survey efforts. Data was aggregated from 48 businesses that either responded to the survey or had responded to the survey in prior years. Companies that did not respond to the survey were called to get permission from the companies to use recycling numbers from previous years. Respondent companies represented ten industries categorized by North American Industry Classification System (NAICS) code. Adjustments were made for double counting. The 4,068 tons subtracted from this table are captured in other data sets.

Table E-2 Data from Other Recycling Facilities

Program and/or Source of Materials/Data	Appliances/ "White"	Electronics	Lead-Acid Batteries	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables	Yard Waste	Scrap Tires	
Buybacks																	
None																	
Scrap Yards																	
None																	
Brokers																	
None																	
Processors/ MRF's																	
Dayton Glass Plant					299												
Unadjusted Totals	0	0	0	0	299	0	0	3	0	0	0	0	0	0	0	0	299
Adjustments					-299												-299
Adjusted Totals	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0

Source(s): Ohio EPA. "2019 Material Recovery Facility and Commercial Recycling Data." 2020.

Quantities reported in Table E-2 were obtained from Ohio EPA's reports on processors. Processors capture recyclables and prepare them, so they are ready to be recycled. These types of operations typically include buybacks, scrap yards, brokers, and processors and MRFs. Adjustments exclude double counting. Adjustments made here were to exclude glass which is reported in later data sets. The District operates a small dual stream MRF, the Logan County Recycling Center and glass brought to this MRF is hauled to Dayton Glass Plant for further processing.

Table E-3 Data Reported to Ohio EPA by Commercial Businesses

Ohio EPA Data Source	Glass	Plastic	Newspaper	Cardboard	Mixed Paper	Nonferrous	Ferrous	Wood	Food: Compost	Food: Other	Commingled	Other	
Walmart Recycling in Ohio		21		534	2	134						37	
Lowe's Companies, Inc.		0.3				4		219				12	
Dollar General Corporation				166	2								
Big Lots Of Corporation													
Kroger Division Northeast		6		212								2	
United States Postal Service		2		7	127								
Unadjusted Total	0	30	0	919	131	137	0	219	0	0	0	51	1,488
Adjustments													0
Adjusted Total	0	30	0	919	131	137	0	219	0	0	0	51	1,488

Sources(s): Ohio EPA. "2019 Material Recovery Facility and Commercial Recycling Data." 2020.

Quantities reported in Table E-3 were obtained from Ohio EPA reports. No adjustments were needed.

Table E-4 Other Recycling Programs/Other Sources of Data

Other Programs or Sources of Data	Appliances/ "White Goods"	HHW	Used Motor Oil	Electronics	Scrap Tires	Dry Cell Batteries	Lead-Acid Batteries	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables	Yard Waste	Unadjusted Total	Adjustments	Adjusted Total
Curbside Recycling Services													395					263		658		658
Drop-off Recycling Locations												589	814					934		2,337		2,337
Ohio EPA Composting Facilities Data																			2,697	2,697		2,697
Ohio EPA Other Food / Yard Waste Management Activities Data								123												123		123
Ohio EPA Scrap Tire Data					654															654		654
CHaRM		9	4	38		1														52		52
Logan County Recycling Center																				0		0
Tire Program					14															14		14
Fiber Collection												12		12						24		24
Quincy Yard Waste																			2	2		2
Unadjusted Total	0	9	4	38	668	1	0	123	0	0	0	601	1,209	12	0	0	0	1,197	2,699	6,561		6,561
Adjustments																						
Adjusted Total	0	9	4	38	668	1	0	123	0	0	0	601	1,209	12	0	0	0	1,197	2,699	6,561		

Source(s):
 Ohio EPA 2019 Compost Facility Report
 Ohio EPA 2019 Scrap Tire Data
 2019 District recorded program data.

Other sources and/or programs for diverting waste are included in Table E-4. The data from the Logan County District Recycling Center is represented in the other county's programs, for example, drop-offs and curbside recycling. CHaRM is data from the Center for Hard to Recycle Materials. Glass previously excluded from Table E-2 is represented here included in commingled categories. The yard waste and food waste data are from Ohio EPA's Compost Facility Reports and the hauler/grocer report. Scrap tire data is from the Ohio EPA's Scrap Tire reports. County government office buildings

are provided containers, collection, and processing by the District. Fiber stream is the main target, but a small amount of plastic and aluminum beverage containers are accepted and are recorded in the Fiber Collection.

Table E-5 Reference Year Residential/Commercial Material Reduced/Recycled

Material	Quantity (tons)
Appliances/ "White Goods"	0
Household Hazardous Waste	9
Used Motor Oil	163
Electronics	86
Scrap Tires	764
Dry Cell Batteries	1
Lead-Acid Batteries	14
Food	127
Glass	70
Ferrous Metals	8,034
Non-Ferrous Metals	568
Corrugated Cardboard	7,367
All Other Paper	1,638
Plastics	1,410
Textiles	398
Wood	3,453
Rubber	0
Commingled Recyclables (Mixed)	1,552
Yard Waste	3,145
Other (Aggregated)	152
Total	28,952

The District diverted 28,952 tons of material from the residential/commercial sector. Table E-5 reports the quantities of materials diverted. Ferrous metal and corrugated cardboard are the two largest material categories recycled for the reference year.

Source(s): Tables E-1, E-2, E-3, and E-4

Table E-6 Quantities Recovered by Program/Source

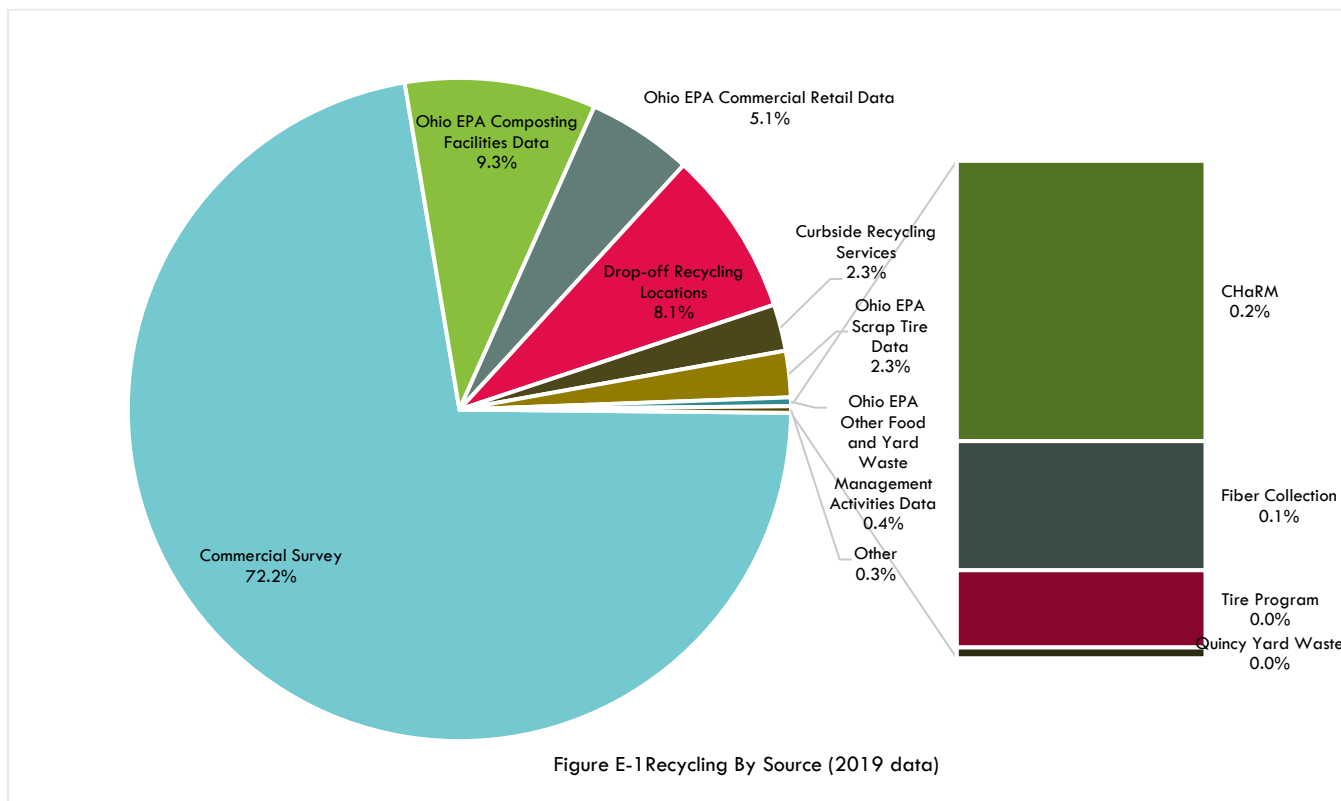
Program/Source of Residential/Commercial Recycling Data	Quantities (Tons)
Commercial Survey	20,902
Data from Other Recycling Facilities	0
Ohio EPA Commercial Retail Data	1,488
Curbside Recycling Services	658
Drop-off Recycling Locations	2,337
Ohio EPA Composting Facilities Data	2,697
Ohio EPA Other Food and Yard Waste Management Activities Data	123
Ohio EPA Scrap Tire Data	654
CHaRM	52
Logan County Recycling Center	0
Tire Program	14
Fiber Collection	24
Quincy Yard Waste	2
Total	28,952

Table E-6 reports tonnages diverted for each program/source. This table attempts to attribute recycling to a program for data analyzation shown in Tables E-7 through E-7a6.

Source(s): Tables E-1, E-2, E-3, and E-4

B. Historical Recovery

The data analysis in Tables E-7 through E-7a6 show residential and commercial programmatic recycling data from 2015 to 2019. The SWMD diverts on average 29,486 tons of material per year, or 3.54 pounds per person per day.



Source(s): Tables E-7

By weight, two programs source the majority of the recycling (see Figure E-1), commercial survey (72.2%) and composting facilities (9.3%).

Table E-7 Historical Residential/Commercial Recovery by Program/Source

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Retail Data	Curbside Recycling Services	Drop-off Recycling Locations	Ohio EPA Composting Facilities Data	Ohio EPA Other Food & Yard Waste Management	Ohio EPA Scrap Tire Data	CHaR M	Logan County Recycling Center	Tire Program	Fiber Collection	Quincy Yard Waste	Totals
2015	23,943	0	1,167	733	2,266	1,182	226	324	5	0	12	24	2	29,884
2016	23,028	0	998	704	2,279	3,177	178	1,608	5	0	18	24	2	32,022
2017	20,496	0	1,242	715	2,394	2,737	159	444	6	0	17	24	2	28,236
2018	20,113	0	1,249	688	2,489	3,190	121	435	6	0	15	24	2	28,335
2019	20,902	0	1,488	658	2,337	2,697	123	654	52	0	14	24	2	28,955

Source(s):

2015, 2016, 2017, 2018, 2019 Annual District Reports.

Table E-7a1 Annual Percent Change in Tons Recovered

2015														
2016	-4%	#DIV/0!	-15%	-4%	1%	169%	-21%	397%	0%	#DIV/0!	56%	0%	0%	7%
2017	-11%	#DIV/0!	24%	2%	5%	-14%	-11%	-72%	23%	#DIV/0!	-7%	0%	0%	-12%
2018	-2%	#DIV/0!	1%	-4%	4%	17%	-23%	-2%	3%	#DIV/0!	-11%	0%	0%	0%
2019	4%	#DIV/0!	19%	-4%	-6%	-15%	2%	50%	754%	#DIV/0!	-6%	0%	0%	2%

Table E-7a2 Average Percentage Change in Tons Recovered

	-3%	#DIV/0!	7%	-3%	1%	39%	-14%	93%	195%	#DIV/0!	8%	0%	0%	-1%
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Table E-7a2 Annual Change in Tons Recovered

2015														
2016	-915	0	-170	-29	13	1,995	-48	1,285	0	0	7	0	0	2,138
2017	-2,532	0	244	11	115	-440	-20	-1,165	1	0	-1	0	0	-3,786
2018	-383	0	7	-27	95	453	-37	-8	0	0	-2	0	0	99
2019	789	0	239	-30	-152	-493	2	218	46	0	-1	0	0	617

Table E-7a3 Annual Per Capita Recovery Rate (pounds/person/day)

Population														
45,698	2015	2.87	0.00	0.14	0.09	0.27	0.14	0.03	0.04	0.00	0.00	0.00	0.00	3.58
45,656	2016	2.76	0.00	0.12	0.08	0.27	0.38	0.02	0.19	0.00	0.00	0.00	0.00	3.84
45,614	2017	2.46	0.00	0.15	0.09	0.29	0.33	0.02	0.05	0.00	0.00	0.00	0.00	3.39
45,572	2018	2.42	0.00	0.15	0.08	0.30	0.38	0.01	0.05	0.00	0.00	0.00	0.00	3.41
45,559	2019	2.51	0.00	0.18	0.08	0.28	0.32	0.01	0.08	0.01	0.00	0.00	0.00	3.48

Table E-7a4 Average Per Capita Recovery Rate

	2.61	0.00	0.15	0.08	0.28	0.31	0.02	0.08	0.00	0.00	0.00	0.00	0.00	3.54
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Table E-7a5 Average Tons of Material Recovered

21,697	0	1,229	700	2,353	2,597	162	693	15	0	15	24	2	29,486
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Sources:

Commercial Survey from District survey efforts
Data from other recycling facilities from Ohio EPA MRF report
Ohio EPA commercial retail data from Ohio EPA MRF report
Yard Waste composted from Annual District Report
Food waste hauled reported from Annual District Report
Ohio EPA scrap tire data from Ohio EPA reports
Specific program data from historical Annual District Reports

To provide additional analysis, the SWMD developed Table E-7a6 to historically benchmark material quantities recovered.

Table E-7a6 Historical Residential/Commercial Recovery by Program/Source

	2015	2016	2017	2018	2019	Correlations
Standard Recyclables						
Corrugated Cardboard	9,295	9,221	7,500	1,503	7,367	As reported on the Annual District Report's the paper and cardboard should flip. Of concern is the decline in annual cardboard recovery considering e-commerce growth.
All Other Paper	1,719	1,739	1,636	7,538	1,638	
Plastics	1,540	1,410	1,273	1,408	1,410	
Glass	45	52	52	70	70	
Ferrous Metals	8,568	8,680	8,506	8,034	8,034	
Non-Ferrous Metals	569	406	565	568	568	
Commingled Recyclables	1,590	1,495	1,203	1,606	1,552	
SUBTOTAL	23,326	23,003	20,735	20,727	20,639	
Organics						
Yard Waste	2,414	3,197	2,766	2,765	3,145	As demonstrated, yard waste fluctuations are expected as it is weather/storm dependent. Of concern is the downward trend of food waste recovery.
Food	243	179	162	162	127	
Wood	2,330	3,132	3,271	3,268	3,453	
SUBTOTAL	4,986	6,508	6,199	6,196	6,725	
Hard to Recycle Materials						
Household Hazardous Waste	69	3	70	9	9	Other than a jump in scrap tire recycling in 2016, due to a significant tire clean up activity, the hard to recycle materials demonstrate minimal fluctuations annually.
Used Motor Oil	103	89	166	163	163	
Electronics	80	81	104	109	86	
Scrap Tires	659	1,706	552	554	764	
Dry Cell Batteries	2	2	8	1	1	
Lead-Acid Batteries	25	27	20	25	14	
Textiles	425	410	398	398	398	
Other	208	291	92	152	152	
SUBTOTAL	1,572	2,609	1,411	1,412	1,588	
TOTAL TONS	29,884	32,119	28,344	28,335	28,952	Average recovery is 29,486 and demonstrates a 1% decrease from 2014 to 2019

C. Residential/Commercial Recovery Projections

There are many factors that come into play for when considering projections for residential/commercial recovery in this planning period. Considerations regarding the District's projections include:

Evolving Ton

The “evolving ton” is a term being used to describe the shift in the overall composition of the recyclable material stream over the past 20 years. One of the trends responsible for this evolution has been the light weighting of packaging, especially through the use of materials like plastics and aluminum that have displaced materials like glass and steel. More recently, even rigid plastic packaging formats have started to be displaced by rapidly growing formats in flexible packaging. Plastics are not alone in driving the waste shift: electronic media have played a major role in changing the composition of our recyclable stream by reducing the quantity of newspaper and office paper. In addition, there has been an increase in corrugated cardboard from the residential sector caused by an increase in online purchases that is shipped in boxes (“Amazon Effect”).

It's also critical to understand that while more types of plastics are getting collected, complexity has increased even within the resin types the recycling system has traditionally handled. In response to growing pressure to recycle more, many companies are shifting to “recyclable” materials, often defining them as those accepted in community recycling programs. One of the best examples of this trend has been Polyethylene Terephthalate (PET) replacing Polyvinyl Chloride (PVC) or Polystyrene (PS) thermoforms and heavier jar and container material like glass. The unforeseen consequence of this well-intentioned transition is the recent diversification of PET in the recycling stream, a phenomenon that has lowered the yield of usable materials (the PET used in plastic clamshell packages (ex: Strawberry container), blister packs (ex: over-the-counter medicine) and ketchup bottles is not the same as that used in a soda bottle).

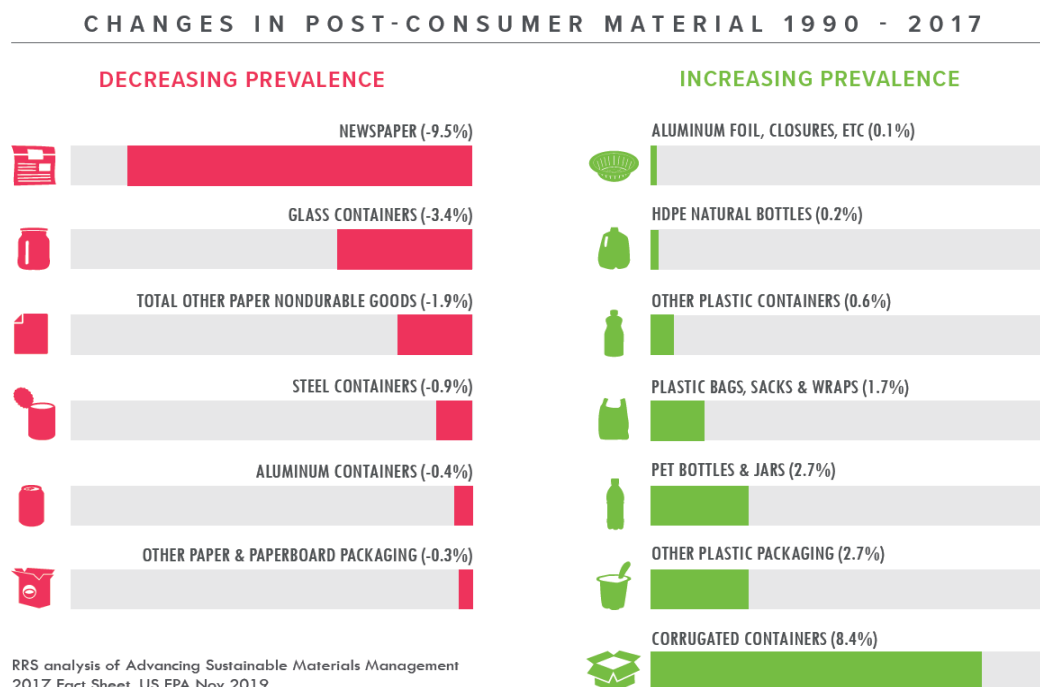


Figure E-2 The Evolving Ton

Recycling Market Trends

The orderly supply chain for the previously healthy recycling commodities market has experienced an overall price decline, as indicated in the Average Commodity Revenue (ACR) shown in Figure E-3. Freight and shipping costs have spiked as new markets are developed that do not have the advantages related to the Chinese export market

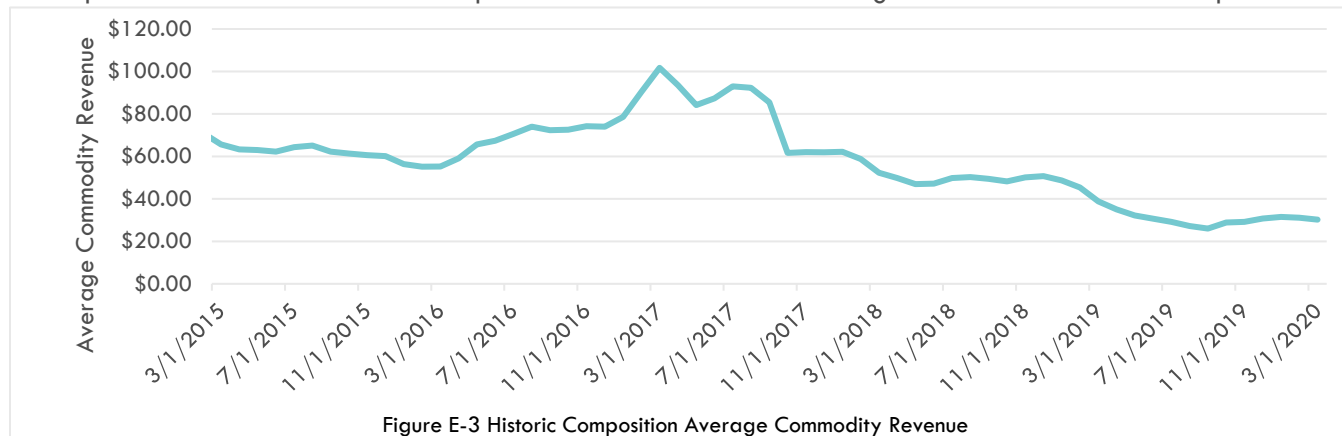
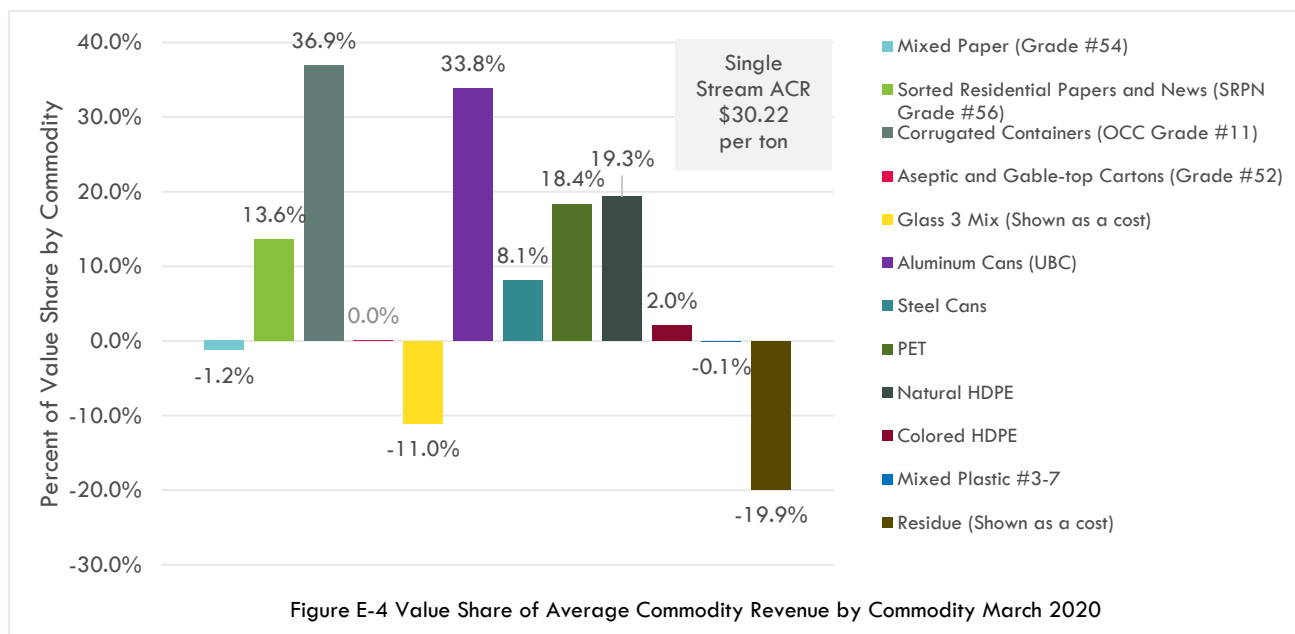


Figure E-3 Historic Composition Average Commodity Revenue

(demand, infrastructure, freight backhaul). In March 2020, the ACR was \$30.22 per ton, less than half of what it was five years ago at \$65.64 per ton in March of 2015. Each commodity plays a role in setting the ACR as shown in Figure E-4.

The overriding story for recycled commodity markets has been the complete imposition of Chinese inspections and enforcement initiatives under the branded “National Sword” and “Blue Sky 2018” campaigns, and the Chinese World Trade Organization (WTO) ban on unsorted mixed recovered materials and all “human consumed” packaging and post-consumer plastic grades. Heavy rejections of all imported materials, especially bales from MRFs, along with lower import quotas given to Chinese mills, have even curtailed old corrugated container and aluminum scrap shipments to China. The Chinese ban has resulted in an oversupply of paper that has caused prices to plummet for all bulk paper grades by over 50 percent through March 2018, compared to 2017 prices. Additionally, the July 2018-announced WTO ban forced sellers to scramble for new homes. These conditions especially target and limit markets for post-consumer MRF materials.



Further, the United States, through current administration and court actions, has imposed a series of tariffs and trade sanctions affecting newsprint, aluminum, and steel. In addition, regulations that limit truck driver productivity has created shipping constraints that impact the supply chain. Together these conditions are increasing costs and availability for reliable freight to move recovered materials. The short-term effect of these conditions is to price marginal markets out of both domestic and export opportunities.

These factors directly affect pricing for North American recovered materials and have caused unexpected market movement and profit changes. For instance, recovered paper producer costs have sharply risen with the need for more sorting and the higher freight; while, conversely, metal prices have spiked to record highs for all domestic scrap grades. The recycling commodities market is in a very volatile state. Dramatic price changes are the norm in this fractal space right now, and price conditions can quickly change. World demand and the world economy are still growing for consumer goods and recovered paper, yet prices are languishing under the above pressures.

COVID 19 Pandemic

The COVID-19 pandemic has had numerous impacts on municipal solid waste systems. Changes in consumption and waste disposal patterns and behaviors during the lockdown period have produced new challenges for solid waste management and diversion activities. SWANA's Executive Director, David Biderman, reported residential waste increased by 20-25% with some local governments suspending curbside programs (recycling and bulky) due to trash volume collection needs. As of September 2020, about half of the local governments restored their programs as resident volume decreased. Mr. Biderman also reported commercial waste went down 20-25%. The shutdown of businesses and stores eliminated the major source of recovered paper. Paper mills in US need material and the value of corrugated cardboard (OCC) doubled and peaked at about \$110 per ton⁸.

The fluctuations and changes over the past 3 years (2018, 2019 and 2020) in waste management add challenges to projecting future generation, disposal, and recovery. The final full year data is not yet available to show the extent of the COVID-19 pandemic impacts to waste and recycling. The percentage fluctuation between commercial

⁸ Biderman, David. Ohio Buckeye Chapter Annual Meeting, September 16, 2020, 10am ET, Virtual Zoom Meeting. "Impact of COVID-19 on the Waste Industry".

and residential waste is roughly equal presuming impacts may be neutralized. Which may be case for the waste landfilled, but reports from mills and material recovery facilities ascertain limited supply and a demand need.

Projections

Commercial Survey – Reference year is a reported quantity. To project change in recovery between 2019 and the first year of the planning period (2023), the average per capita recovery rate of 2.61 lbs/person/day was applied. The average per capita recovery rate was applied from 2023 through the rest of the planning period (2037), as the commercial sector is predicted to follow the County's overall population decline. The data collection program to obtain commercial data is mature.

Data from Other Recycling Facilities – Historically no tons recovered from Other Recycling Facilities, so no projections were applied.

Ohio EPA Commercial Retail Data – Reference year data is a reported quantity. The 5-year average was applied though the entire planning period. Comparing this projection method to using the average per capita, using the 5-average was only 7 tons different than using the per capita (1,229 tons for using 5-year average vs. 1,222 tons for each year during the planning period), so the 5-year average was used for simplicity.

Curbside Recycling Services – Reference year data is a reported quantity. From 2015 to 2019, there was an average 3% decline annually in tons recycled via curbside recycling in the District. This 3% yearly decrease in tons was applied from the reference year (2019) to the first year of the planning period (2023) and then three years into the planning period (2026). Following 2026, the decline was predicted to flatten, so 2027 to 2037 reflect the curbside tons being held constant.

Drop-off Recycling Locations – Reference year data is a reported quantity. From 2015 to 2019, there was an average 1% increase annually in tons recycled via curbside recycling in the District. This 1% yearly increase in tons was applied from the reference year (2019) to the first year of the planning period (2023) and then three years into the planning period (2026). Following 2026, the increase was predicted to flatten, so 2027 to 2037 reflect the drop-off tons being held constant.

Ohio EPA Composting Facilities Data – Reference year data is a reported quantity. From 2015-2019, the composting facilities tons have grown but somewhat inconsistently. To project change in recovery between 2019 and the first year of the planning period (2023), the 2019 reported quantity was increased by 3% annually. This growth is predicted to slow so a 1% annual increase was used from the 2023 predicted quantity until 2026. The recovery is predicted to flatline for the remainder of the planning period from 2027 to 2037; the 2026 predicted quantity was used through the rest of planning period.

Ohio EPA Other Food and Yard Management Activities Data – Reference year data is a reported quantity. From 2015-2019, the other food and yard waste data declined an average of 14% year-over-year. To project change in recovery between the reference year (2019) and the first year of the planning period (2023), a slightly less drastic decline was predicted; 5% annual decline was applied to the 2019 reported quantity through 2023. This data was predicted to flatline, therefore from 2024 through the remainder of the planning period (2037) the 2023 predicted quantity was held constant.

Ohio EPA Scrap Tire Data – Reference year data is a reported quantity. From 2015 to 2019, the scrap tire data fluctuated significantly due to a massive tire clean-up effort in 2016. No large clean-up events or other changes were predicted for the planning period. The 3-year average (from 2017-2019) was held constant through the end of the planning period (2037).

CHaRM – From 2015 to 2018, 5-6 tons of material were recovered through the Center-for-Hard-to-Recycle-Material. In the reference year, the 52 tons of material recovered included electronics. Electronics are accepted at the CHaRM program and are expected through the planning period. Tonnages are held constant through the end of the planning period (2037).

Logan County Recycling Center – Data from the Recycling Center is represented in curbside recycling services and drop-off data. No projections applied.

Tire Program – The reference year data is a reported quantity. No significant growth or declines were predicted, the 5-year average was applied through the planning period.

Fiber Collection – The reference year data is a reported quantity. No significant growth or declines were predicted, the 5-year average was applied through the planning period.

Quincy Yard Waste – The reference year data is a reported quantity. No significant growth or declines were predicted, the 5-year average was applied through the planning period.

Food Scrap Drop-off Program – The District is beginning a new residential food scrap drop-off program, expected to begin in the last quarter of 2021. Tonnages are estimated beginning in 2022. It is estimated 40 households will contribute the first two years and then hold flat at 80 households for the remaining planning period. Based on residential food scrap drop-off case studies it is expected the average household will divert 188 pounds per household per year.

Table E-8 Residential/Commercial Recovery Projections by Program/Source

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Retail Data	Curbside Recycling Services	Drop-off Recycling Locations	Ohio EPA Composting Facilities Data	Ohio EPA Other Food & Yard Waste Management Activities	Ohio EPA Scrap Tire Data	CHARM	Logan County Recycling Center	Tire Program	Fiber Collection	Quincy Yard Waste	Food Scrap Drop-off Program	Totals
2019	20,902	0	1,488	658	2,337	2,697	123	654	52	0	14	24	2	0	28,952
2020	21,574	0	1,229	638	2,360	2,778	117	511	52	0	15	24	2	0	29,301
2021	21,573	0	1,229	619	2,384	2,862	105	511	52	0	15	24	2	0	29,376
2022	21,572	0	1,229	601	2,408	2,948	95	511	52	0	15	24	2	4	29,460
2023	21,572	0	1,229	583	2,432	2,977	85	511	52	0	15	24	2	4	29,485
2024	21,571	0	1,229	565	2,456	3,007	85	511	52	0	15	24	2	8	29,524
2025	21,570	0	1,229	548	2,481	3,037	85	511	52	0	15	24	2	8	29,561
2026	21,570	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,600
2027	21,569	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,599
2028	21,568	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,598
2029	21,568	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,598
2030	21,567	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,597
2031	21,567	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,597
2032	21,567	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,596
2033	21,566	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,596
2034	21,566	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,596
2035	21,565	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,595
2036	21,565	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,595
2037	21,565	0	1,229	532	2,505	3,067	85	511	52	0	15	24	2	8	29,595

Sample Calculation:

2020 Commercial Survey = population * average per capita recovery rate * 365 / 2000

2020 Curbside Recycling Services = 2019 data * (1- average percentage change in tons recovered)

2020 Drop-off Recycling Locations = 2019 data * (1+ average percentage change in tons recovered)

2020 Ohio EPA Composting Facilities Data = 2019 data * (1+ 3 percentage change in tons recovered)

2020 Ohio EPA Other Food and Yard Waste Management Activities Data = 2019 data * (1- 5 percentage change in tons recovered)

APPENDIX F INDUSTRIAL WASTE REDUCTION AND RECYCLING DATA

A. Reference Year Recovery Data

Table F-1 Industrial Survey Results

NAICS	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables (Mixed)	Ash	Non-Excluded Foundry Sand	Flue Gas Desulfurization	Other: Non-Hazardous Chemicals	Other: Stone/Clay/Sand	Other: Unspecified
22																	
31			141														
32		32,806	9	2	376	13	677	32	387								
33		49	22,840	3,693			10								7	115	1,756
Other																	
Unadjusted Total	0	32,855	22,990	3,695	376	13	687	32	387	0	0	0	0	0	7	115	1,756
Adjustments																	
Adjusted Total	0	32,855	22,990	3,695	376	13	687	32	387	0	0	0	0	0	7	115	1,756

Source(s): District industrial survey results.

Table F-1 accounts for material credited for waste reduction and recycling as reported by industrial businesses. Some materials reported as recycled are considered non-creditable. These materials include train boxcars, construction and demolition debris, metals from vehicles, liquid industrial waste, and hazardous waste.

Data in Table F-1 is organized by North American Industry Classification System (NAICS) codes. Utilities are classified under sector 22, manufacturing industries are classified under sectors 31-33 and agriculture, forestry, fishing, and hunting industries are classified under sector 11. Table F-1 aggregates the quantities from all returned surveys for each NAICS code sector. The data is based of 9 responses across three different sectors. Over 85% of the industrial diversion reported in 2019 came from two businesses, one in sector 33, recycling over 32,000 tons of glass, and the other in sector 32, recycling close to 19,000 tons of metal.

Table F-2 Data from Other Recycling Facilities

Program and/or Source of Materials/Data	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables	Ash	Non-Excluded Foundry Sand	Flue-Gas Desulfurization
Buybacks														

Program and/or Source of Materials/Data	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables	Ash	Non-Excluded Foundry Sand	Flue-Gas Desulfurization	
None															
Scrap Yards															
None															
Brokers															
None															
Processors/ MRF's															
WM Recycling – Columbus					3										
Unadjusted Totals	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
Adjustments															0
Adjusted Totals	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3

Source(s): District industrial survey results and Ohio EPA. "2019 Material Recovery Facility and Commercial Recycling Data." 2020.

Table F-2 data is obtained from the district's industrial surveys and Ohio EPA's reports on processors. There was only one processor/MRF that reported industrial diversion from in-district sources for the reference year.

Table F-3 Other Recycling Programs/Other Sources of Data

Other Recycling Programs or Other Sources of Data	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Wood	Rubber	Commingled Recyclables	Ash	Non-Excluded Foundry Sand	Flue-Gas Desulfurization Waste
None														
Unadjusted Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjustments														0
Adjusted Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source(s): Ohio EPA. District recorded program data.

Other recycling programs or sources of recycling data are reported in Table F-3 for industrial material. No other sources of industrial data were found for the District.

Table F-4 Industrial Waste Reduced/Recycled in Reference Year

Material	Quantity (tons)
Food	0
Glass	32,855
Ferrous Metals	22,990
Non-Ferrous Metals	3,695
Corrugated Cardboard	379
All Other Paper	13
Plastics	687
Textiles	32
Wood	387
Rubber	0
Commingled Recyclables (Mixed)	0
Ash	0
Non-Excluded Foundry Sand	0
Flue Gas Desulfurization	0
Other (Aggregated)	1,878
Total	62,915

The District diverted 62,915 tons from the industrial sector. This total is lower than the total report in the Districts' 2019 ADR, which reported 66,050 tons diverted by the industrial sector. Removed from the ADR total were 702 tons of double counted material for 1 business and 2,435.9 tons of food waste that was double counted in residential/commercial diversion and industrial sectors. There were also 3 tons of material from a processor removed from the residential/commercial sector and added to this industrial sector analysis. The Table F-4 reports the quantities of each material diverted.

Source(s): Tables F-1, F-2, and F-3

Table F-5 Quantities Recovered by Program/Source

Program/Source of Industrial Recycling Data	Quantities (Tons)
Industrial Survey	62,912
Data from Other Recycling Facilities	3
Total	62,915

Table F-5 reports the total tons diverted for each program/source.

Source(s): Tables F-1, F-2, F-3, and F-4

B. Historical Recovery

The tonnage recovered in the industrial sector followed a consistent trend from 2015 to 2019. In the reference year, there was a 5%, drop in number of tons recovered. This appears to be mainly due to the number of respondents to the survey; from 2015-2018 there were an average of 59 respondents and there were 9 respondents in 2019. The majority of the industrial data in terms of tons does not come from annual unique survey responses but rather yearly follow up with companies. Due to COVID-19 pandemic reaching companies in 2020 was difficult and many did not respond.

Table F-6 Historical Industrial Recovery by Program/Source

Year	Industrial Survey	Data from Other Recycling Facilities	Totals
2015	64,836	17	64,853
2016	63,538		63,538
2017	66,081		66,081
2018	66,050		66,050
2019	62,912	3	62,915

Table F-6a1 Annual Percentage Change in Tons Recovered

2015	-	-	-%
2016	-2%	-100%	-2%
2017	4%	-	4%
2018	0%	-	0%
2019	-5%	-	-5%

Table F-6a2 Average Annual Percentage Change in Tons Recovered

-1%	-	-1%
-----	---	-----

Table F-6a3 Tonnage Change/Year

2015	-	-	-
2016	-1,315	-17	-1,332
2017	2,543	0	2,543
2018	-31	0	-31
2019	-3,138	3	-3,135

Table F-6a4 Average Tonnage Change/Year

-485	-4	-489
------	----	------

Table F-6a5 Average Tons of Material Over 5 Years

64,687	10	64,691
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Source(s): District Industrial Surveys for 2015 – 2019, "Material Recovery Facility and Commercial Recycling Data" for 2015-2019

Industrial survey data and MRF/ Commercial Recycling Data was used for the historical projections rather than the ADRs due to issues with double counting data.

C. Industrial Recovery Projections

Projections

Industrial Survey – Over the past 5 years industrial reporting followed a mostly consistent trend, with a decline by 5% in the reference year due to response rate. From 2015-2018, the average 59 respondents were all repeat

respondents with the exception of 1 new respondent in 2018. All of the 9 respondents in 2019 were repeat respondents.

The District does not expect the decrease in reporting and data recovery to continue to decline at the 1% annual percent change seen over the past 5 years. The District assumes more recovery data will be captured like it was from 2015-2018. Therefore, the District used the 5-year average, 64,691 tons, for the first year of the planning period (2022). The District also looked to economic indicators. Prior to COVID-19 pandemic which began in the US in March 2020, predictions expected a gross domestic product growth of 1.7% annually through 2023. To project change in recovery between 2019 and the first year of the planning period (2022), a 2% annual percentage rate was applied. Through the first three-years of the planning period (2022-2024) recovery projections increase at the 2% annual rate and then hold constant at the projected 68,650 tons through the remainder of the planning period.

Data from Other Recycling Facilities: There was limited data reported from other recycling facilities for the industrial sector. In 2015, 17 tons were reported from the WM Recycling – Columbus facility and 3 tons in 2019 with no tons in between. Given the small amount of total tonnage and the infrequent data, the District does not project any tons of material recovered through the planning period.

Table F-7 Industrial Recovery Projections by Program/Source

Year	Industrial Survey	Data from Other Recycling Facilities	Totals
2019	62,912	3	62,915
2020	87,546	0	87,546
2021	64,691	0	64,691
2022	64,691	0	64,691
2023	65,985	0	65,985
2024	67,304	0	67,304
2025	68,650	0	68,650
2026	68,650	0	68,650
2027	68,650	0	68,650
2028	68,650	0	68,650
2029	68,650	0	68,650
2030	68,650	0	68,650
2031	68,650	0	68,650
2032	68,650	0	68,650
2033	68,650	0	68,650
2034	68,650	0	68,650
2035	68,650	0	68,650
2036	68,650	0	68,650
2037	68,650	0	68,650

APPENDIX G WASTE GENERATION

A. Historical Year Waste Generated

Table G-1 Reference Year and Historical Waste Generated

Year	Population	Residential/ Commercial				Industrial			Excluded (tons)	Total (tons)
		Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)		
2015	45,698	25,660	29,884	55,544	6.66	2,375	64,870	67,245	5,746	128,535
2016	45,656	25,129	32,022	57,151	6.86	4,044	63,538	67,582	5,795	130,528
2017	45,614	26,742	28,236	54,978	6.60	4,495	66,081	70,576	5,370	130,924
2018	45,572	27,556	28,335	55,891	6.72	4,513	66,050	70,563	4,248	130,702
2019	45,559	29,237	28,952	58,189	7.00	2,215	62,915	65,130	5,360	128,679

Source(s) of Information:

Disposal from Appendix D

Recycled from Appendices E and F

Populations: Annual district reports

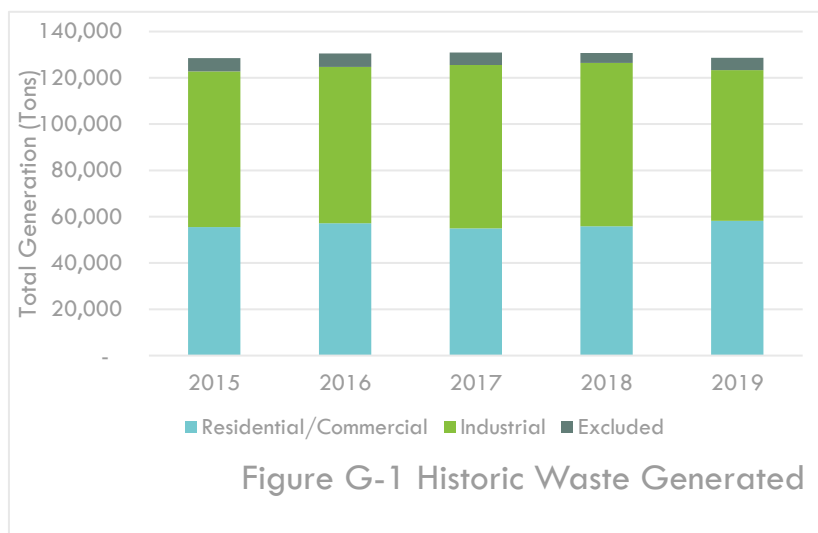
Sample Calculations:

Waste Generation = disposed + recycled = generated

Per Capita Generation = ((generated * 2,000) / 365) / population

$$\text{Waste Generated} = \text{Waste Disposed} + \text{Waste Recycled}$$

Total waste generation by the District was calculated by adding the quantities of waste disposed from Appendix D and quantities of recycled from Appendices E and F. Quantities resulting from the disposal and recycling as presented in Table G-1 accurately represent waste generation for the SWMD. Waste generation remained relatively consistent from 2015 to 2018, declining in 2019 by roughly 2,000 tons, shown in Figure G-1. The decline in 2019 was due to less reported tons in the 2019 industrial survey data. Only 9 businesses responded to the survey for 2019 versus the average of 59 businesses that responded in the previous four years. This trend is not expected to continue.



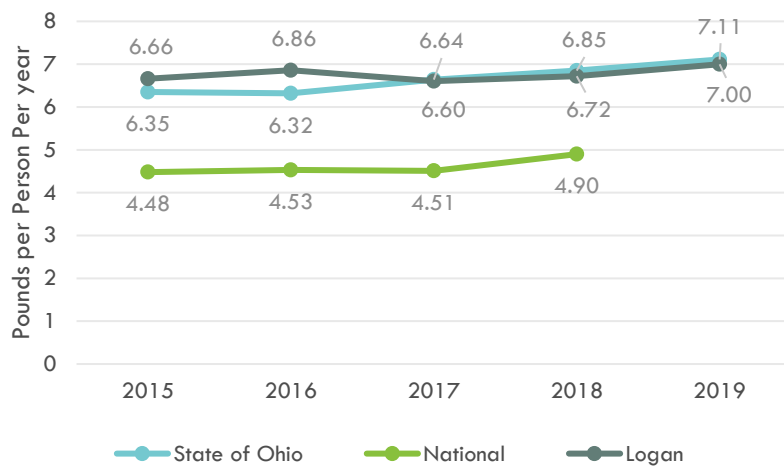


Figure G-2 Residential/Commercial Per Capita Generation

The SWMD's historical residential/commercial generation per capita data was compared to the EPA's national average and the Ohio EPA's state average data. Seen in Figure G-2, the District's per capita generation rate tracks the state's per capita more closely. The District's rate was above the State's (and Nation's) per capita rate for 2015 and 2016, then fell slightly below the State's rate from 2017 to 2019. (Note the national per capita generation data from 2019 was not published as of writing this report). The SWMD's highest rate was in 2019 with an average of 7.11 pounds of material generated per person per day.

Note: National average per capita generation 2019 data was not published as of this report.

Source(s) of information:

National Average per Capita Date: EPA National Overview: Facts and Figures on Materials, Wastes and Recycling, <https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials#GenerationTrends>

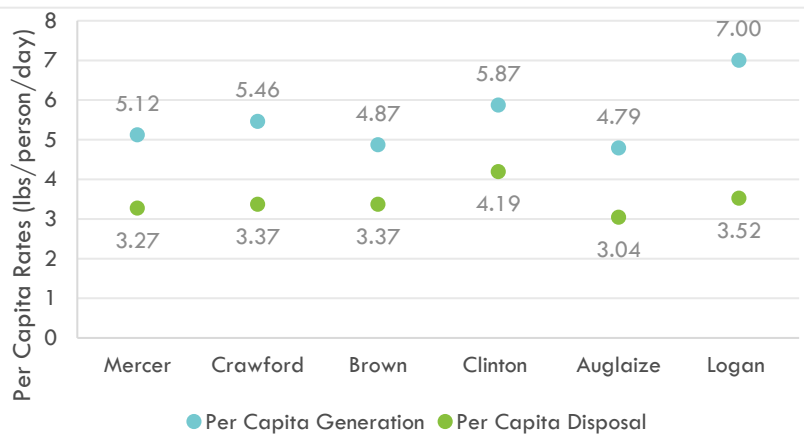
Ohio State per Capita Data: Ohio EPA Solid Waste Generated in Ohio – 2019

https://epa.ohio.gov/portals/34/document/guidance/gd_1017.pdf

Of the 7.00 pounds per day per capita generation in 2019 about half of that is diverted and the other half landfilled. Comparing Logan with other similar population sized districts, the District's per capita generation rate is much higher than the five-District average of 5.22 (Figure G-3). However, the District is only slightly higher than the average per capita disposal rate; Logan County's rate was 3.52 in 2019 compared to the average of 3.44.

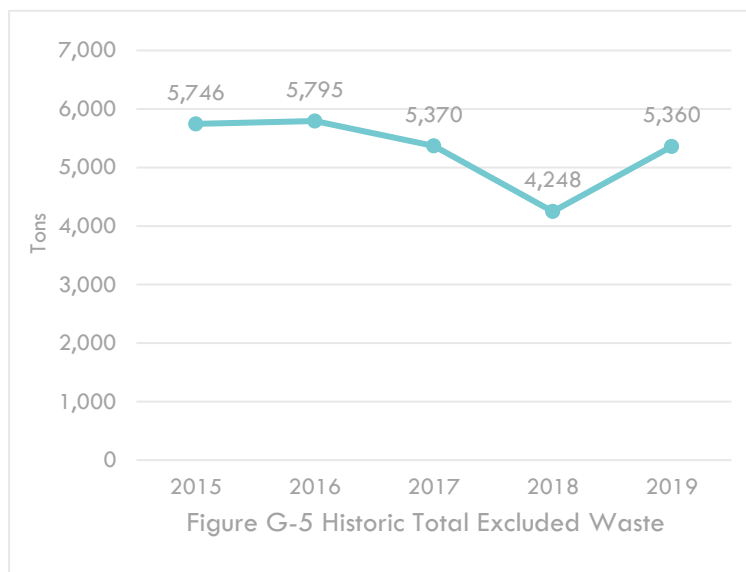
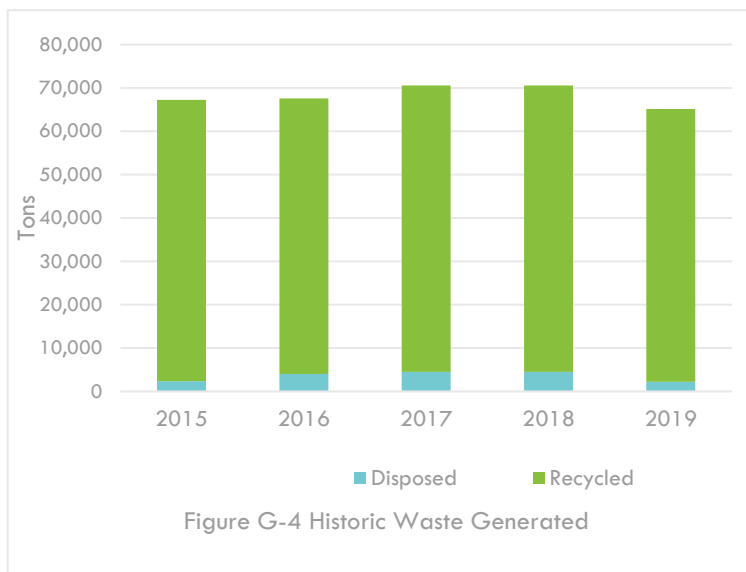
Examining the diversion rates of all these districts reveals that Logan County had the highest diversion rate in 2019, explaining why the per capita generation rate is higher in the County compared to the other counties. In 2019, Logan County diverted 50% of its residential/commercial material generated. The five-District diversion rate average was 34%. Logan County has strong recycling programs and data collection raising the District's recycling above average when compared to other similarly sized Districts in Ohio.

Waste generation may be higher due to mis-identified waste at the landfill. Waste from another District's may be mis-identified as Logan County waste. The District's fee structure is lower than neighboring solid waste management district fees. Another possibility is that industrial waste could be classified as commercial waste at the landfill which could inflate the generation data.



G-3 Benchmark Residential/Commercial Per Capita Rates

Industrial generation remained fairly consistent from 2015 to 2018 with an average of 3,857 tons disposed and 65,135 tons recycled for an average total of 68,992 tons generated by the industrial sector. In 2019, the tons dropped by 51% for disposal and 5% for recycling, compared to 2018 numbers. This means industrial tons generated in the reference year is in line with the previous four-year average.



As mentioned in the previous section analyzing the County's overall generation, this decrease is due to a drop in industrial survey responses.

The total tons of excluded waste generated in the District is shown in Figure G-5. The total tons generated was consistent between 2015 to 2016, decreasing over the next two years to the lowest number of tons in 2018, 4,248 tons. The total tons increased in the reference to total similar to that of 2017. Excluded waste accounted for an average of 3.5% of the total material generated in the County.

B. Generation Projections

Table G-2 Generation Projections

Year	Population	Residential/ Commercial				Industrial			Excluded Waste (tons)	Total (tons)
		Disposal (tons)	Recycle (tons)	Generation (tons)	Per Capita Generation (ppd)	Disposal (tons)	Recycle (tons)	Generation (tons)		
2019	45,559	29,237	28,952	58,189	7.00	2,215	62,915	65,130	5,360	128,679
2020	45,364	26,716	29,301	56,016	6.77	2,215	87,546	89,761	5,344	151,121
2021	45,363	26,715	29,376	56,091	6.78	2,215	64,691	66,906	5,328	128,325
2022	45,361	26,714	29,460	56,174	6.79	2,215	64,691	66,906	5,312	128,392
2023	45,360	26,713	29,485	56,198	6.79	2,215	65,985	68,200	5,296	129,694
2024	45,358	26,712	29,524	56,237	6.79	2,215	67,304	69,519	5,280	131,036
2025	45,357	26,712	29,561	56,273	6.80	2,215	68,650	70,865	5,265	132,403
2026	45,356	26,711	29,600	56,310	6.80	2,215	68,650	70,865	5,249	132,425
2027	45,355	26,710	29,599	56,309	6.80	2,215	68,650	70,865	5,233	132,408
2028	45,353	26,709	29,598	56,308	6.80	2,215	68,650	70,865	5,217	132,391
2029	45,352	26,709	29,598	56,307	6.80	2,215	68,650	70,865	5,202	132,374

Year	Population	Residential/ Commercial				Industrial			Excluded Waste (tons)	Total (tons)
		Disposal (tons)	Recycle (tons)	Generation (tons)	Per Capita Generation (ppd)	Disposal (tons)	Recycle (tons)	Generation (tons)		
2030	45,351	26,708	29,597	56,305	6.80	2,215	68,650	70,865	5,186	132,357
2031	45,350	26,708	29,597	56,304	6.80	2,215	68,650	70,865	5,171	132,341
2032	45,349	26,707	29,596	56,304	6.80	2,215	68,650	70,865	5,155	132,324
2033	45,349	26,707	29,596	56,303	6.80	2,215	68,650	70,865	5,140	132,308
2034	45,348	26,706	29,596	56,302	6.80	2,215	68,650	70,865	5,125	132,292
2035	45,347	26,706	29,595	56,301	6.80	2,215	68,650	70,865	5,109	132,276
2036	45,346	26,705	29,595	56,300	6.80	2,215	68,650	70,865	5,094	132,260
2037	45,346	26,705	29,595	56,300	6.80	2,215	68,650	70,865	5,079	132,244

Source(s) of Information:

Disposal from Appendix D

Recycled from Appendices E and F

Populations: Annual district reports

Sample Calculations:

Waste Generation = disposed + recycled = generated

Per Capita Generation = ((generated * 2,000) / 365) / population

In the residential/commercial sector the historical and reference year data assists in forecasting waste generation. Residential and commercial waste generation is anticipated to grow at a slow rate throughout the planning period. This growth projected is based on a steady per capita generation rate so that the decrease in disposal is mainly attributed to the decreasing projected population. Diversion is projected to remain stable with the current recycling program options available and increase slightly with the new food scrap drop-off program.

To project the industrial sector generation, the District looked to economic indicators. Prior to COVID-19 pandemic which began in the US in March 2020, predictions expected a gross domestic product growth of 1.7% annually through 2023. Taking this into consideration, the SWMD is conservatively estimating industrial sector diversion to increase at a 2% rate till 2024 then hold flat. Industrial disposal is projected to remain stable so that industrial waste generation will hold flat throughout the planning period.

APPENDIX H STRATEGIC EVALUATION

The state solid waste management plans establish recycling and reduction goals for solid waste management districts. At the time of the SWMD's 2016 Plan Update, Ohio had issued a 2009 State Plan but was lacking a new Format for solid waste management districts to follow. While it was encouraged districts incorporate 2009 State Plan goals it was not a requirement. The SWMD's 2016 Plan demonstrated compliance with the 2001 State Plan but developed several programs to guide the SWMD towards the 2009 State Plan goals. Programs and strategies approved by Ohio EPA in the 2016 Plan are evaluated in this Appendix H. In this Appendix, the Policy Committee completed a strategic process of evaluating its reduction and recycling efforts. To do this, the status of the reduction and recycling efforts were evaluated in the context of factors presented in the 14 analyses described in Format 4.0. The strategic program evaluation was performed on the following:

- Residential Recycling Infrastructure Analysis
- Commercial Sector Analysis
- Industrial Sector Analysis
- Waste Composition Analysis
- Economic Incentive Analysis
- Restricted and Difficult to Manage Waste Analysis
- Diversion Analysis
- Special Program Needs Analysis
- Financial Analysis
- Regional Analysis
- Population Analysis
- Data Collection Analysis
- Education and Outreach Analysis
- Processing Capacity Analysis

1. Residential Recycling Infrastructure Analysis

This evaluation of the SWMD's existing residential recycling infrastructure determines whether the needs of the residential sector are being met and if the infrastructure is adequately performing. There are many materials that can be recycled. The SWMD's waste management system relies on various collection systems and programs to divert materials from the landfill to be recycled. The residential recycling infrastructure consists of curbside programs, drop-off recycling programs, special event drop-offs, take-back retailers, reuse centers, thrift stores, and network of food banks. The SWMD's role instituting this network of available opportunities varies.

a. Evaluation

CURBSIDE

When evaluating curbside recycling in a District, one of the first metrics analyzed is recycling collection infrastructure. The District has one city, twelve villages and seventeen townships and three of these jurisdiction have non-subscription curbside recycling programs. The City of Bellefontaine, Lake Township and the West Liberty Village each have automatic curbside collection of recycling provided by a private hauler, Republic Waste Services. Recyclables are collected weekly in a dual stream system with one bin for mixed paper, magazines, paperboard and cardboard and the other bin for commingled containers – plastics, aluminum, steel and glass. Collected materials are brought to Logan County's Recycling Center. These three programs serve a total of 15,048 residents or 33% of the County's residents. In 2019, 658

tons of recyclables were collected curbside in the County. Table H-1 summarizes the curbside recycling programs in the county.

Table H-1: Non-Subscription Curbside Recycling Program Summary (Reference Year Data)

Community	Program	Population Served	Total Households	Total Diverted (Tons)	Per capita Recycling (Lbs./Person/Year)
City of Bellefontaine & Lake Township	Non-subscription, curbside recycling, PAYT trash	13,249	4,972	535	81
West Liberty Village	Non-subscription, curbside recycling, PAYT trash	1,799	736	123	137

One strength of these curbside programs is having automated or non-subscription recycling, where residents have to sign up for recycling collection to get trash collection (whether they participate or not). The other strength of the programs are that they all have Pay-As-You-Throw (PAYT) structure where the more trash that a household produces and sets out, the more the household will pay while recycling is no charge. This economic incentive is analyzed later in this section.

To evaluate the curbside recycling programs' performance, one of the metrics analyzed was historic tons collected. Table H-2 shows the tons collected curbside by each program (Lake Township's data is included in the City of Bellefontaine). The tons collected curbside has declined by an average of 3% annually from 2015 to 2019. The decrease in tonnage is mostly due to the City Bellefontaine and Lake Township program, while the West Liberty Village, which accounts for an average of 17% of the curbside total, has held more consistent.

Table H-2: Curbside Tons Collected

Year	City of Bellefontaine & Lake Township (Tons)	West Liberty Village Tons	Total Tons	Change in Tonnage (%)
2015	610	123	733	-
2016	579	126	704	-4%
2017	600	115	715	1%
2018	580	108	688	-4%
2019	535	123	658	-4%

The decrease in tonnage does not appear to be due to a change in a decline in households signed-up for services. Over the same period time, there was a 4% increase in the total number of households participating in the programs. Lack of new education materials and promotion can contribute to 'stale' recycling rates.

A third metric analyzed is the per capita recycling rate or the pounds of recyclable materials collected per person. According to The Recycling Partnership's (TRP) 2016 study, on average, Americans recycle 143-pounds per person per year via curbside recycling⁹. In their survey, TRP found that high performing communities captured approximately 160 pounds per person per year and that the vast majority of those communities had universal (no sign up required) single-stream cart-based curbside programs with automatic collections. Additionally, high performing communities tend to have local governments that are

⁹ The 2016 State of Curbside Report by The Recycling Partnership: <https://recyclingpartnership.org/wp-content/uploads/2018/05/state-of-recycling-report-Jan2017.pdf>

highly engaged in programs that incentivize waste diversion and recycling, such as mandated recycling

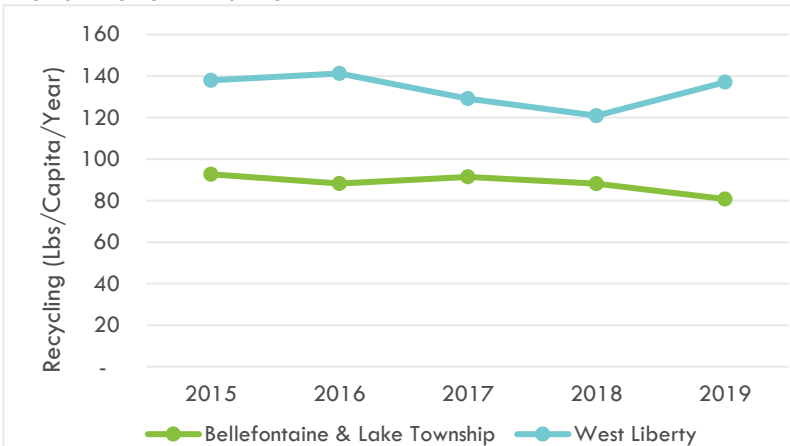


Figure H-1 Residential Curbside Per Capita Recycling

with trash services or pay as you throw programs (variable trash rate). For reference, on average American's generate 320 to 400 pounds of recyclables per year per capita.

Figure H-1 shows the per capita recycling amounts for the programs. The City and Township's per capita (average 88 lbs/person/year) is significantly lower than that of West Liberty Village (average 133 lbs/person/year).

One way the program could be improved would be to change the pay-as-you-throw trash rates to provide a clearer economic incentive to recycle. PAYT rates that are too high can cause issues such as increase in illegal dumping and higher recycling contamination. Rates that are too low may not provide residents enough incentive to reduce their trash production or increase their recycling.

The City of Bellefontaine has seven options for residents to choose between for trash collection:

Option 1: Bag System - \$8/month + \$1.50/Trash Bag

Option 2A: One Small Container – \$15/month

Option 2B: Two Small Containers – \$22/month

Option 3A: One Large Container – \$23/month

Option 3B: Two Large Containers – \$38/month

Option 4: One Small / One Large Container – \$30/month

Option 5: One Leased Trash Toter – \$27/month

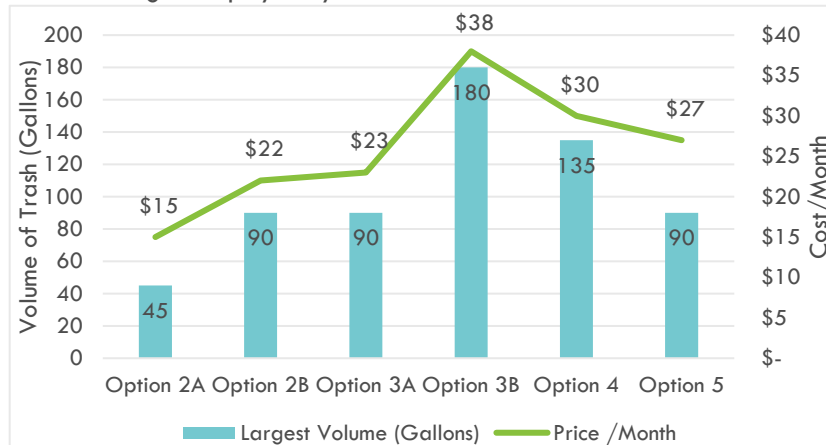
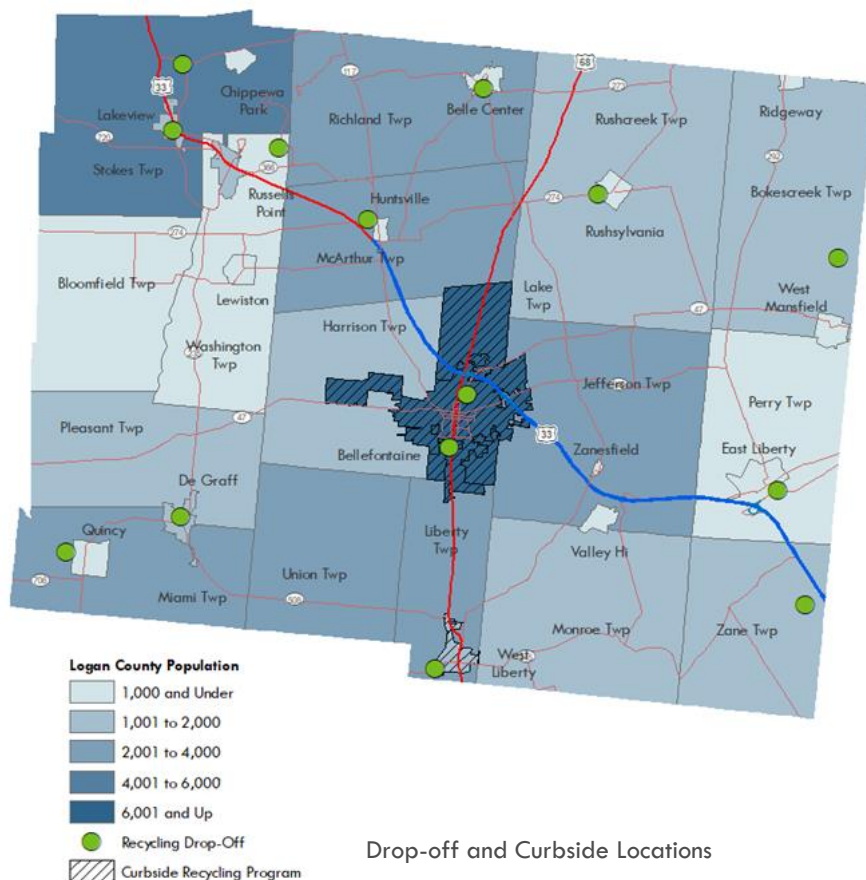
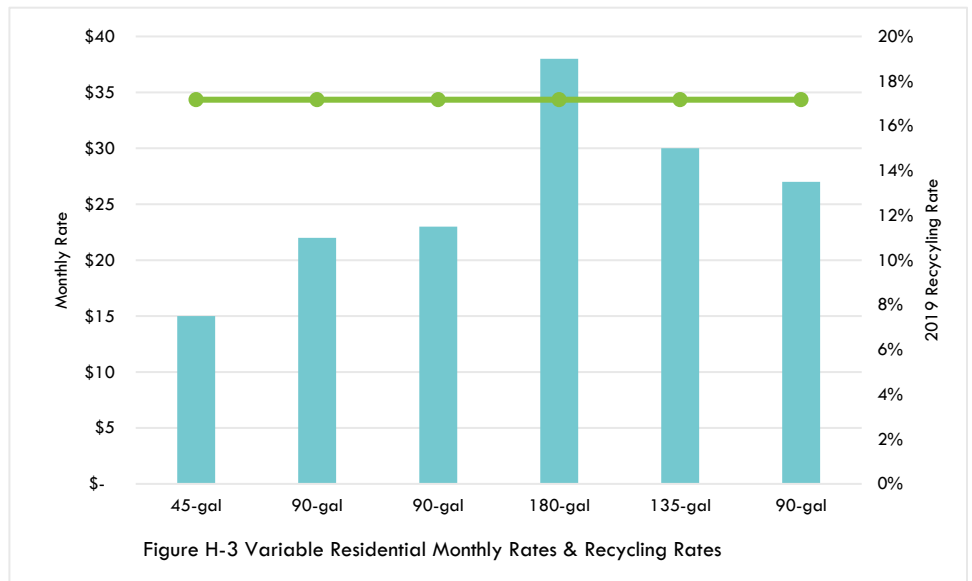


Figure H-2 City of Bellefontaine Trash Cost Analysis

Figure H-2 above assesses the City's PAYT trash rates and the maximum volume of trash residents can

dispose of under each option (except option 1 does not have a defined maximum amount of trash). The figure highlights that while more trash does mean a higher cost for residents the pricing structure is not consistent and therefore might confuse residents and incentivize the wrong thing. For example a resident can get twice the trash collected for less than double the cost moving

from Option 3A to Option 3B. Figure H-3 shows the relationship between monthly rate and the recycling rate. The residential recycling rate is 17%. The data suggests there are 3-options for service where the resident can dispose up to 90-gallons per month, paying as low as \$22 per month. Reducing their trash by half only recognizes a cost savings of \$7 per month.



For more analysis and ways to improve these cost structures, see Appendix H – Economic Incentive Analysis.

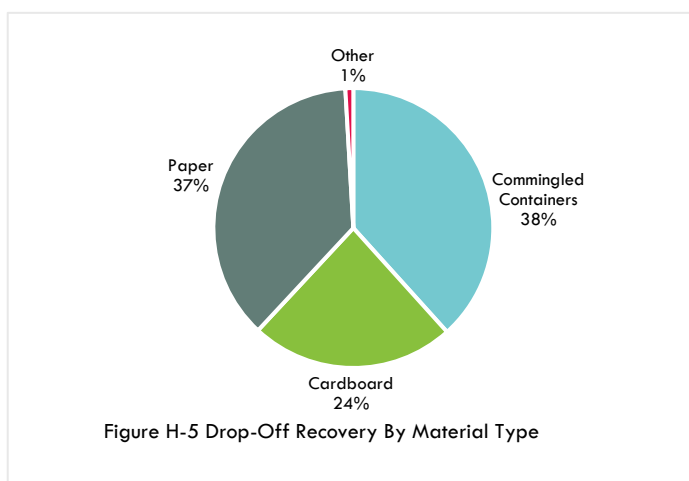
DROP-OFF

The SWMD has 16 drop-off recycling centers within the District which are serviced by the District's own vehicles. Two drop-offs are in urban areas with the remaining 14 drop-off in rural locations. The drop-offs are serviced on-demand as needed. All of the drop-offs have separate roll-off containers (33 yard) that are used to collect cardboard, paper (paper, paperboard, and junk mail) and commingled containers (glass, aluminum, plastic and cans) The containers are available 24/7 and have cameras to prevent illegal dumping. Except for the 2 locations in Bellefontaine, and the location in West Mansfield (privately owned with

a lease agreement) all drop-offs are located on village or township property.

Figure H-4 shows where the drop-offs and curbside programs are in the County. The drop-offs are fairly well distributed throughout the county with ones in less populated/more rural areas as well as in more densely populated areas. About 80% of the County's population has access to a drop-off within their township, city or village.

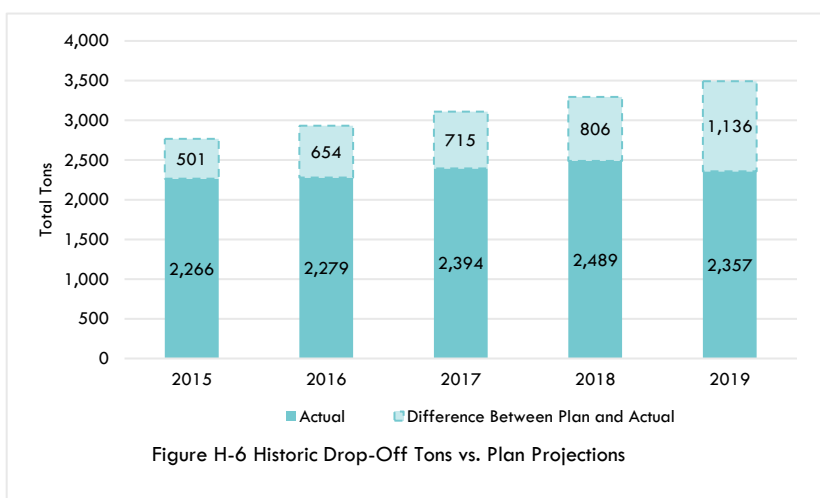
The drop-offs accept cardboard, paper and commingled containers in separate roll-offs. By weight, commingled containers and paper make up the largest portions of the drop-off stream, with cardboard making up about a quarter of the stream. Plastic film is collected separately at the Bellefontaine drop-off and film makes up about 1% of the streams.



One metric analyzed to evaluate the performance of the drop-offs is historic tons collected. The drop-off recycling centers have remained mostly consistent from 2016 to 2019 in terms of tons recovered. The centers had 5% and 4% increase in tons in 2017 and 2018 respectively over the previous year, but then a 5% decrease in 2019. In 2019, 2,357 tons of materials were recycled via the drop-offs in the SWMD. Based on the entire county's population, approximately 103 pounds per person per year were recovered through the drop-off program in 2019.

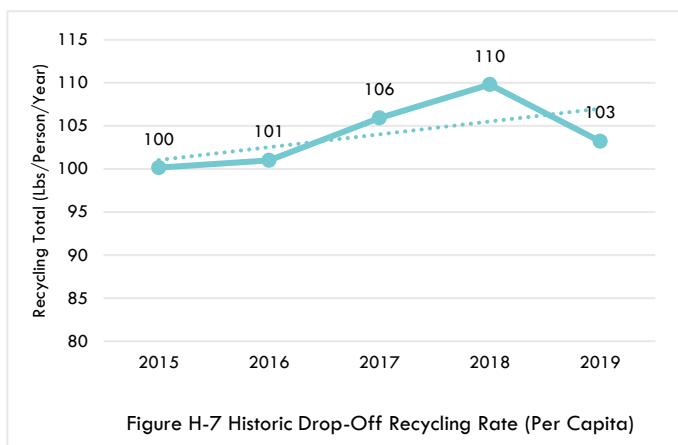
In more recent years, the contamination at the drop-off sites is pushing towards about 10%, which is uncharacteristically high. The SWMD implements several best practices including site monitors, gates, site beautification, and well-marked containers with stickers/signs. The MRF could conduct a composition or characterization study to identify the main contaminants to design an outreach campaign.

Figure H-6 compares the historic tons collected through the drop-offs with the projected tons from the previously approved plan. The projection for 2019 was 3,493 tons, over 1,100 tons greater than was actually collected. The reason the previous plan projected higher tons was that there was a planned trash bag fee increase that did not happen.



The drop-offs are PAYT, where customers must purchase green trash bags for \$2.50/bag or \$12.50 for a roll of 5 to dispose of their trash on-site. Recycling is free at the drop-offs. PAYT bags are available at the drop-offs via vending machines, Walmart, several community stores, and the District office in Bellefontaine. This is a strength of the program, a variable trash

rate helps incentivize recycling as individuals and households can directly reduce their costs by recycling more material. In order to continue to drive more recycling in these programs, variable rates should be evaluated and updated to keep up with inflation.



Logan County's drop-off program remains high performing. The District had a 5 year average rate of 105 lbs. of recyclables dropped off per person per year (Figure H-7). Comparing this per capita rate with other Districts with strong drop-off programs, reveal that the County's program accounts for a much high rate of recycling. For example, Belmont-Jefferson's program average was 61 lbs/person/year and Clinton County's was 37. While comparing programs may not be a straight comparison because of factors like material acceptance and service level, these numbers can still help guide a District when

evaluating program performance.

TAKE BACK RETAILERS

Buybacks, take-back retailers, reuse centers, and thrift stores are other outlets for diversion. The SWMD surveys these businesses; however, if a survey is not returned, the recovery of materials to be recycled or reused is not captured. As a best practice, in addition to CHaRM and SWMD offices, the SWMD could maintain a list of scrap yards, buybacks and take-back retailers, as well as other collection points for materials such as batteries, used oil, etc. on the District's website for residents to be able to use.

REUSE AND THRIFT STORES

Reuse and thrift stores are available throughout the county. Reuse infrastructure heavily falls on non-profits and their development of reuse centers. The SWMD is not involved and does not plan to be involved in developing reuse infrastructure. An area of focus that could be expanded is the SWMD's role to encourage support of reuse and thrift stores. Additionally, education to address waste minimization for residents and businesses could be enhanced and added to the website. Creation and promotion of a reuse and repair network. The District could work with reuse/thrift stores and other take-back retailers to develop and publish a resource guide for take-back and donating materials.

FOOD BANKS AND FOOD DONATION CENTERS

The US EPA food recovery hierarchy, shown in Figure H-8, moves from preferred to least preferred food recovery methods reinforcing the highest and best use of food waste. The top management hierarchy is reducing waste at the source. The second is feeding hungry people, where food banks and food donation centers fall. The SWMD does not actively serve a role in the management or education of food recovery, but there are synergies where the SWMD could be a resource. As approximately 13% of the County's population has an income level below the

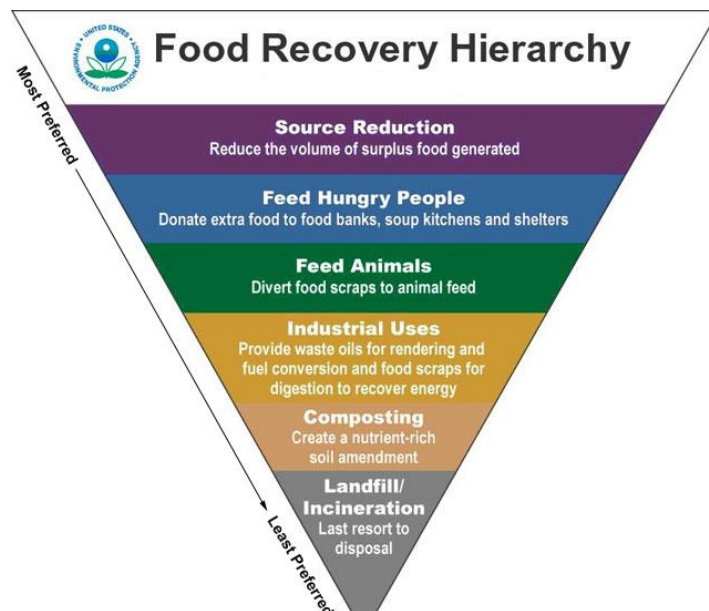


Figure H-8 U.S EPA's Food Recovery Hierarchy

poverty level¹⁰, amplifying recovery for food banks and food donation has social and waste reduction benefits.

b. Conclusions/Findings

Possible opportunities include:

- Modify the City of Bellefontaine's pay-as-you-throw trash rates to provide greater economic incentive to recycle.
- Conduct a MRF composition or characterization study to identify the main contaminants and design an outreach campaign.
- Evaluate and update PAYT drop-off variable rates ever so often to keep up with inflation.
- Maintain a list of scrap yards, buybacks and take-back retailers, as well as other collection points for materials such as batteries, used oil, etc. on the District's website for residents to be able to use.
- Encourage support of reuse and thrift stores.
- Enhance education to address waste minimization for residents and businesses and promote on the website and social media.
- Create and promote a reuse and repair network.
- Work with reuse/thrift stores and other take-back retailers to develop and publish a resource guide for take-back and donating materials.
- Organize and bring stakeholders together to explore food collection and management methods available
- Provide educational support to residents and businesses with large amounts of donatable food
- Connect with other regional or national food recovery organizations such as NRDC or Feeding America.

2. Commercial/Institutional Sector Analysis

This evaluation of the District's existing commercial/institutional recycling determines if existing programs are adequate to serve the sector or if there are needs that are not being met. The analysis conducted here for this plan update evaluates the strengths and weaknesses of existing programs. The ultimate goal is to determine gaps and if there is more the District can do to address the commercial sector. Commercial/institutional sector within the District consists of the following (non-exhaustive list): commercial businesses, schools and universities, government agencies, office buildings, stadiums, amusement parks, event venues (stadiums, concert halls), hospitals and non-profit organizations.

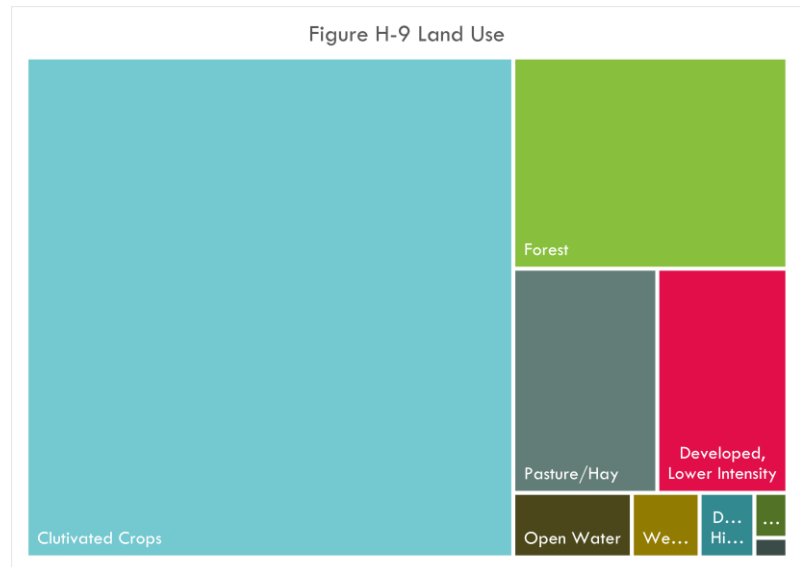
a. Evaluation

Logan Clinton County about 35 minutes from Interstate 75 and 1-hour northwest of downtown Columbus. U.S. Route 68 is the major north-south route and U.S. Route 33 transverses diagonally northwest to southeast providing easy access throughout the County. The County is also home to a local regional airport, Bellefontaine Municipal Airport is located in the County.

GEOGRAPHICAL

¹⁰ Ohio Office of Research. "Ohio County Profiles, Logan County." 2020.

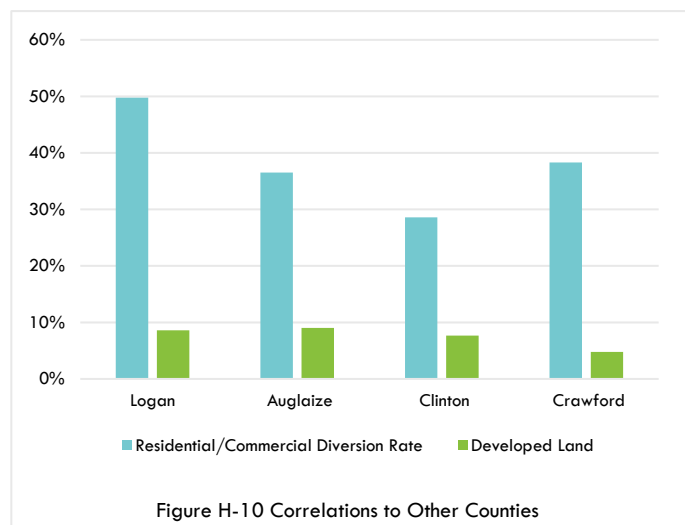
What is rural and urban is defined after each decennial census using specific criteria related to population thresholds, density, distance and land use. In general, rural areas are sparsely populated, have low housing density, and are far from urban centers. In Logan County the land use is predominantly rural (see Figure H-9) and population density is low¹¹ (100 persons/square mile). The largest more densely populated and developed community in the County is the City of Bellefontaine. The City of Bellefontaine is an urbanized cluster where roughly 29% of the County's population resides.



The majority of the commercial base is located the City of Bellefontaine. Outside of the City the commercial basis is small with concentrated districts or parcels near village and township town centers.

LABOR FORCE

The industries with higher percentage of workers in Logan County include Manufacturing, Trade, Transportation & Utilities, and Professional and Business Services¹². Three other single county solid waste districts were found with similar labor force stats – Auglaize County, Clinton County, and Crawford County. All three share similar workforce and demographic characteristics, demonstrating at least 50% of employment in Manufacturing, Trade, Transportation & Utilities categories, same as Logan County. Land use is also similar in all three demonstrating about 9% developed land¹³. Because of these characteristics, the SWMD wanted to see if there were any correlations to the residential/commercial diversion data among the three counties. As shown all demonstrate greater than 25% diversion rates while Logan County achieving the highest.



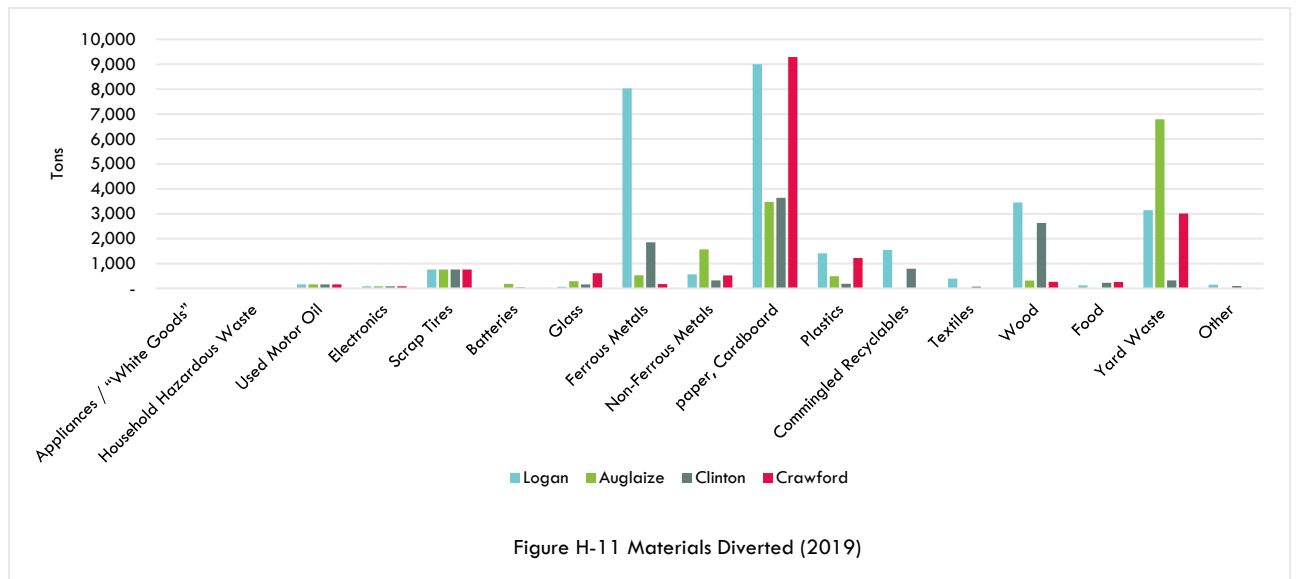
DIVERSION

¹¹ <https://www.census.gov/quickfacts/logancountyohio>

¹² Ohio Economic Profile Logan County. Ohio Department of Job & Family Services, Office of Workforce Development. July 2019.

¹³ 2019 Ohio County Profiles for Clinton, Logan, Auglaize, and Crawford Counties. Office of Research.

Analyzing the type of materials diverted to reach the diversion rate in each County, the SWMD notes both Crawford and Logan County are recovering higher tonnages of paper and cardboard. Auglaize is showing higher yard waste totals and Logan is showing higher ferrous metals.



Both Crawford and Logan County have some level of recycling collection to schools, office buildings and some commercial businesses. Crawford County provides direct weekly collection of paper and cardboard to 215 sites. Logan County's collection, PAYT programs, and private hauler rebates incentives help contribute to higher recovery of paper and cardboard.

Hauling and management of residential and commercial recycling makes separating commercial data from residential data challenging. Measurables obtained from this sector include recorded diversion data obtained from commercial surveys, brokers, haulers, and Ohio EPA sourced data from commercial businesses and material recovery facilities (MRFs). Using these data sources, as shown in Table H-3, a total of 22,414 tons are estimated as commercial recycling activities.

Table H-3 Estimated Commercial Stream Recycling

Recycling Data	Quantities (Tons)	Percent of Stream
Residential and Commercial Recycling	28,952	
Estimated Residential Only	6,537	23%
Estimated Commercial Only	22,414	77%

While the estimations are rough, this demonstration shows 77% of the residential/commercial recycling is attributed to the commercial sector.

FUNCTIONALITY

The County has few areas with aging infrastructure or challenges that impede the logistic operations of collecting recyclables from commercial businesses. Narrow streets, limited receptacle storage, alleys and one-way traffic flow are few barriers for communities in the County. In fact, new commercial development growth presents an opportunity for the District to work with zoning and planning departments to future plan for adequate space for recycling and potentially food waste collection receptacles.

Commercial businesses could be classified into three major categories: neighborhood, community or regional. Neighborhood commercial centers provide convenience-type retail and service establishments; community commercial centers provide a greater depth of merchandise; and regional centers provide a full depth and variety of merchandise. Financial and professional services are generally located in clusters to the shopping centers. Logan County has a few neighborhood commercial centers, one community commercial centers and one regional commercial center.

The commercial sector encompasses a variety of businesses. For purposes of the 2021 Plan it makes sense to organize the sector into groups for analysis.

Event Venues and Parks: Event venues and parks are one of the more challenging groups to target. Attendees/population at events are transient. The attendance at these locations is generally short bursts for only a small amount of time adding challenges to outreach and educate on proper material recycling. Permanent receptacles have not been established mostly because of costs for collection and service. The SWMD has Clearstream recycling receptacles. These are portable and easy to maneuver for events. After use materials are deposited into the drop-off containers.

Commercial Businesses: The percentage of developed land in the County is low and as mentioned the commercial base is limited to mostly the City of Bellefontaine. Businesses are financially responsible for implementing their own recycling programs and are welcome to use the drop-off program for recycling. Commercial businesses have the opportunity to contract with local haulers for recycling dumpster service. A recent benefit for the businesses located in the City of Bellefontaine is a change to the recycling service contract to include any business that generates trash or recycling the same way as residential dwellings. Providing this service offering to commercial businesses is a best practice program to increase recovery.

Since collection opportunities are available throughout the County, the SWMD's technical assistance and waste assessments help to start or fine tune commercial diversion programs. About 1 waste audit a year is conducted, which is comparable other rural districts.

Schools, Universities, Institutions: Schools, universities, and institutions can be large generators of paper and cardboard, but each may have their own challenges or barriers for recycling. Over the years, the District has met in-person or conversed over the phone with every school, university, and institution located in the County at some point. From this outreach the overall barrier was cost of service. Costs associated with collection equipment within the school and collection of materials to a processor. To overcome these barriers the District equipped every classroom with containers, all desks with deskside baskets, and totes for moving the recyclables around. The District also operates a collection route to haul the recyclables to the MRF.

Logan County is home to Clark State College, Bellefontaine, Ohio State University Extension, Ohio Hi-Point Career Center, 1 private school academy, and 4 public school districts and 4 public school districts that cross County boundaries. The largest school district (by student enrollment) is Bellefontaine City School District, followed by Benjamin Logan Local School District.

The SWMD has discovered hospital waste streams are well managed by their own staff. These institutions are not very interested in technical assistance from the SWMD since most of their waste streams are somewhat specialized and due to nature regulated or somewhat regulated. The County is home to the Mary Rutan Hospital, and a couple nursing homes.

Government Agencies, Office Buildings: Government agencies and office buildings are grouped together because the majority of waste generated is paper and cardboard and they tend to be clustered in areas. Those located in the City of Bellefontaine are provided recycling service.

Multi-Family Housing: A search on the Logan County Auditor's website returned 4,281 properties, roughly 18%, in Logan County identified as multi-family housing ranging from 4 to more than 40 units..

Challenges/Barriers

- Collection service cost barriers.

b. Conclusions/Findings

The commercial sector is well serviced by the public sector and the SWMD. Education and technical assistance provided by the SWMD engages the commercial/institutional sector to find ways to recycle. The most significant barrier is cost of service and with lack of service provider competition in the County there are limited solutions. However, the City of Bellefontaine's expansion to service businesses fills a gap where there is a businesses concentration. This analysis also demonstrates that the SWMD is recovering high amounts of paper and cardboard recovery in similar demographic counties. Possible opportunities include:

- Targeting material specific campaign for paper and cardboard.
- Explore private sector partnerships and funding.
- Continue to apply for Ohio EPA grants to help businesses expand or implement recycling programs.

3. Industrial Sector Analysis

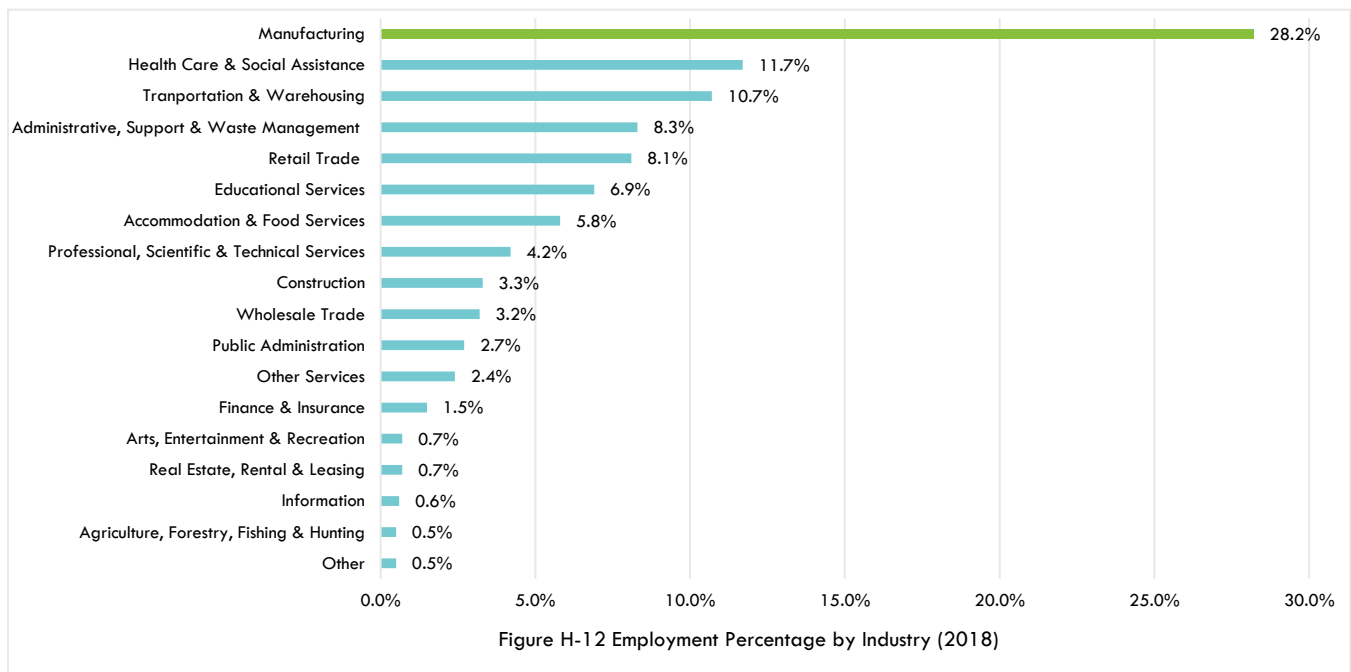
This evaluation of the industrial sector determines if existing programs (offered either through the SWMD or other entities) are adequate to serve that sector and determine if additional programs are needed to support the industrial manufacturers in Logan County.

a. Evaluation

According to the "Ohio Economic Profile Logan County"¹⁴ manufacturing accounted for 28.2% of the annual employment in 2018¹⁵. Manufacturing is the largest industry in the County by employment percentage, as seen in Figure H-12; the sector employs more than double the second largest industry, Health Care and Social Assistance.

¹⁴ Ohio Department of Job and Family Services Office of Workforce Development. "Ohio Economic Profile Logan County". July 2020.

¹⁵ 2020 reports publish 2018 data as the most recently analyzed data.

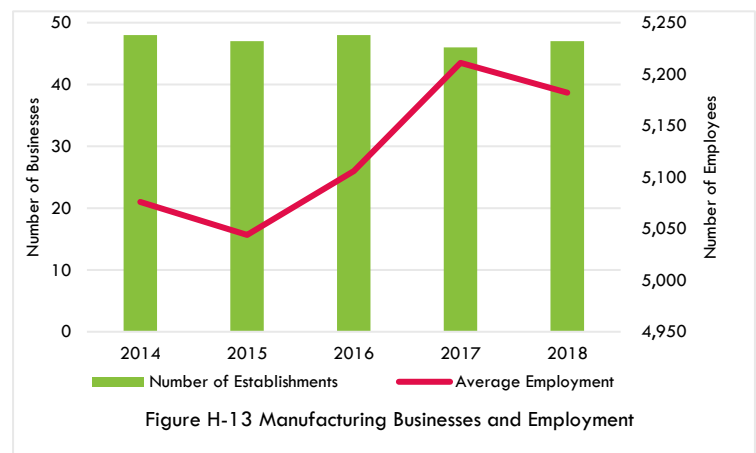


Manufacturing employment has generally risen from 2014 through 2018¹⁶ by about 200 employees while the number of establishments has remained relatively consistent, between 46-48 businesses (Figure H-13). While Logan County has gained manufacturing jobs in the past several years, the 2026 Ohio Jobs Outlook estimates that Central Ohio, in which Logan County is grouped in, will lose 6.4% of manufacturing employment regionally from 2016 to 2026.¹⁷

Table H-4 highlights the top industrial employers in the County.

Table H-4 SWMD Largest Manufacturing Employers

Company	Number of Employees
Honda of America Manufacturing - ELP	2,500
Honda Transmission Manufacturing	1,153
AGC Glass Co. North America	486
HBD Industries	161
Belletech Corporation	146



Source(s): Logan County Economic Development.

<https://www.logancountyohio.com/ed-top-employers.html>

Some of the industries operating in Logan County, particularly the national and multi-national corporations, have sustainability plans (corporate responsibility reports), environmental stewardship, or recycling activities in place. Industries are financially responsible for implementing their own recycling programs. The

¹⁶ Ohio Office of Research. "Ohio County Profiles: Logan County." From 2016 to 2020.

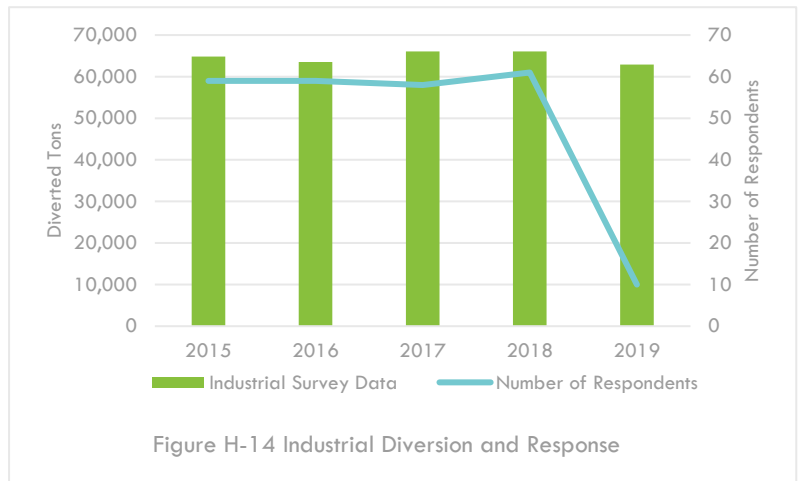
¹⁷ Ohio Department of Job and Family Services. "2026 Job Outlook, JobsOhio Network Central Ohio". July 2019.

industrial survey provides some information on total recycling of the responding manufacturers; however, little is known about waste disposed by these companies.

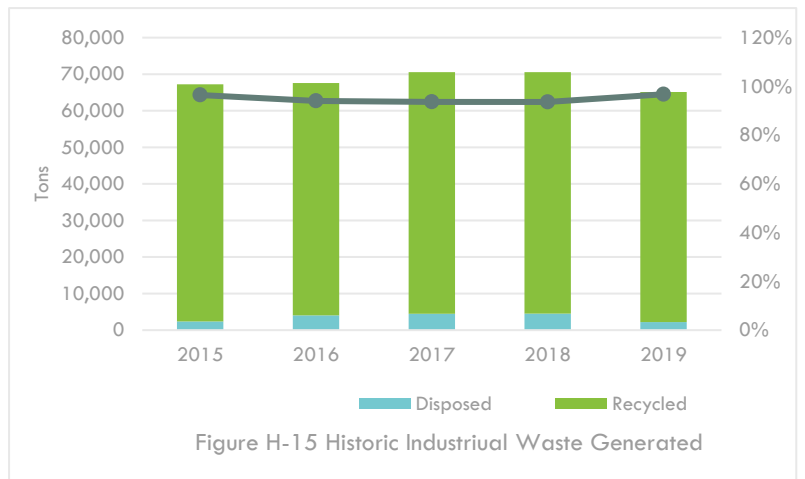
A 2018 study by JUST Capital analyzed 875 of the largest companies in the U.S. and found that only 136 of those companies disclosed the total amount of waste produced and recycled in a given year, and that the average recycling rate for the companies that did report was 54%¹⁸. These results show that many large companies have considerable work to do regarding waste transparency and reporting and recycling efforts.

The SWMD conducts annual surveys, reaching out to a list of industrial businesses to gather recycling data. While some information on recycling is known through the voluntary survey effort, there are challenges with area industries disclosing recycled data and collecting responses from surveys. When an industrial business in the District does not respond to a survey, the District will call the business to see whether the business will take the survey or give the District permission to use a previous year's data for the business. These follow-up efforts are crucial.

The industrial survey is really the only way the SWMD receives data on industrial recycling efforts. In Figure H-14, the recycling data from the industrial survey is shown as well as the number of businesses that responded. Data for a given year is collected in the following year. The COVID-19 pandemic in 2020 presented barriers and challenges to follow-up for responses. The graph highlights the importance of the follow-up work as roughly 2,000 ton decrease and an 85% decline in number of respondents are shown for 2019 data.



Most of the recycling programs implemented by the industrial sector were spearheaded by those entities with no intervention from the SWMD. The District is available as a resource for industrial generators in the County. Engagement with this sector is challenging because waste streams generated are specialized, manufacturing is proprietary, and/or businesses have on-site staff to manage the waste stream.



Historically the majority of the waste generated is diverted, averaging a 95% diversion rate from 2015 to 2019, as seen in Figure H-15.

¹⁸ Forbes.com "These Five Companies Are Leading The Charge On Recycling." April 20, 2018. JUST Capital and Hernando Cortina.

b. Conclusions/Findings

Manufacturing is an important industry in the County. The industry is responsible for almost 30% of the employment in the County. The industrial surveys are key in understanding the sectors' waste/recycling and data collection. The decline in 2019 in the industrial diversion rate is a reflection of the volatility of economy and lack of survey responses.

Consistent high diversion rates in this sector the District concentrates less resources in this sector.

Possible opportunities towards this sector include:

- Promoting Ohio EPA's Material Marketplace.

4. Residential/Commercial Waste Composition Analysis

This evaluation of the SWMD's residential/commercial composition analysis describes and evaluates the wastes that make up the largest portions of the residential/commercial waste stream. The evaluation outlines what programs are in place to address these waste streams and what programs the SWMD should evaluate to further address those wastes.

a. Evaluation

$$\text{Waste Generation} = \text{Wastes Disposed} + \text{Wastes Diverted}$$

$$58,189 \text{ tons} = 29,237 \text{ tons (disposed)} + 28,952 \text{ tons (diverted)}$$

In 2019, the SWMD generated 58,189 tons of residential and commercial material, 50% of which was recycled. The diversion rate of the SWMD has stayed consistently above 50% for the last 5 years. To better understand the 50% of the district's materials not being recycled (the materials being landfilled), waste characterization data from two sources¹⁹ was applied to the district's 29,237 tons landfilled.

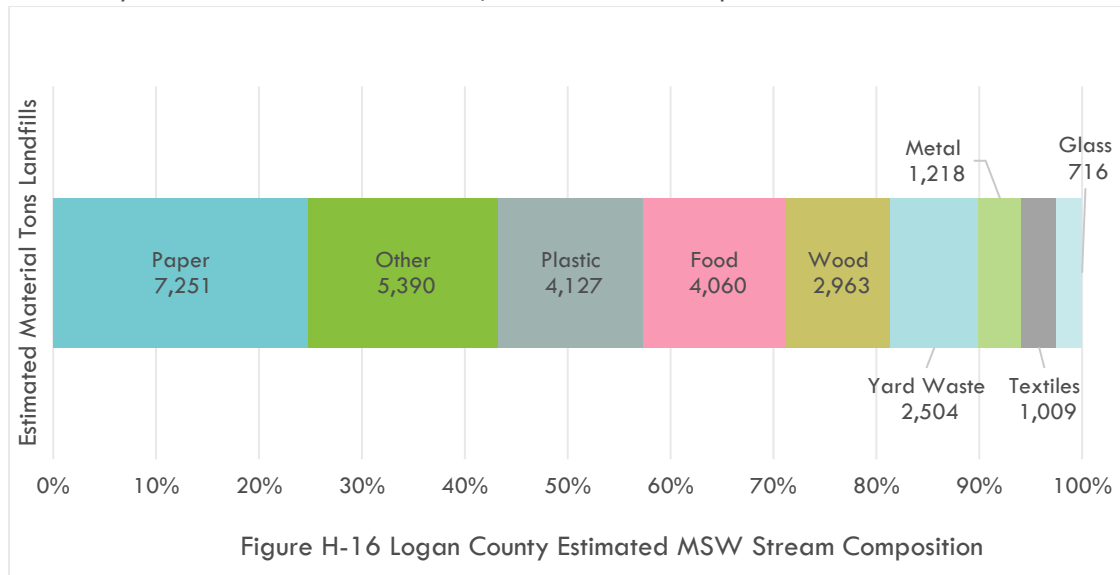
The waste characterizations used to estimate SWMD's landfilled material composition come from the Ohio EPA and the Solid Waste Authority of Central Ohio (SWACO). SWACO regularly performs waste sorts to understand the composition of their District's landfilled material stream. The Ohio EPA's 2019 report on the economic impact of recycling provides a characterization of statewide disposed waste based on a national characterization estimation tool. While the two sources provide comparable data, there are notable differences (see Table H-5). The largest

Table H-5 Waste Composition Percentages

MATERIAL	OHIO EPA	SWACO	DIFFERENCE
Other	21.5%	15.4%	6.1%
Paper	21.3%	28.3%	7.0%
Food	13.1%	14.7%	1.6%
Wood	11.9%	8.4%	3.5%
Plastic	11.6%	16.6%	5.0%
Yard Waste	10.8%	6.3%	4.5%
Metal	4.9%	3.4%	1.5%
Textiles	2.9%	4.0%	1.1%
Glass	2.0%	2.9%	0.9%

¹⁹ Ohio EPA 2019 Economic Impact Potential of Recycling in Ohio and SWACO 2019 Waste Characterization Study

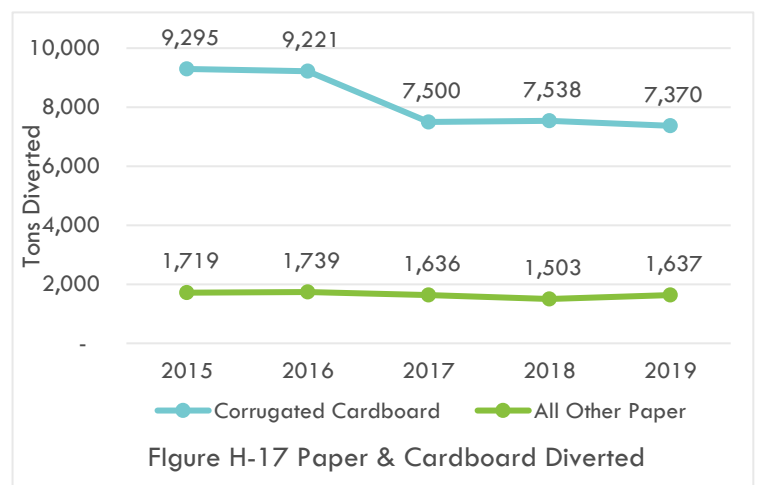
differences between the two waste composition studies were in the categories of paper (SWACO 7.0% more), other (Ohio EPA 6.1% more) and plastic (SWACO 5.0% more). Differences can occur because of how studies define and categorize materials included and the scopes of the studies. Without specific waste composition data from Logan County, it is not possible to determine which estimate is closer to representing the County's landfilled waste. As a result, both estimates are presented here for reference.



Using the average of the two waste composition studies multiplied by the SWMD's 2019 disposed tons, an estimate of the MSW stream composition was developed. By assessing the composition of landfilled material, the SWMD can gain insights into which materials to target for diversion efforts. For example, as shown in Figure H-16, the larger components of the residential/commercial trash stream are projected to be paper, including cardboard and office paper, plastics and food. These top categories which can be recyclable/compostable make up over half of the residential/commercial waste landfilled. (Note the 'other' stream usually is made up of hard-to-recycle materials such as electronics and non-recyclable materials such as composites making it a more difficult stream to focus on diverting.)

Fiber (Paper Materials) Waste Stream:

Using the waste composition estimates from Figure H-16, an estimate of at least 7,200 tons of paper category materials are being disposed at the landfill. The SWMD recycled 9,007 tons of paper (including cardboard) in 2019, capturing about 55% of the paper generated in the county. Cardboard and paper materials have potential to be recovered at even higher rates. The American Forest and Paper Association stated the U.S paper recovery rate in 2018 is approximately 68.1%²⁰.



²⁰ <https://www.paperrecycles.org/statistics/paper-paperboard-recovery>

Figure H-17 shows the SWMD's diversion of residential/commercial of cardboard and paper over 5 years including the reference year.²¹ While the amount of paper tons diverted has declined about 5% from the amount in 2015 to the amount in 2019, the tons of cardboard has declined closer to 21%. This could be a combination of big box stores inaccurately reporting, a business shift to use less cardboard, or less capturing from commercial sector surveys. The decline in cardboard recycling appears to be linked to the commercial sector. There are several programs targeting commercial cardboard:

- Private sector haulers offer cardboard collection routes. To incentivize the haulers, rebates are offered when market conditions are favorable.
- SWMD provides trailers and collects cardboard and paper from all schools in the County.
- SWMD provides containers and collection to County government office buildings.

With collection infrastructure in place, the SWMD needs to look at increasing participation in the provided programs. Does government office or large office need more signage? Do school custodians need a refresher training? Has the SWMD considered setting up a masters recycler program to help expand the message to divert materials? What about assigning school and office ambassadors to champion diversion?

The residential sector appears to have ample access to paper and cardboard recycling. All SWMD residents have access to paper and cardboard recycling through the counties 16 drop-off sites. The sites which are open 24/7, each have three 33 yard roll-offs, one for cardboard, one for mixed paper and one for recyclable containers. The drop-offs should provide residents with ample space and ability to recycle fiber materials. In addition to drop-off access, the City of Bellefontaine, Lake Township and Village of West Liberty have curbside recycling for these materials as well. The municipalities have dual stream collection systems with one bin for cardboard and paper (newspapers, magazines, glossy inserts, junkmail, chipboard, and paper) and one bin for recyclable containers. The SWMD residents appear to have plenty of capacity to increase their capture rate of paper and cardboard materials.

One strategy the SWMD could explore is paper reduction campaigns in the commercial, residential and local government sectors. While source reduction of material does not impact the diversion rate in the same way as recycling (reduction removes tons out of the denominator instead of the adding recycling tons to the numerator), source reduction is an environmentally and economically savvy way to decrease materials being disposed. Source reduction programs also mean that processing / recycling capacity is not impacted in the same way it is when recycling programs are increased. An example of a commercial and local government paper reduction campaign would be to promote electronic reporting, forms, and communication methods and smart printing practices. An example of a residential program to reduce paper would be to put out targeted communications to residents to encourage stopping junkmail. Based on Logan County's population and the average amount of junkmail American adults receive, the residents in the county could be receiving a total of 720 tons of junkmail per year.²² That amount of paper equates to 5,000 to 7,000 trees used annually.²³

End markets and processing of paper and plastics has become an issue across the industry. Prior to December 2017, most recycling collected in the United States was shipped to China to be manufactured into new products and packaging. However, in January 2017, China's government announced that it would

²¹ Note: The 2018 ADR dated was entered as 7,538 tons of **paper** recycled and 1,503 of **cardboard** recycled. Based on the historic data, this data is believed to have been labeled incorrectly and thus the chart reflects these tonnages with the categories switched.

²² Let's Ban Junk Mail Already Sierra Club <https://www.sierraclub.org/sierra/let-s-ban-junk-mail-already#:~:text=Similarly%2C%20junk%20mail%20is%20a,of%20annual%20US%20paper%20waste.>

²³ Trees into Paper Conservatree <http://conservatree.org/learn/EnviroIssues/TreeStats.shtml>

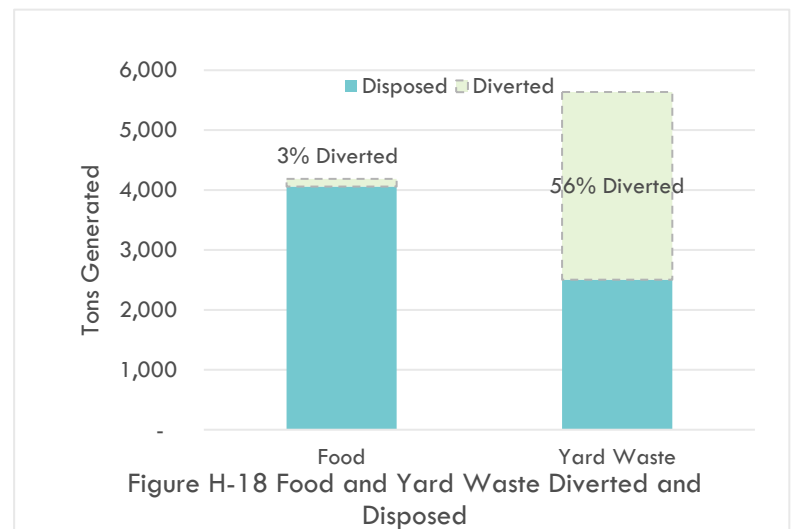
no longer accept certain recycling by the end of 2017. The recycling targeted by China's National Sword policy, now Operation Blue Skies, include mixed paper and mixed plastics. When China stopped accepting targeted materials, it impacted municipal programs and today some of these programs continue to struggle with the impacts of China's Operation Blue Skies resulting in a tough time securing alternative markets for the targeted recycling. In addition, it has had a negative impact on the revenues derived from recycling in comparison to previous years with stronger market prices. Cardboard is a highly recyclable fiber material that has generally maintained value even while other commodities have decreased in price. However, paper market values have been negatively impacted.

Due to the global coronavirus pandemic in 2020, cardboard has increased due to an increase in online shopping and delivery. The average commodity revenue pricing for cardboard has more than double in 2020 than the low revenue rates of 2019.²⁴ Sorted residential papers and newspaper (Grade #56) and mixed paper (Grade #54) have also seen much stronger pricing in 2020 than the previous year.

Yard Waste and Food Waste Stream:

Based on the waste composition estimates from the Ohio EPA and SWACO, there is approximately 4,100 tons of food, and 2,500 tons of yard waste being landfilled annually in the SWMD. Figure H-18 represents the tonnage and percentage of food and yard waste diverted in 2019 out of the total amount estimated to have been generated (disposed + diverted). As shown in the figure, well over 50% of the yard waste estimated to be generated in the county is diverted. However, only about 3% of food waste in the county is diverted. These streams represent some of the largest opportunities for waste reduction and recycling in the SWMD.

Yard Waste: The county has averaged a 55% capture rate for yard waste from 2015 to 2019.



The SWMD has 5 yard waste facilities within the District (Table H-6). The residents of the City of Bellefontaine, DeGraff Village, Quincy Village and West Liberty Village all have leaf collection programs.

Table H-6 Composting Facilities Used by the District

Facility Name	City	Facility Classification
Village of West Liberty	West Liberty	Class 4
Cherokee Run Landfill Inc	Bellefontaine	Class 4
City of Bellefontaine	Bellefontaine	Class 4
Troy Road Compost Facility	Bellefontaine	Class 4
New Day Farms, North - Pullet Farm	West Mansfield	Class 3

²⁴ Recyclemarkets.net

The SWMD laid out a short-term program – Organics Initiative – in the SWMD’s 2016 plan. The Initiatives goals were to 1) expand the marketing of compost products 2) explore alternatives for managing yard waste 3) explore alternatives for managing food waste composting. The county faced challenges with this program. The SWMD’s lack of an educator hampered their ability to follow through with educating residents on compost. The SWMD also did not explore existing infrastructure expansion opportunities nor have movement on alternative food waste management (reduction, generator on-site systems etc.). The SWMD did have conversations with County Commissioners about the potential to locate a facility within the County but these discussions were met with obstacles and challenges.

Despite Ohio legislation in 1995, attempting to limit and restrict the use of landfills for disposal of yard waste, some residents still manage their yard waste at the curb with their household trash. If residents mix yard waste with municipal trash, the yard waste is disposed in the landfill. There are opportunities for Logan County to encourage diversion of organics by providing outreach and education around backyard composting, smart landscaping, grass-cycling, and leaf mulching or mowing in place. The District could also work with the communities with compost facilities to make sure residents are informed about the program.

Food Waste: Using the composition estimates, the county generates of an average of 3,900 tons of food per year and only diverts an average of 5%, disposing of an average of 3,700 (based on data from 2015 to 2019). In comparison, the county has averaged a 55% capture rate for yard waste from 2015 to 2019. Increasing food waste diversion can help the County get closer to their Zero Waste goals.

Food waste can occur along the supply chain: farms, manufacturers, consumer-facing businesses (restaurants, grocers, etc.), and homes. Large food waste generators can include the residential, restaurants & caterers, food manufactures / processors, food wholesalers, grocers & markets and other large businesses or institutions such as hospitals and schools.

Focusing on recycling or diverting food waste, the processing and collection is needed infrastructure to successfully divert food scraps from the landfill. Processing within the County is a gap. To encourage infrastructure the District could offer grants to attract compost facility processing. Another alternative is development of partnerships with neighboring facilities for processing. Processing facilities in nearby counties include:

- Allen County
 - Lima Compost Facility/Wright Mulch is a Class II registered compost facility
- Clark County
 - Central Springfield Compostery of Clark County, Ohio is a Class II registered compost facility
 - Garick LLC Paygro Division is a Class II registered compost facility
 - ODOT District 7 Clark Co Harmony Post is a Class II registered compost facility
 - Springfield WWTP is a Class II registered compost facility
- Delaware County
 - Ohio Mulch Supply is a Class II registered compost facility
 - Price Farms Organics LTD is a Class II registered compost facility
- Franklin County
 - Innovative Organics Recycling is a Class II registered compost facility

SWACO was successful in offering Community Waste Reduction Grants to assist with implementation of residential food waste drop-off programs. To date 7 communities in Franklin County have drop-off programs. Pilot food waste programs could be supported or implemented by the District.

Outside of composting collection and processing, the SWMD can also focus on reducing of food waste and increasing food rescue. Residential food waste represents a significant opportunity for reduction. The NRDC found that the residential sector accounted for 30-50% of a cities' total food waste generated and that of the food discarded by residents nearly 70% of the food wasted was edible.²⁵ At the same time, roughly 1 in 8 people in the U.S. experience food insecurity.²⁶ The SWMD could seek to increase food rescue and donation to reduce landfilling edible food while also supporting its county's more vulnerable populations.

ReFED²⁷ reports consumer education measured in the United Kingdom and elsewhere demonstrate reduced impacts on consumer food waste. Love Food Hate Waste is a national consumer awareness campaign launched by Waste and Resources Action Programme (WRAP). After six months of launching this campaign in six Boroughs of West London Waste Authority, a 14% avoidable food waste reduction was tracked²⁸. While there is minimal tracking in the U.S regarding consumer education campaigns, King County, WA and Honolulu County, HI implemented pilot programs testing messages and tools to reduce food waste. Those respective campaigns measured 28% and 19.6% reduction²⁹.

Strategies to increase food donation and reduce food waste include:

- Working with grocery stores and markets to develop campaigns focused on reducing waste of 'imperfect' produce and increasing food donation
- Becoming a resource conduit for donation liability and tax incentive information
- Coordinating with government (local, state, federal), business, industry, institutional and / or non-governmental entities to research and implement food waste reduction programs
- Partnering with local farms to evaluate opportunities for waste reduction and small localized food scrap composting
- Serving as a resource and advocate on donation storage and handling
- Exploring policies and economic incentives to boost food waste reduction in the institutional and commercial sectors (e.g. making grants available for large institutions to install fridges to preserve donated food longer)
- Improving infrastructure around collection, processing and end markets for compost
- Developing consumer education campaigns (topics could include home composting, food waste prevention awareness, what can be donated to local food banks etc.)

Plastic Waste Stream:

²⁵ Food Matter: What We Waste and How We Can Expand the Amount of Food We Rescue, Oct 2017, NRDC.

<https://www.nrdc.org/sites/default/files/food-matters-ib.pdf>

²⁶ Food Waste, NRDC. <https://www.nrdc.org/food-waste>

²⁷ <https://www.refed.com/solutions/consumer-education-campaigns/>

²⁸ "The Impact of Love Food Hate Waste".

http://www.wrap.org.uk/sites/files/wrap/West%20London%20LFHW%20Impact%20case%20study_0.pdf

²⁹ Toolkit Implementation Guide for the Food: Too Good to Waste Pilot". July 2013. West Coast Climate and Materials Management Forum.

https://westcoastclimateforum.com/sites/westcoastclimateforum/files/related_documents/02_ToolKit_Implementation_Guide_for_the_Good_Too_Good_to_Waste_Pilot.pdf

Residential/commercial estimated waste composition identifies plastics as one of the larger percentages of waste streams being landfilled. Based on the waste composition, there could be up to 4,100 tons of plastics being landfilled in the county.

The county accepts plastics based on the shape and type of container rather than based on its resin code. This is a best practice as often the resin codes confuse consumers, e.g. plastic bags might have the resin code #2 but that does not mean they are recyclable with other #2 items like milk jugs. Resin code labeling was never intended to be codes for recyclability. The county accepts:

- Drink and food containers- waste, soda, milk, juice bottles, cartons, jugs, tubs and jars
- Clamshell fruit, vegetable and take-out containers
- Empty pill bottles (patient info removed)
- Kitty litter pails 5 gallon or less
- Plastic garden pots less than 8" in diameter
- Microwave food trays
- Small clear rigid packaging
- Bathroom, laundry, and cleaning containers – shampoo, fabric softener and others
- Aseptic cartons – juice boxes, broth and others

The District is accepting many plastic items and resins, especially at a time when markets are challenged due to the change with National Sword (see above) and COVID-19.







Symbol	Code	Description	Examples
	#1 PET(E)	Polyethylene terephthalate	Soda & water bottles, salad dressing bottles
	#2 PEHD or HDPE	High-density polyethylene	Milk jugs, shampoo & conditioner bottles
	#3 PVC	Polyvinyl chloride	Window frames, bottles for chemicals, flooring
	#4 PELD or LDPE	Low-density polyethylene	Plastic bags, buckets, soap dispenser bottles, plastic tubes
	#5 PP	Polypropylene	Bumpers, car interior trim, industrial fibers, yogurt tubs
	#6 PS	Polystyrene	Toys, flower pots,, ashtrays, trunks, "Styrofoam"
	#7 O(ther)	All other plastics	Bio-based plastics

Figure H-19 Plastic Resin Codes

Potential ways the SWMD could work to improve or expand plastics recycling:

- Focus on education around increasing the recycling of plastics. The SWMD can accept many types of plastics which is excellent, but residents can still get confused by what items to include. Consider looking at the contamination in the drop-off and curbside programs and targeting those mostly commonly incorrectly recycled materials and making campaigns out of them.
- Expand access to harder to recycle plastics.
 - The SWMD could also focus on education and resources for the commercial sector to expand their plastic film recycling.
 - The SWMD could explore technologies like small foam densifying machines that allow for municipalities and business to compact and recycle foam.
- Support end market development through grants, business assistant or other programs. Supporting and bringing end markets, companies that use recycled material as feedstock for new products, into an area is challenging. However, having local manufacturers builds local resiliency against domestic and international market changes and moves the community's economy from a linear one to a circular economy.

Glass Stream:

Based on the waste compositions, the county could be disposing of ~700 tons of glass annually. Glass has been dropped from many recycling programs across the country because of its weight to transport and the effects it can have when it is processed in MRFs. Glass containers are accepted at all of the drop-offs and curbside recycling programs in the county.

In 2014, The SWMD applied and received a grant from the Ohio EPA to construct and operate a glass drop-off depot at the district's material recovery facility. The increase in the transport containers helped increase the profitability of recycling glass for the county.

To increase the recovery of glass, the county could pilot a program targeted at increasing the recovery of restaurant and commercial glass. The county could provide bins and staff training to select businesses and measure the amount of glass collected over a six month period to understand how scaling the program would work.

b. Conclusions/Findings

Based on waste characterizations from the state of Ohio and SWACO, Logan County's largest residential/commercial disposal streams are paper, including cardboard, plastics, and food waste. While the County has a high diversion rate, diverting 50% of material in 2019, the County is striving to continue to boost its recycling rate. The County has a Zero Waste goal, attempting to reach a 90% diversion rate.

The District has captured the lower hanging fruit. To divert more material additional policy or education interventions will help push to increase capture rates.

Potential program opportunities include:

- Increase education specifically targeting cardboard and paper diversion.
- Increase signage at County government.
- Provide frequent school custodian training on recycling.
- Develop a masters recycler program to help expand the message to divert materials.
- Assign school and office ambassadors to champion diversion.
- Boost outreach and education around backyard composting, smart landscaping, grass-cycling, and leaf mulching or mowing in place.
- Work with the communities with compost facilities to make sure residents are informed about the program offering/services.
- Offer grants to build Class II compost processing infrastructure.
- Develop partnerships with nearby compost processing facilities to pilot food waste drop-off programs.
- Working with grocery stores and markets to develop campaigns focused on reducing waste of 'imperfect' produce and increasing food donation.
- Becoming a resource conduit for donation liability and tax incentive information.
- Coordinating with government (local, state, federal), business, industry, institutional and / or non-governmental entities to research and implement food waste reduction programs.
- Partnering with local farms to evaluate opportunities for waste reduction and small localized food scrap composting.
- Serving as a resource and advocate on donation storage and handling.

- Exploring policies and economic incentives to boost food waste reduction in the institutional and commercial sectors (e.g. making grants available for large institutions to install fridges to preserve donated food longer).
- Improving infrastructure around collection, processing and end markets for compost.
- Developing consumer education campaigns (topics could include home composting, food waste prevention awareness, what can be donated to local food banks etc.).
- Focus education around increasing the recycling of plastics.
- Consider looking at the contamination in the drop-off and curbside programs and targeting those mostly commonly incorrectly recycled materials and making campaigns out of them.
- Expand access to harder to recycle plastics.
- Focus on education and resources for the commercial sector to expand their plastic film recycling.
- Explore technologies like small foam densifying machines that allow for municipalities and business to compact and recycle foam.
- Support end market development through grants, business assistant or other programs.

5. Economic Incentive Analysis

By definition, economic incentives are designed to encourage participation in recycling programs. In accordance with Goal 6 of the 2009 State Solid Waste Management Plan, the SWMD is required to explore how to incorporate economic incentives into source reduction and recycling programs.

a. Evaluation

Economic incentives in the waste and recycling are offered to influence behavior. Typical economic incentives include rebates, rewards, grants, volume-based fee structures, etc. The majority of SWMDs offering economic incentives in the state either tie the amount recycled to some sort of financial compensation or reduce the cost of recycling compared to trash.

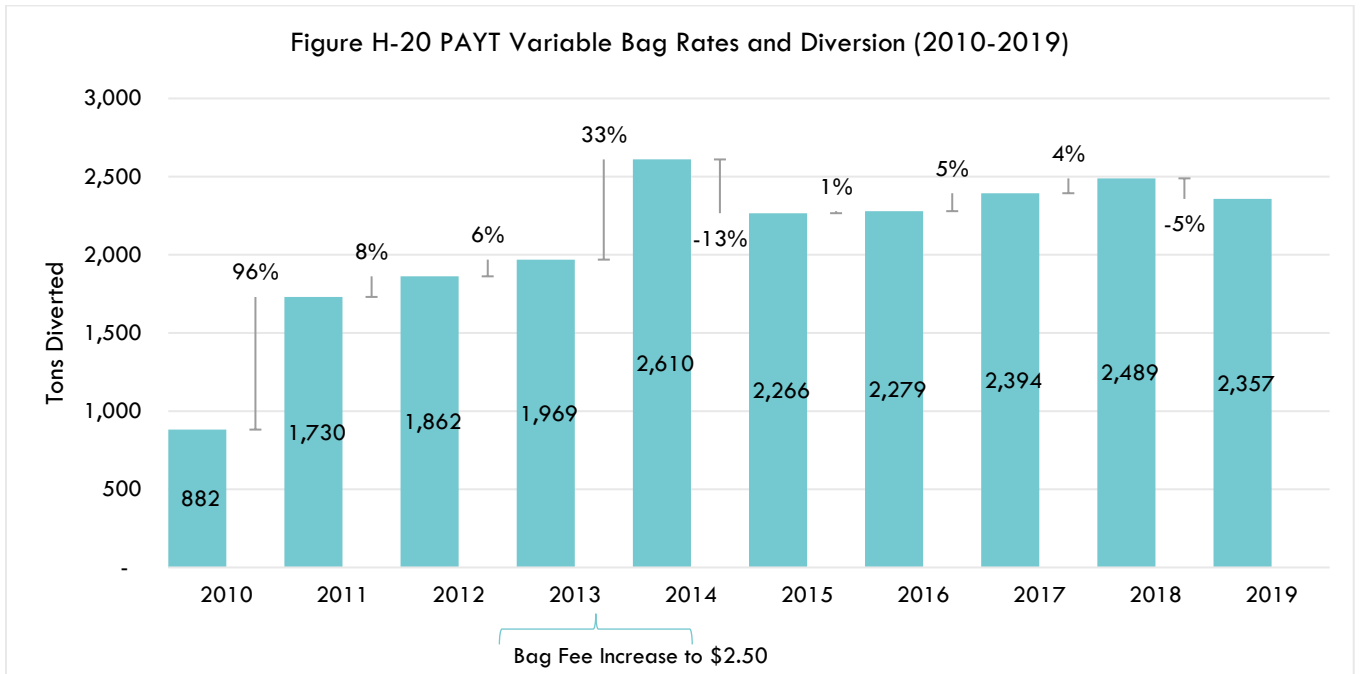
The 2016 Plan Update outlined 5 economic incentive programs. Each of these programs are briefly discussed here. See Appendix I for additional program details.

Volume-Based Fees:

Volume-based fee systems charge residents for waste disposal based on the number and/or size of waste containers that they use. These systems incentivize residents to increase their recycling and/or decrease their trash disposal through a structure that is cheaper for recycling than for trash disposal. Volume-based fees also known as pay-as-you-throw (PAYT) programs are environmentally and economically sustainable as well as being equitable for residents – residents pay only based on how much they throw away.

Drop-off PAYT:

The SWMD has 16 drop-off trash and recycling centers that use a PAYT fee structure. Residents pay for special colored trash bags that have the county's logo. Trash bags cost \$2.50/bag.



As seen in Figure H-20, the year the price per bag increased shows a 33% increase in volume diverted. That jump was followed with a decline the next year but overall the impact of the price averaged an additional 545 tons more volume diverted.

Curbside PAYT:

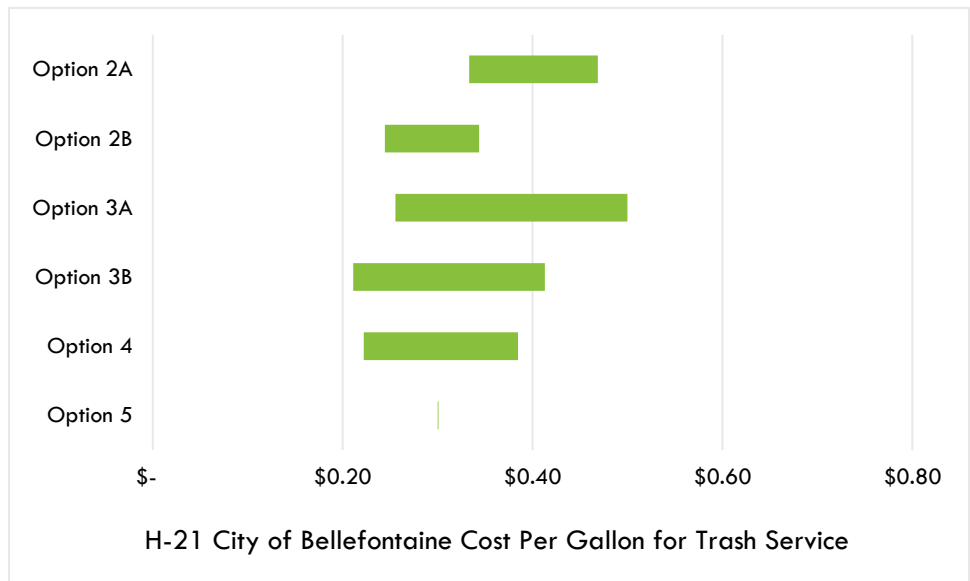
Approximately 49% of the population resides in villages or the City of Bellefontaine. Bellefontaine and the largest Village, West Liberty, have PAYT curbside recycling programs. The remainder of Lake Township, which surrounds Bellefontaine, also has PAYT curbside recycling programs.

City of Bellefontaine and Lake Township: Residents have an option based PAYT/curbside recycling program serviced by the private sector. Residents may use the City authorized blue trash bag, a regulation size purchased container or lease a 90-gallon container. Recycling bins are provided by the City. For recycling and refuse subscription, residents can pick between one of the 7 options listed below for trash collection rates:

- Option 1: Bag System - \$8 / month + \$1.50 / Trash Bag
- Option 2A: One Small Container – \$15 / month
- Option 2B: Two Small Containers – \$22 / month
- Option 3A: One Large Container – \$23 / month
- Option 3B: Two Large Containers – \$38 / month
- Option 4: One Small / One Large Container – \$30 / month
- Option 5: One Leased Trash Toter – \$27 / month

Small containers are defined as 32 to 45 gallons and large containers are defined as 46 to 90 gallons. For option 1, residents need to purchase the official City Trash Bags (not needed for any of the other options). For option 5, residents can lease a 90 gallon trash toter through the City. Recycling is no additional charge for residents.

One potential issue with the program is that the economic incentive is unclear. For a PAYT program to be effective it should be clear that the more trash a resident throws away the more it costs. It is not clear from the City's seven options that more trash is equal to more cost, especially when there is a range in size and number of containers for the majority of options. Figure H-21, shows the cost per gallon for the six container options, Options 2A-5, (doesn't show Option 1 because the cost/gallon scales directly with the cost of the bags). Residents can pay as little as \$0.21/gallon of trash (Option 3B – two 90 gallon containers) and up to \$0.50/gallon (Option 3A - one 46 gallon container). Too many options can lead to confusion among residents and incentivize the wrong thing i.e., a resident can dispose of more trash for cheaper with Option 3B so they might consider the option even if they don't have that much trash.



To make the program more effective, the City should consider streamlining the options. Instead of seven options with all different number of containers and sizes, the City should look to have costs based on one container and vary the pricing by size. Two potential options are 1) have a static cost/gallon, 2) have a variable cost/gallon with increasing prices for larger volumes. Both options send residents the message that the more trash they dispose of the higher the cost but option two makes additional incentive to choose a smaller amount of trash. Residents can only get a second container for trash if they are already at the 90 gallon level and the added container should be priced at the same level cost/gallon as if it was the first container. (This ensures no 'cheating' e.g. someone could not get two 45-gallon containers at a cheaper cost than one 90-gallon container.) Table H-7 shows how the containers could be priced to increase the clarity over the economic incentive messaging. The City could conduct a set-out rate study to determine how many people set out trash containers and what size they set out to determine the cost structure that will best cover the City's costs. The City could also consider phasing out acceptance of trash bags and move to only container options to further simplify collection and the fee structure.

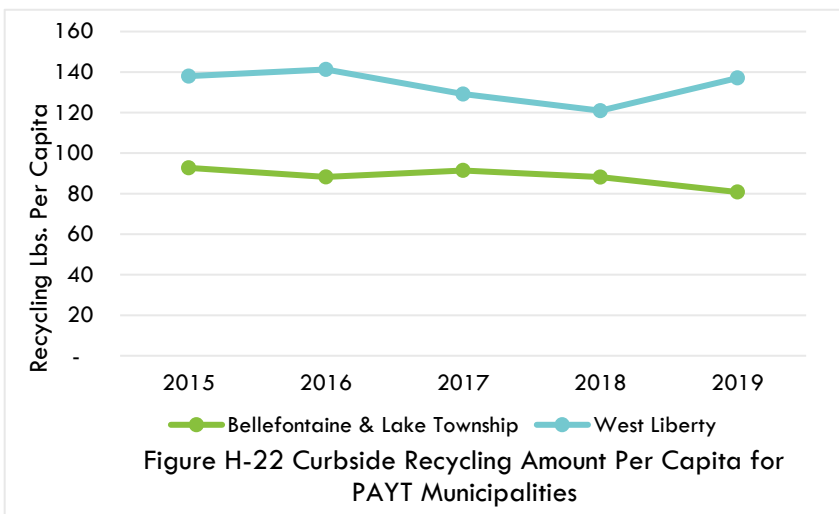
Table H-7: Potential Cost Structures for City of Bellefontaine Curbside Trash

Container Size (Gallons)	Option 1: Static Cost / Gallon		Option 2: Variable Cost / Gallon	
	Cost / Gallon	Total Cost / Month	Cost / Gallon	Total Cost / Month
32	\$0.25	\$8.00	\$0.25	\$8.00
45	\$0.25	\$11.25	\$0.30	\$13.50
65	\$0.25	\$16.25	\$0.35	\$22.75
90	\$0.25	\$22.50	\$0.40	\$36.00

Village of West Liberty: The Village of West Liberty uses a PAYT structure for its curbside trash and recycling program. Curbside recycling is no additional charge for residents. Residents pay a base monthly rate of \$10.50 for trash and then pay for trash depending on the size of the trash bag. Residents buy either large or small identifiable orange trash bags. The Village changed its trash rates in 2020 in response to increases in the tip fees at the privately owned landfill where the Village disposes of its trash (see Table H-8).

Table H-8: Village of West Liberty PAYT Trash Bags Cost Increase

Size of Bags (Gallons)	Old Prices – March 2019		New Prices – March 2020	
	Price / Bag	Cost / Gallon	Price / Bag	Cost / Gallon
13	\$0.75	\$0.06	\$1.00	\$0.08
32	\$1.25	\$0.04	\$1.50	\$0.05



Looking at the per capita recycling rates for Bellefontaine and Lake Township and Village of West Liberty, Figure H-22, it appears the rates in West Liberty are adequate to encourage recycling. The per capita rates are based on community populations and the total tons of recycling collected at the curb. (City of Bellefontaine and Lake Township are represented together as the data for their curbside programs is combined).

Rebates:

Rebates are paid to entities with viable quantities of valuable material (OCC and SOP). There is a formula for calculating each vendors rebate (posted price, less a per-ton admin fee) and a deduction for excess moisture and general contamination. When the result is positive, vendors are paid. When negative, a decision is made on case-by-case basis if the MRF will accept the loss. Recently (COVID and recession), the MRF accepted the loss.

This program encourages commercial businesses to contract with private haulers to recycle fiber materials, especially cardboard, since the hauler is provided a rebate for the valuable material. The more customers or material a hauler has equates to more rebates. A rebate program that ties the amount recycled to some sort of financial compensation or reduce the cost of recycling have shown in other District's the potential to significantly increase participation in an available recycling program. However, in one SWMD, that was not the case.

Butler County SWMD tied incentives and payouts to communities and found that while incentives were popular among officials, recycling tonnages seemed to increase independent of the economic incentives provided. Incentives did not appear to have sufficient economic impact to push jurisdictions towards contracted curbside recycling service. In fact, most incentive allocations were treated as part of a city or

township's general operating fund and did not encourage jurisdictions to contract for curbside recycling service and did not result in improving recycling infrastructure.

This program has been around awhile, it seems time to evaluate the rebate, whether it is increasing participation, whether service would continue without the rebate, etc.

Grants:

Grant Subsidies Program

The SWMD established the Grant Subsidies Program in 1993, originally to provide one-time funding for residents or businesses with special recycling projects or zero waste events. Under the 2016 Plan, the SWMD changed the focus of the program to zero waste education. The SWMD wanted to use the grant to raise awareness and encourage residents and businesses to make an effort to host events with zero waste practices. In 2016, the District decided to use the program as a place-holder and only fund this grant subsidy if the SWMD's revenues were higher than projected. No activity from 2016 to 2019.

The District now has available to use on-site portable recycling containers to collect recyclable materials, will provide collection of recyclables, and offers training to event volunteers to host zero waste events. This change has been effective to support large scale public events. About 6 events a year are supported.

Market Development Projects

The District did not provide any funding from 2016 to 2019.

Some SWMD's use this type of program to encourage townships, villages, cities, schools and non-profits to incorporate recycled material in projects. JBRSWA has seen many projects incorporate recycled content material when they otherwise would not by offering a small incentive, less than \$1000 competitive funding. Closing the loop reduces the extraction of virgin materials and supports the manufacturing of materials using reclaimed materials. A few SWMD's have funding available to help develop local markets with a public-private partnership arrangement. Montgomery County offers the Business Recycling Incentive Grant to provide grant funding to Montgomery County Businesses to enhance, increase, and promote landfill diversion. The grant program promotes recycling, waste reduction, composting opportunities and end use markets for recycled materials. Waste reduction projects and capital equipment purchases are the acceptable uses for these grant awards. Projects included post-consumer plastic sorting equipment, balers, and improvements to baling equipment. Since inception of the grant, many applicants have been recycling processors which has provided increased recycling capacity and assisted the district with its Ohio EPA Annual District Report by providing recycling data that was previously unreported.

b. Conclusions/Findings

The PAYT and rebates were designed to incentivize diversion and data supports program success for PAYT programs. The question is whether more diversion can be achieved by re-examining fee structures in the City of Bellefontaine and with the drop-off program. The SWMD could assist with this process lending expertise, potentially funding, for a rate structure study.

The District hasn't seen a need for grant subsidies thanks to some changes in programs.

Market development projects see minimal activity and are not awarded if not utilized to support recycling and reduction or close the loop. The SWMD could explore whether the grant funding is adequate to fill in

infrastructure and program gaps, such as support for commercial and industrial recycling efforts, end market development or composting expansion. If additional funding is needed, then this needs to balance with the expected revenues increased fees to support. It could also be the issue of these grants being unknown resources to those seeking to build the infrastructure. Additional education and advertisements may be needed. The SWMD could conduct a brief survey to the business sectors to ascertain their awareness of SWMD programs.

6. Restricted and Difficult to Manage Waste Streams Analysis

Goal 5 of the 2009 State Plan requires SWMD's to provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices. This analysis evaluates the SWMD strategies and considers other materials and programs for difficult to manage waste.

a. Evaluation

HHW, SCRAP TIRES, LEAD ACID BATTERIES, ELECTRONICS CENTER FOR HARD TO RECYCLE MATERIALS (CHARM)

The SWMD runs and maintains a Center for Hard to Recycle Materials (CHaRM) in Bellefontaine. Logan's CHARM accepts: household hazardous wastes, electronics, batteries, scrap tires, used paints and oils, and mercury devices. The center accepts materials from residential households only. User fees are assessed by commodity are subject to change. The most up-to-date fees are maintained on the website.

To benchmark, Table H-9 was compiled by collecting data from regional SWMD's solid waste management plans and describes basic programs, costs and collected tons for HHW programs. This table shows that there are a variety of ways to manage HHW collection. For example, Greene County conducts HHW collection events once per month starting at 9:00 AM and concluding in the early afternoon (times vary). Previously, the County only offered the collection events on Saturdays; however, to accommodate more residents, Greene County moved to holding the events alternating between Tuesdays and Saturdays. Greene County accepts HHW along with scrap metal, appliances with Freon, e-waste and light bulbs. User fees are not charged for materials. In another approach, Auglaize County offers appointment only drop-off year-round Monday through Friday. Appointment hours are between 7am and 3pm. User fees are not charged for car batteries, and non-Freon appliances. Other materials are accepted with varied user fees per commodity. Table H-10 shows that HHW collection is high on a cost per ton basis. At the same time though, the cost per ton for SWMDs varies greatly along with the services each provide to their residents.

Table H-9 HHW Benchmark Costs and Tons

SWMD	Service Provided	Total Costs	Households	Cost/Household	Tons	Cost/Tons
Logan	CHaRM	\$17,913	18,654	\$1.83	52.3	\$651.18
Greene	Monthly special collection event	\$21,266	162,427	\$0.12	15.6	\$1,363.21
Auglaize	Appointment only drop-off	\$6,418	18,888	\$0.34	NA	NA

Source: Solid Waste Management District Approved Plans

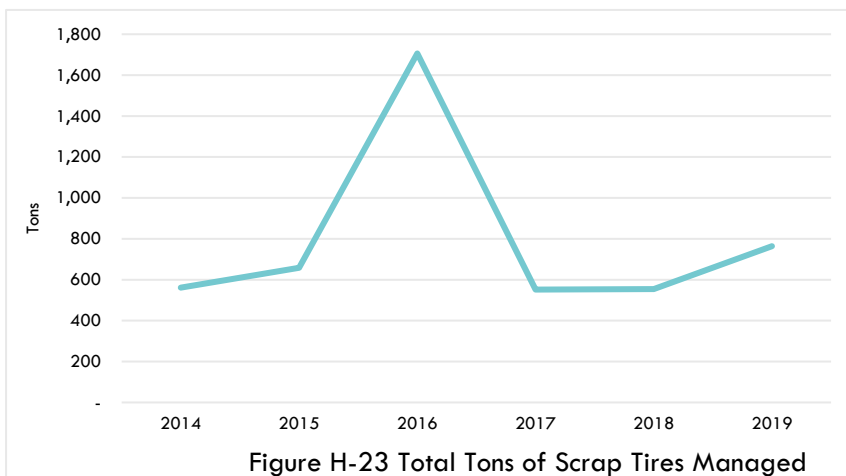
Education on alternative outlets is a strategy for proper management of HHW. The SWMD receives phone inquiries for proper management of HHW and distributes information on where to manage. The webpage lists outlets CHaRM but not other outlets for other difficult to manage waste such as: chargeable batteries,

lead-acid batteries, tires, prescriptions, smoke alarms, used motor oil, cell phones and electronics. Year-round programs such as retailer take-back and product stewardship for proper management are available for residents. Additional education on the website about environmentally friendly products could be promoted.

Scrap Tires:

In addition to CHaRM, private businesses and processors provide additional outlets for scrap tire management. Figure H-23 shows diverted tire tons from 2014 through 2019. A large increase in tons of scrap tires collected was seen in 2016 which was a large clean-up.

Ohio EPA estimates more than 12 million scrap tires are generated in Ohio annually. Scrap tires not properly disposed have the potential to end up in illegal dumps, creating hazards to public health and the environment. The number of tires and the cost to handle tires are challenges the District is addressing consistently.



Lead-Acid Batteries:

In 2008, regulations banning disposal of lead-acid batteries in landfills became effective. Lead-acid batteries have a high recycling value and Ohio has a retailer (retailers and wholesalers) take-back law for spent batteries. Logan County's webpage directs residents to recycle lead-acid batteries through CHaRM. The SWMD tracks lead-acid battery recycling through their commercial surveys. However, because these surveys are voluntary, receiving an adequate response rate is an ongoing challenge. Scrap yards are another source for data on recycling of lead-acid batteries. Over the past five years, the District has reported an average of 23 tons per year of lead-acid batteries as recycled.

Electronics:

Electronics contain hazardous materials that can pose health and environmental risks after disposal. The preferred method of handling is through the donation of working electronics and recycling for nonworking electronics. CHaRM

The SWMD could maintain a list of retailer take-back, secondhand retailers and scrap yard outlets where residents may take electronics. While it is challenging to measure the impact of the education efforts of the SWMD around electronic waste, the SWMD tracks electronics recycling through their business survey efforts.

b. Conclusions/Findings

The SWMD provides a high level of service to its residents by providing events for managing hard to recycle and restricted materials for diversion. Households produce hazardous wastes containing chemicals that pose environmental risk. Informing the public to these dangers and providing outlets for proper disposal or recycling

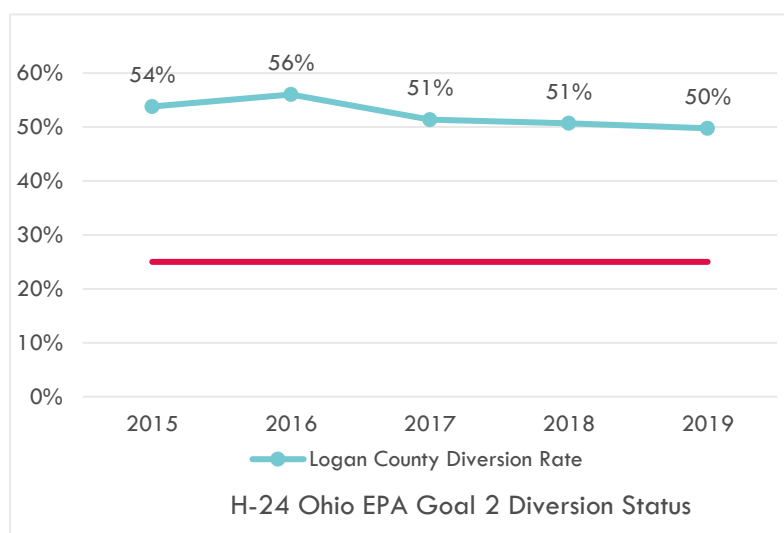
can be a priority item. Education on using less-harmful ingredients and more environmentally friendly products can be increased on the webpage and social media outlets. List other outlets available for other difficult to manage waste such as: chargeable batteries, lead-acid batteries, tires, prescriptions, smoke alarms, used motor oil, cell phones and electronics. Minimal data obtained from lead-acid battery recyclers is a challenge.

7. Diversion Analysis

Waste diversion is defined as the amount of waste recycled and the amount of waste diverted from entering the waste stream through source reduction activities. Waste diversion activities include waste minimization (also called source reduction), reuse, recycling, and composting. The diversion analysis takes a look at the diversion programs, infrastructure, rate and trends, and materials.

a. Evaluation

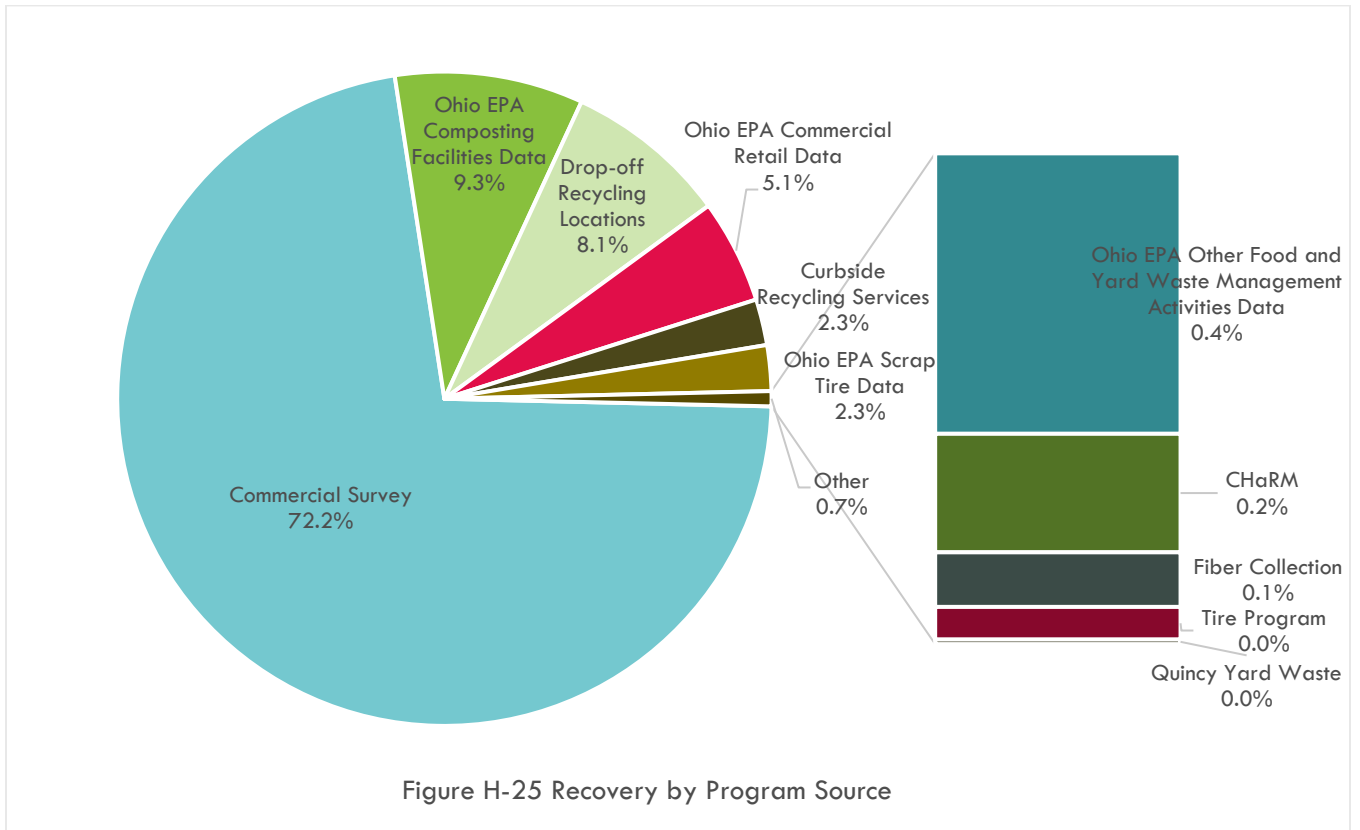
Figure H-24 shows the diversion achieved over the past five years in comparison to Ohio EPA Goal #2. The SWMD has consistently diverted 50% or more of their residential / commercial waste, double that of the 25% Ohio EPA waste diversion goal. Historically diversion is fairly consistent with a slight increase in 2016. The diversion rate increase in 2016 is mostly attributed to a significant tire clean-up effort that increased tons recycled by more than 1,000.



The SWMD set a District goal of reaching 90% diversion of waste from landfills in 2020.³⁰ While the district has achieved a high diversion rate of diverting about half of the District's waste, the District has appeared to plateau around 50%. Based on the current trend, the SWMD will not reach the county's 90% diversion rate goal. Goal setting is important to building public awareness of issues, giving county staff clear direction on priorities and aligning resources and programs around a common mission. Zero Waste goals go beyond recycling and composting and need a 'whole system' approach including examining material production, collection, processing, distribution and remanufacturing. The SWMD should look to the largest gaps in terms of programs and infrastructure to identify ways to further towards its goals (such as commercial recycling, composting, disposal waste composition etc.)

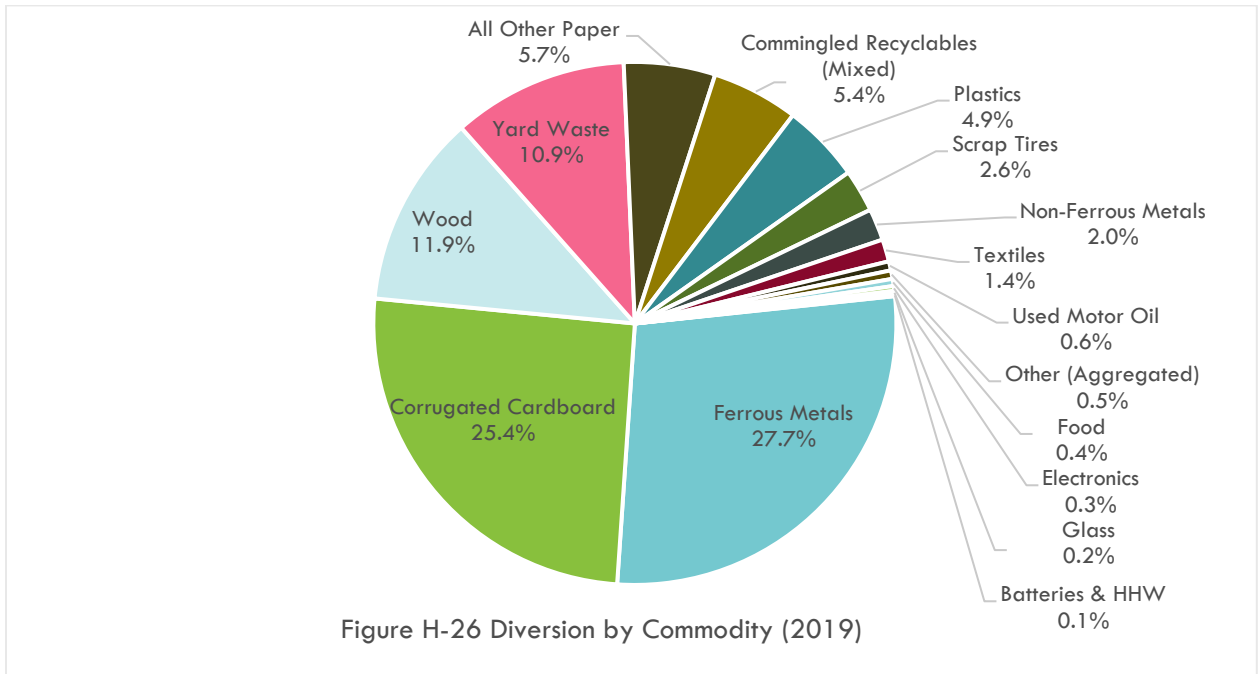
The SWMD collects data from several sources to track diversion; Figure H-25 shows recovery percentages by program source for the reference year (2019). A major factor in the diversion rate is the commercial survey the SWMD conducts every other year. Diverted tonnage reported in the commercial survey accounts for over 70% of total residential/commercial diversion. The next programs that contribute the second and third highest tons diverted are from Ohio EPA Composting Facilities Data (9.3%) and the County's Drop-off Recycling Locations data (8.1%).

³⁰³⁰ "Appendix K" Solid Waste Management Plan 2016, Logan County Solid Waste Management District.



Tonnage reported through the commercial survey has declined somewhat through the historic period with amounts over 23,000 tons in 2015 and 2016, dropping to tonnages over 20,000 from 2017 to 2019. While the change in tonnage may reflect a decrease in recycling activity in the commercial sector, it may also be reflecting a decline in response rates. The SWMD follows up with previous commercial respondents annually to be able to reuse data from past years if no response is received. This data collection method is heavily contributing to the Districts high residential/commercial diversion goal, exceeding the 25% diversion rate state goal.

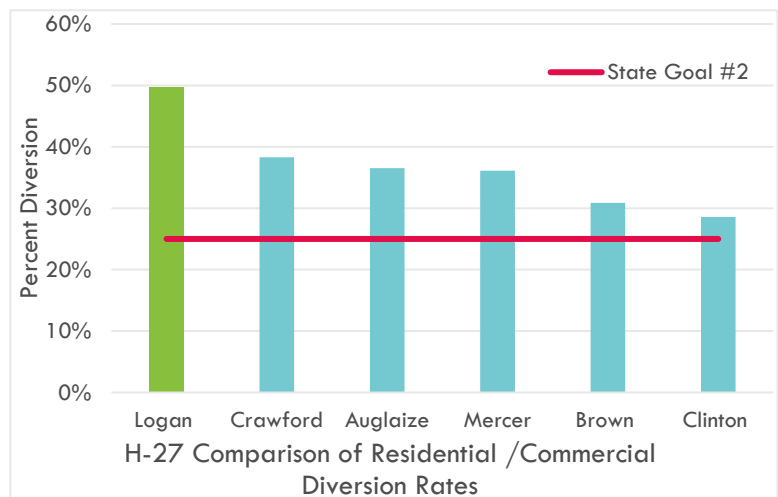
A more specific analysis of program data shows that the drop-off recycling rate has held relatively constant with an average annual 1% increase from 2015 to 2019 while curbside recycling rate has decreased on average 3% over the same time period. The increase in the drop-off recycling rate is likely at least partially due to an increase in trash bag costs at the drop-offs, from \$2 / bag to \$2.50 / bag. (For more analysis see Appendix H – Residential Recycling Infrastructure Analysis).



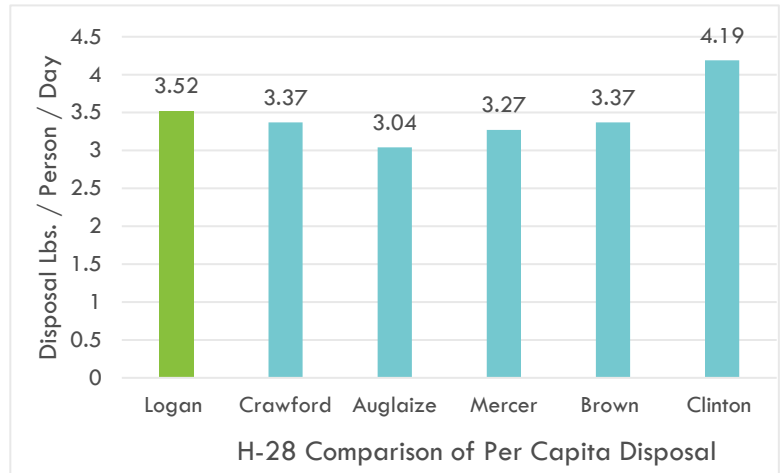
In the residential/commercial sector ferrous metals, corrugated cardboard, wood, and yard waste recovery make up over three-fourths of the diversion (shown in Figure H-26). The majority of ferrous metal, cardboard and wood recovered are source reported from the commercial sector.

Figure H-27 compares the SWMD's 2019 residential/commercial diversion rate to similar sized solid waste management districts. When compared, Logan County leads the rest of the districts in diversion rate with a rate of 50%. The next closest districts, Crawford County, Auglaize County and Mercer County, having diversion rates between 36-38%. The average diversion rate of the five District area is at 37%. Logan County leads other districts with it's material management practices, PAYT programs and collection of data, resulting in a high diversion rate.

As a leader, the District was benchmarked to other program materials management practices and diversion rate to understand whether there are other opportunities for the District to improve its programs. One analysis that was conducted compared the per capita disposal rate in the districts. While Logan County has the highest diversion rate in comparison, the county also has the third highest per capita disposal rate. Figure H-28 compares the same similarly sized Districts by per capita disposal.



A resident of Logan County, on average, disposes of 3.52 lbs per day, whereas a resident in Auglaize County disposes of 13% less material / day, around 3.04 lbs per day. One possibility for a higher disposal rate is mis-identified waste. Waste from other District's may be mis-identified as Logan County waste. The District's fee structure is lower than neighboring solid waste management district fees. Both Auglaize and Allen-Champaign-Hardin-Madison-Shelby-Union



(ACHMSU) impose a generation fee. Waste disposed at Cherokee Run Landfill from Auglaize County must pay the tipping fee plus a \$5.00 generation fee to Auglaize County and \$3 tier fee to Logan County. If waste originating from Auglaize County is mis-identified as Logan County waste, the charge is the tipping fee plus a \$1.00 tier fee. A difference of \$7.00 per ton may be significant enough where this would occur. The price differential for ACHMSU is larger, because their generation fee is higher at \$9.00.

b. Conclusions/Findings

The SWMD's diversion rate has remained fairly steady over the historic period but remaining consistently double the Ohio EPA's 25% residential and commercial diversion goal.

Potential opportunities:

- Conduct study to determine if waste is mis-identified.
- Increase education resources on reduce and recycle, the first two waste management hierarchy.
- Consider PAYT drop-off bag price increase to incentivize behavior change.

8. Special Program Needs Analysis

Ohio Revised Code 3734.57(G) gives SWMDs the authority to fund a number of activities that are not related to achieving the goals of the state solid waste management plan. In addition, there are other programs that SWMDs fund that are not addressed in either the state plan or law. This analysis evaluates the performance and status of these activities and programs and the value to the SWMD.

a. Evaluation

Health Department Assistance

Health Departments must be certified by the Ohio EPA to operate a solid waste program. Some of the programs/services provided by the Health Departments with these funds include: program administration, landfill and out-of-state waste inspections, enforcement of illegal dumping and littering laws, illegal dump and litter cleanup, tire recycling collection/processing programs. Other activities may also be provided.

The SWMD contract with the Health Department is \$80,000 annually. The Health Department performs landfill and open dump inspections and nuisance complaints. There are several SWMD's providing funds to the Health Department for similar activities. Figure H-29 shows the funding provided by Ohio solid waste management

districts in 2019. Thirty-one out of the fifty-two solid waste management districts provide funding to health departments. Hamilton, Stark Tuscararus Wayne, and Cuyahoga Solid Waste Districts expended the most in 2019.

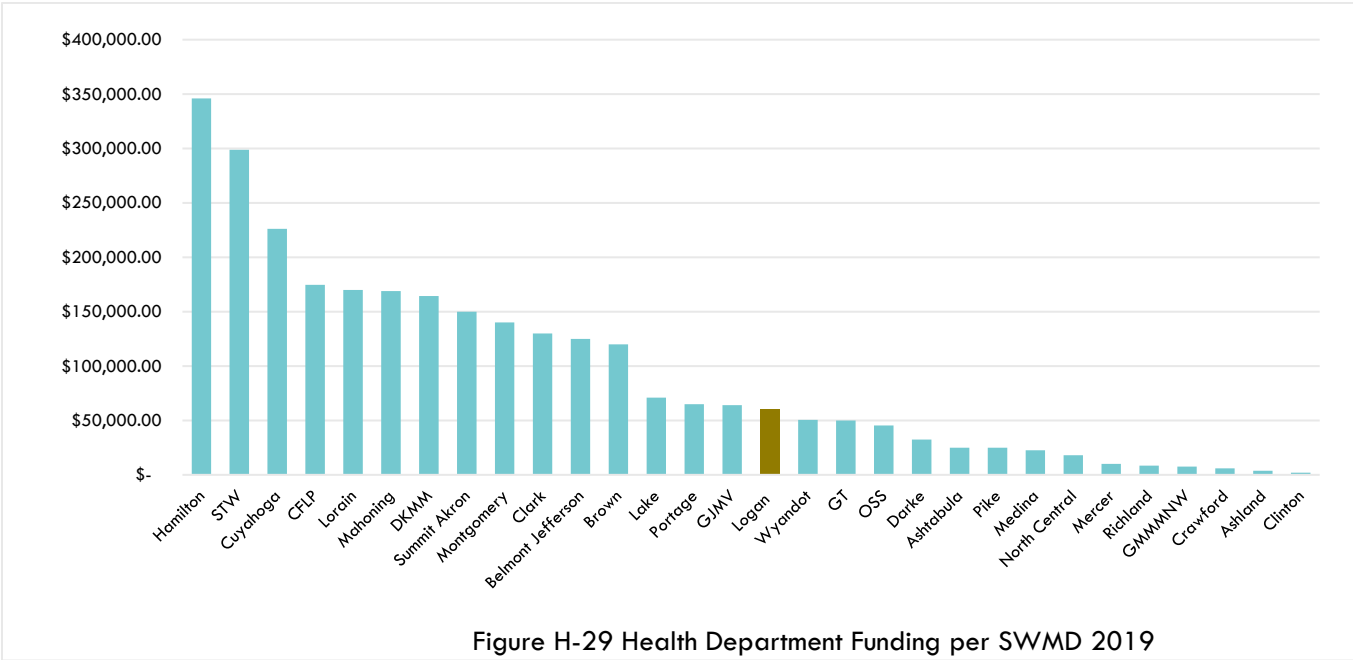


Figure H-29 Health Department Funding per SWMD 2019

Source: Ohio EPA Quarterly Fee Reports 2019, expense line items 3, 5 and 7.a Health Department

Some correlations can be made as to the amount provided to health departments and the number of facilities located within the District. Hamilton, Stark Tuscararus Wayne, and Cuyahoga Solid Waste Districts each have 15 or more waste management facilities in their districts. Logan County has 1 active landfill and 5 compost facilities. The Logan County Health Department provides a needed service to the SWMD.

Local Law Enforcement - Litter

The SWMD provides allocations to the Sheriff's Department. The money to the local sheriff department allowed for a dedicated deputy to enforce laws prohibiting litter and illegal dumping as well as laws related to the transportation of solid waste. An average approximately \$114,000 was provided annually from 2015 to 2019.

Other solid waste management districts provide funding to law enforcement offices' for enforcement of illegal dumping and littering laws, illegal dump and litter cleanup and tire recycling collection/processing programs, as well as for litter collection/education. Figure H-30 shows funding provided to local law enforcement by Ohio solid waste management districts in 2019. Twelve out of the fifty-two solid waste management districts provide funding specifically for law enforcement. Stark-Tuscararus-Wayne (STW) and Coshocton-Fairfield-Licking-Perry (CFLP) Solid Waste Districts expended the most in 2019.

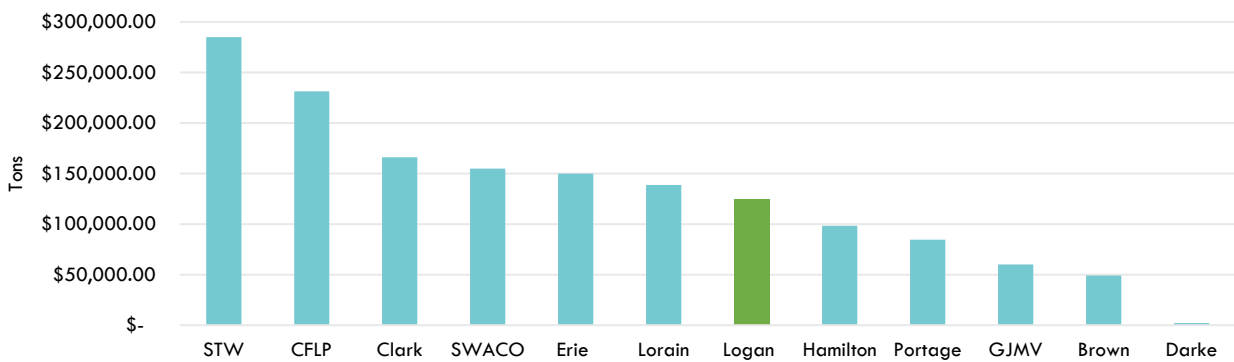


Figure H-30 SWMD Local Law Enforcement Funding 2019

Source: Ohio EPA Quarterly Fee Reports 2019, expense line item 7.b Local Law Enforcement

Literature and web searches provided the following information on other SWMD program metrics:

SWMD	Metrics
Coshocton-Fairfield-Licking-Perry (2016 data)	81 citations, 48 convictions, 418 litter investigations
SWACO (2014 data)	38 convictions, 400 community service hours ordered, \$79,129.74 ordered in restitution/fines

b. Conclusions/findings

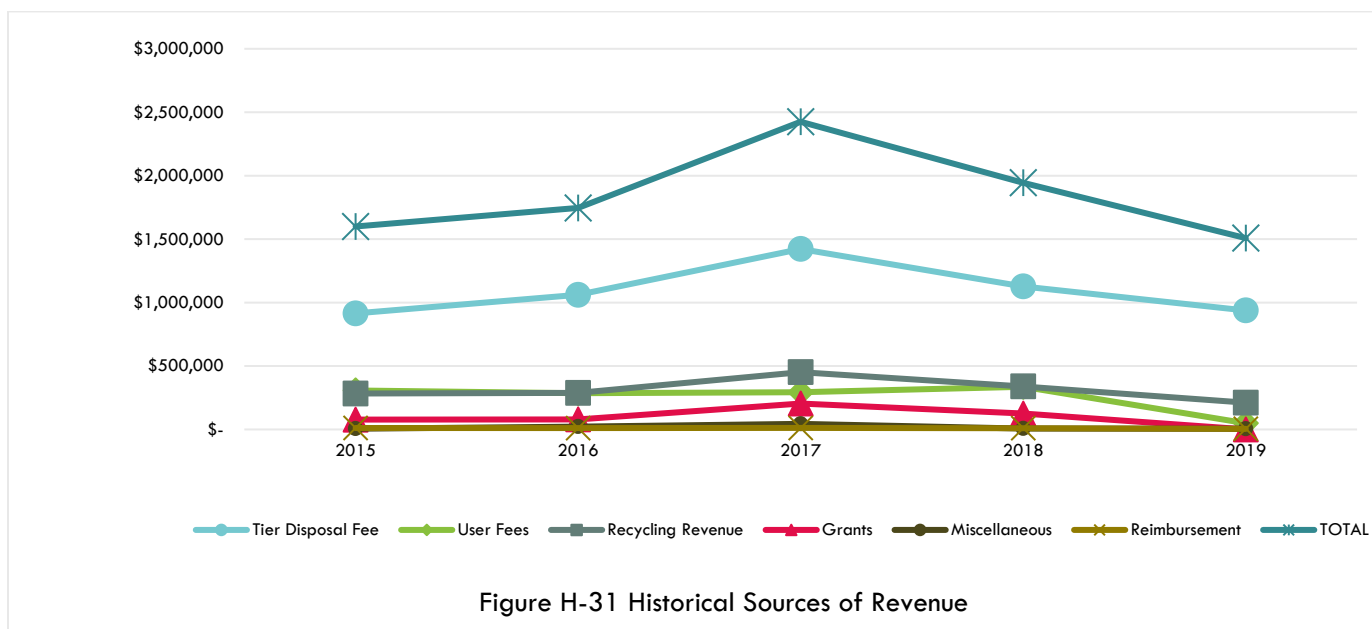
Funding for health department and law enforcement activities are not related to achieving the goals of the state solid waste management plan but do play a role in the SWMD's management. A strong enforcement program helps keep illegal dumping and contamination minimal. These type of special programs, provide value when implemented with performance checks and stakeholder buy-in.

9. Financial Analysis

The purpose of this analysis is to examine the SWMD's current financial position and assess the financial requirements and revenue sources throughout the next planning period. The SWMD is currently funded through revenues from tiered disposal fees, user fees, grants, and from the sale of collected recyclables. Additionally, the SWMD has received grants each year from 2015 to 2019.

a. Evaluation

Historical revenues are shown in Figure H-31. Revenue has remained fairly stable for the past five years, averaging \$1,844,362 annually, and ranging from a low of \$1,507,752 in 2019 to a high of \$2,425,108 in 2017.



The largest source of revenue for the SWMD is tiered disposal fees, which account for 59% of the SWMD's revenue on average over the past 5 years, as seen in Figure H-32. User fees and recycling revenue both, average about 17% of the total revenue are the next largest sources of revenue.

Out-of-district fee revenues are dependent on economic activity and contract cycles. These revenues are more complex and can vary significantly. Table H-10 demonstrates the historical waste tonnages.

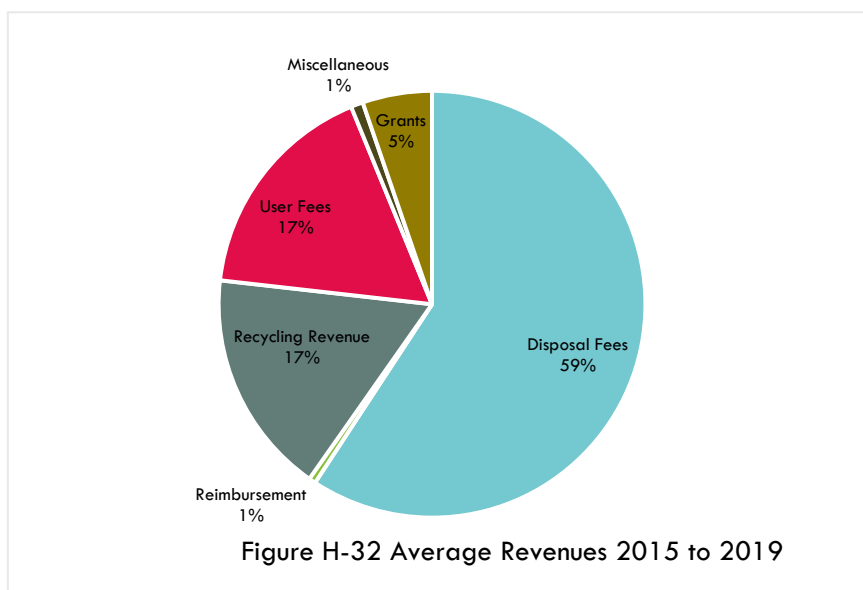


Table H-10 Historic Out-of-District Waste Disposal Tonnages

Year	Out-of-District Waste Tonnage	Timeline
2013	264,239	Cherokee Run Landfill was awarded waste disposal contract from Montgomery County, Ohio
2014	443,600	
2015	433,353	
2016	433,353	
2017	465,205	
2018	366,791	Waste tonnages begin to decline with the lost contract of Montgomery County, Ohio waste disposal at Cherokee Run Landfill
2019	303,571	
2020	310,645	

The average out-of-district disposal fee tonnages from 2014 to 2017 was roughly 68% more than tonnages seen historically in 2013 and prior. Then in 2016, the SWMD implemented a fee increase on out-of-district waste tonnages which added additional revenues. As seen in Table H-12, the out-of-district tonnages declined about 21%, and then another 17% in 2019. This is demonstrative of contract cycles and the loss of a large waste disposal contract at Cherokee Run Landfill.

As shown in Table H-11, the 2019 actual revenues received were about 4% higher than 2016 Plan projected revenue. This increase is attributed to the disposal fee revenues. Actual disposal fee revenue was 85% greater than projected. The plan projections predicted less waste tonnages without the Montgomery County, Ohio contract resulting in greater impact to the revenues. User fee revenues were slightly less (7%) than projected but within a reasonable estimate. However, the other revenue mechanisms, recycling revenue, grants, and reimbursements demonstrated greater variance between actual and projected. It is proven the SWMD has less control of the fluctuations and budget impacts from these revenue sources.

Table H-11 Actual vs Projected Revenues

Year	District Disposal Fees	Recycling Revenue	User Fees	Grants	Reimbursements	Miscellaneous	Total Revenue (\$)
2019 - Actual	\$937,974	\$210,962	\$348,794	\$361	\$4,451	\$5,209	\$1,507,752
2019 – 2016 Plan projections	\$507,389	\$401,831	\$374,166	\$150,000	\$12,400	\$0	\$1,445,787
Percent Change	85%	-47%	-7%	-100%	-64%	-	4%

While markets for recyclables are re-bounding and expected to provide stable funding in the near future, it can be volatile. With 17% of the budget supported by these revenues, the SWMD will need to closely monitor markets and MRF operations to be able to sell high value commodities. There are other stable funding mechanisms available to the SWMD should the threat of fluctuations become such that the budget cannot be supported. Generation fee is a surcharge that any solid waste management district may levy on waste generated within its borders, regardless of where in Ohio the waste is disposed. Another is rates and charges which would be levied on improved parcels in the county. A third option is contract fees. This would be a fee negotiated on waste coming into the Cherokee Run Landfill between the landfill and the SWMD. For instance, collecting an additional revenue per ton on solid waste disposed in the Cherokee Run Landfill from say out-of-district generators.

Table H-12 benchmarks main funding sources of regional districts that own their own MRFs to the SWMD's main funding sources. As shown main funding sources vary across the districts. Both Hancock and Wyandot SWMD's similarly rely on disposal fees as a main funding source but unlike the SWMD they also rely on generation fees. The SWMD is the only district funded with over 20% user fees by source. This comparison also shows that the majority of the regional districts heavily rely on their own County residents and businesses to support the programming through the use of rates and charges and generation fees. Logan's funding is structured so that the fees levied on the residents and businesses are minimal.

Table H-12 Benchmarked District Main Funding Sources

District	Rates and Charges	Generation Fee	Recycling Revenue	User Fees	Disposal Fees
Auglaize	32%	40%	28%	0%	0%
Putnam	58%	27%	15%	0%	0%

District	Rates and Charges	Generation Fee	Recycling Revenue	User Fees	Disposal Fees
Hancock	0%	37%	17%	0%	46%
Wyandot	0%	13%	21%	0%	66%
Logan	0%	0%	14%	23%	63%

Note: Excludes other funding mechanisms such as grants, miscellaneous, etc.

Table H-13 benchmarks per capita revenue of regional districts. All the regional districts benchmarked except for North Central own and operate their own MRFs. Compared to surrounding solid waste management districts, Logan reported the second highest total revenue and the second highest per capita revenue in 2019. While Logan has the second highest per capita revenue, the majority of the revenues are sourced from outside the SWMD through out-of-district disposal fees, keeping in-district fees at the minimum.

Table H-13 Benchmarked District Revenues

District	Population	Revenue	Per Capita Revenue
Wyandot	21,935	\$903,958.74	\$41.21
Logan	45,530	\$1,507,751.64	\$33.12
Auglaize	45,656	\$1,400,218.27	\$30.67
Hancock	73,678	\$886,440.51	\$12.03
Putnam	34,499	\$317,434.50	\$9.20
North Central	325,623	\$1,839,783.92	\$5.65

Source: Solid Waste Management District Fee Summary: 2019 Ohio EPA Division of Materials and Waste Management

Notes: North Central is the only district does not own and operate their own MRF. North Central includes Allen, Champaign, Hardin, Madison, Shelby and Union Counties.

The SWMD's 2016 Plan projected expenditures in the early years at around \$1.9 million building in MRF capital expenses. As shown in Table H-14, the actual expenses were less than forecasted in the 2016 Plan.

Table H-14 Actual vs Projected Expenses

Year	Total Expenditures (\$)
2019 - Actual	\$1,393,139
2019 – 2016 Plan projections	\$1,802,377
% Change	-23%

One of the contributing factors to lower expenditures in 2019 was the delay in some of the planned capital expenses at the MRF.

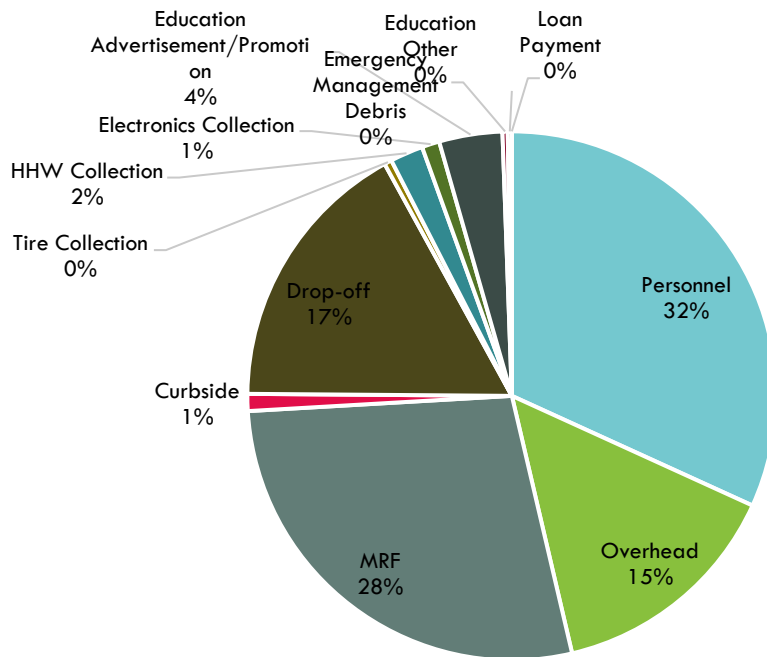


Figure H-33 Expense Distribution 2019

The SWMD's program expenditures are depicted in Figure H-33. The larger expenses include personnel (which includes fringes and benefits), MRF and Drop-off.

Comparison of neighboring solid waste management district program expenses is found in Table H-15. On average, regional districts spend \$22.15 per person. The SWMD is slightly above the average at \$30.60 per person. Wyandot County has the highest per capita spending at \$46.35 per person, while North Central has the lowest at \$4.54 per person.

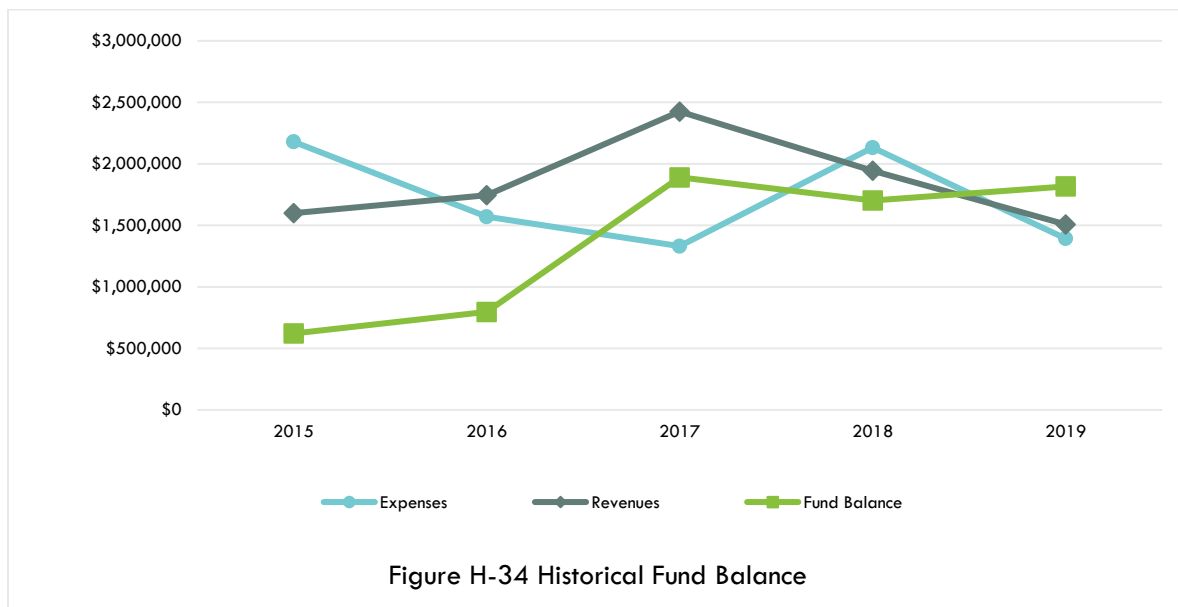
Table H-15 Benchmarked District Expenditures

District	Expenditures	Per Capita Expenses
Wyandot	\$1,016,618.70	\$46.35
Auglaize	\$1,431,496.86	\$31.35
Logan	\$1,393,138.98	\$30.60
Putnam	\$403,226.13	\$11.69
Hancock	\$615,444.18	\$8.35
North Central	\$1,479,549.86	\$4.54

Source: Solid Waste Management District Fee Summary: 2019 Ohio EPA Division of Materials and Waste Management

Notes: North Central is the only district does not own and operate their own MRF . North Central includes Allen, Champaign, Hardin, Madison, Shelby and Union Counties.

Figure H-34 shows the historical revenues, expenses and fund balance.



b. Conclusions/Finding

Historically the average \$1.9 million in revenues supported programming. About every three years a capital expense for operational expenses draws down the balance. The SWMD funding mechanisms have not sustained in building a surplus reserve fund balance. The revenue/expense structure is self-sustaining to support as needs arise to maintain a positive fund balance. The structure allows for flexibility to adjust user fees for additional support as well as increases in disposal fees. However, any increase in disposal fees must be ratified.

The main funding source is out-of-district revenues. Fluctuations in the amount of waste received from out-of-district sources impacts how much funding is needed from other sources. If waste receipts decline substantially, the SWMD may need to look at other stable funding mechanisms.

About 14% of revenue is received from sale of recyclables. The SWMD frequently assesses the markets and commodities collected to maximize the commodity return. Another consideration is the materials accepted and the value per ton to see if and where changes to MRF operations could maximize the return. Hub and spoke systems may work well for the smaller regional MRFs also relying on recycling revenue to support programming. If market conditions change such that the historical revenue amounts are not seen, the SWMD may need to look at other stable funding mechanism, implement higher disposal fees, or modify user fees.

10. Regional Analysis

The purpose of the regional analysis is to consider regional opportunities for collaboration and partnerships, and to also consider how the policy committee's decisions may impact other stakeholders in the region.

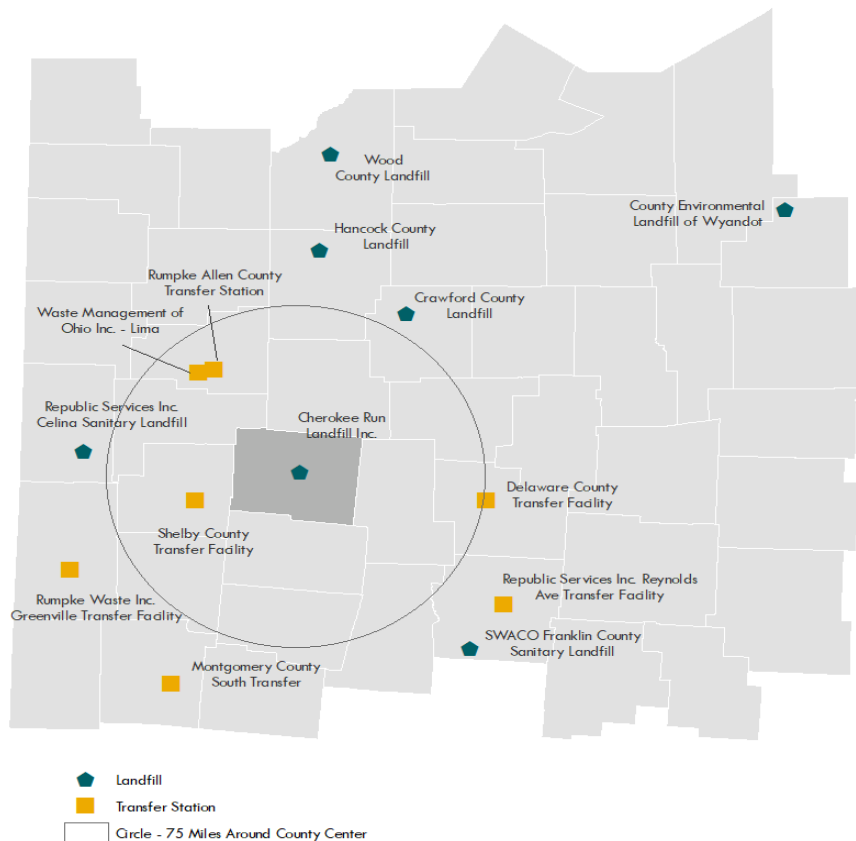
a. Evaluation

WASTE IMPACTS

Wasteshed is a term used in the materials management field to describe where, and how, materials ‘flow’ throughout a given geographical area. Much like a watershed, waste is not confined to city or county boundaries and can flow along multiple channels. Unlike water however, the flow of waste is based around economic drivers, the presence of facilities, roads and highways, and contracts between haulers and processors.

There are seven landfills within a 75-mile one way radius of the center of Logan County, including Cherokee Run Landfill, Inc. which is the only landfill located in the County. Most of these landfills excluding Cherokee Run Landfill are about 45-60 miles driving from the County with one in Wyandot that is approximately 75 miles one way driving. Figure H-35 shows a map of the surrounding counties and the landfills and transfer stations used by the District in the reference year (2019).

Figure H-35 Landfills and Transfer Stations Used by Logan County



Note: The line shows a radius of 37.5 miles from the center of the County.

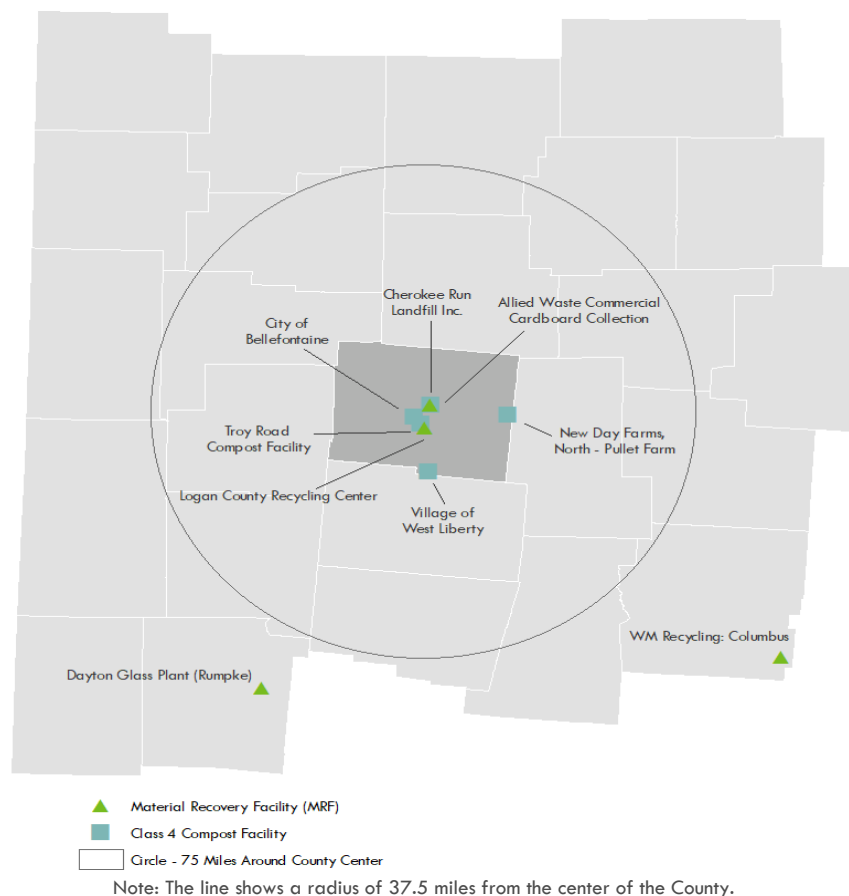
The vast majority, over 80%, of the District’s waste is direct hauled to the in-county landfill, Cherokee Run Landfill. The next largest amounts of waste are transferred to Rumpke Sanitary Landfill (7%), in Mercer County, Ohio, to various landfills in Indiana (6%) and to Jay County Landfill (4%) in Jay County, Indiana. There appears to be enough landfill capacity in the surrounding landfills if the Cherokee Run Landfill closes (see Appendix M for more analysis) during this planning cycle. The current permitted capacity extends the life of the 11 years. If the landfill closes, it will not just affect the District but also some surrounding counties that transfer and haul waste to this landfill.

The District also believes the tonnage of waste being recorded as Logan County waste at the landfill is not entirely all Logan County waste. It also is most likely a combination of industrial sector getting characterized as commercial sector waste. As seen in Figure H-35, the Cherokee Run Landfill is the closest landfill for several neighboring counties that have higher fee structures which could be incentive to mis-identify waste as Logan County waste because they would pay less in fees. The District will struggle to meet diversion goals because the waste was never generated by Logan County. You simply cannot reduce, reuse or recycle waste that is not there to begin with.

DIVERSION IMPACTS

The District owns and operates it's own recycling center that manually processes recyclables from the County. Two other processors processing District recyclables include Dayton Glass Plant (Rumpke) and WM Recycling – Columbus which are within 50 miles of the County. The District also uses five in-county composting facilities to manage and process yard waste and some other organic material. The facilities used by the District during the reference year are mapped below (Figure H-36).

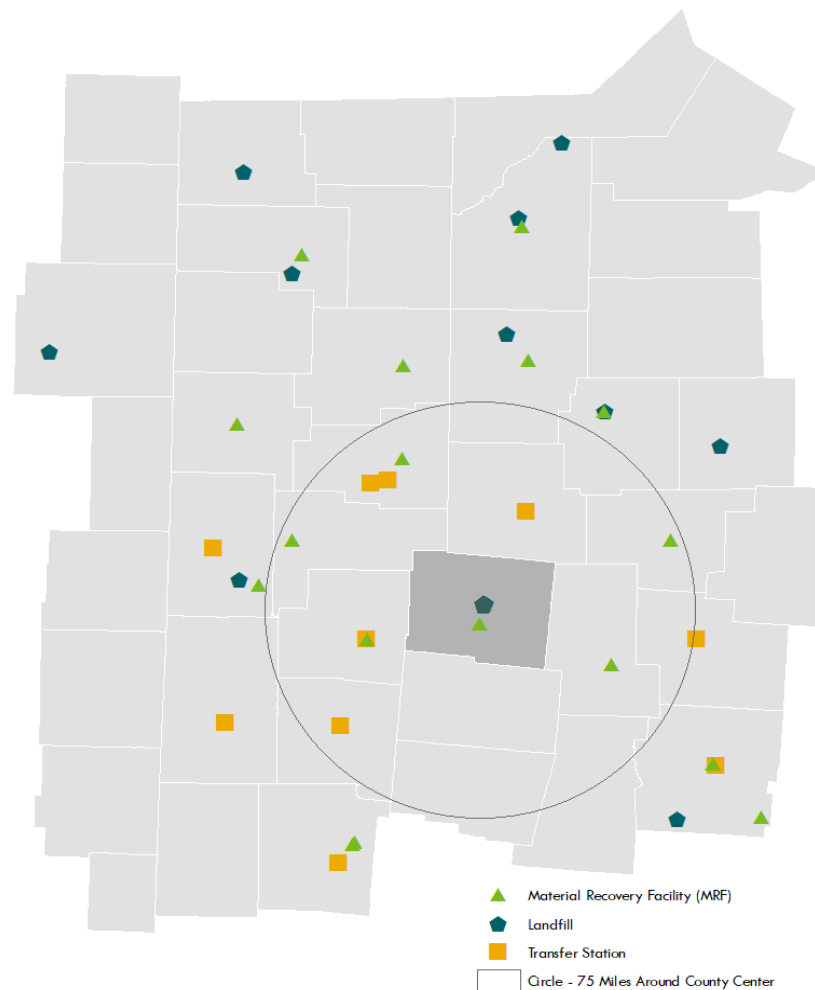
Figure H-36 Recovery Facilities Used



Organics is a key material category to recover and process when trying to increase diversion rates. Organics – yard debris, wood chips, brush, wood waste, manure, household organics, soiled paper, and food scraps, and other biodegradable feedstock – are heavier to transport than recyclables and economically demonstrate a higher need to be processed closer to where they are generated. Within the County there are Class III and Class IV registered facilities that can process yard waste and some other organics. Within the region there are registered Class II facilities that process food waste.

Logan County is centrally located in Ohio and closer to two large population centers, Dayton and Columbus. Population density, transportation routes and other factors help to drive the market need, driving more private and public sector disposal and recovery facilities. More facilities in a region can create more system resiliency but processors like MRFs are still subject to macro-economic and market changes. Figure H-37 highlights the regional landfills, transfer stations and MRF/processors within 75 miles one-way from Logan County.

Figure H-37 Regional Disposal and Recovery Facilities



Note: The line shows a radius of 37.5 miles from the center of the County.

b. Conclusions/Findings

The region has adequate capacity and infrastructure for managing trash and recyclables. Potential opportunities to explore include:

- Conduct a study to identify mis-identified and/or mis-characterized waste.
- Work regionally on food rescue, bank and donation programs. Food rescue is the highest tier on the EPA's food waste hierarchy. The SWMD could help bring together local and regional non-profits, SWMDs and other partners to discuss building a better food redistribution network.
- The SWMD has power to collaborate with MRFs to process additional materials thereby diverting more waste from the landfill. A key component in the region is lack of #3-#7 plastics processors.

- The SWMD could look to develop a regional stakeholder group to explore and attract processors to the region.
- Discuss food waste processing capacity with neighboring county infrastructure to support programs in the District.
- Continue to collect and monitor data to determine if costs of organics collection is preventing the expansion of organics composting.
- Focus strategies to promote source reduction as well as on-site/backyard composting options.
- Another option is to develop a regional stakeholder group to explore and attract organic processors to the region. There are successful models for public private partnerships in organic management.

11. Population Analysis

Logan County, OH is home to a population of 45.5k people, from which 99.4% are citizens. As of 2018, 1.27% of Logan County, OH residents were born outside of the country (576 people). In 2018, there were 40.1 times more White (Non-Hispanic) residents (42.3k people) in Logan County, OH than any other race or ethnicity. There were 1.06k Two+ (Non-Hispanic) and 729 Black or African American (Non-Hispanic) residents, the second and third most common ethnic groups

In 2018, there were 40.1 times more White (Non-Hispanic) residents (42.3k people) in Logan County, OH than any other race or ethnicity. There were 1.06k Two+ (Non-Hispanic) and 729 Black or African American (Non-Hispanic) residents, the second and third most common ethnic groups.

1.5% of the people in Logan County, OH are hispanic (681 people).

The following chart shows the 7 races represented in Logan County, OH as a share of the total population.

The SWMD does not have a rapidly changing population. According to the Ohio Department of Development Services Agency, population demonstrated a negative change between 2010 and 2019 of approximately 0.04%. During this same time period, Ohio's population grew 1.3%.

The SWMD has a low population density of 97 people per square mile.

There are over 23,000 housing units in Logan County.

The majority of housing structures are single family homes (78%).³¹ Of the total housing units, approximately one-fourth are renter occupied. This is about three-quarters the average rate for the state of Ohio (34% of occupied homes are rentals). This is important for solid waste management planning because renters tend to be more mobile than homeowners, and can present some different challenges when engaging and educating renters about recycling programs. As the County has a higher percentage of owner-occupied homes, the SWMD can provide residents with recycling education more consistently and reach out more quickly about program changes or material focuses.

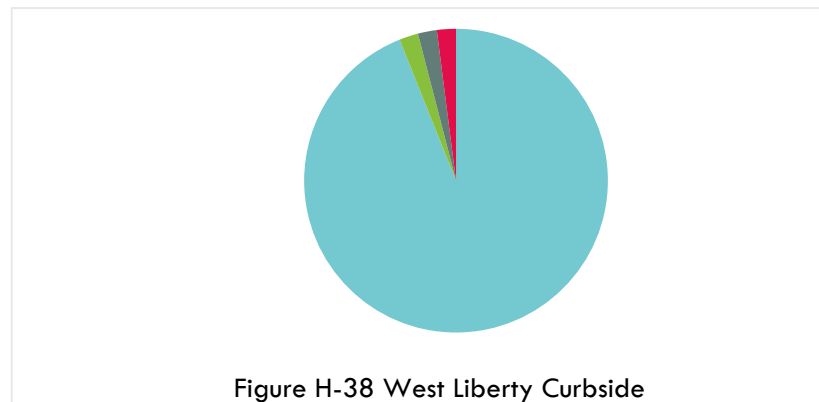


Figure H-38 West Liberty Curbside

³¹ Census Reporter. American Community Survey 2018 5-year. <https://censusreporter.org/profiles/05000US39027-putnam-county-oh/>

According to the US Census, the poverty rate in Logan County was 11.4% in 2019 – or roughly 5,200 people within the county live in poverty. While this is lower than Ohio state average of 14% and the national average of 13.4%, it does impact finding economic and equitable solutions for sustainable waste management.

12. Data Collection Analysis

This analysis evaluates the SWMDs current data collection efforts and identifies ways to improve its data.

Waste is generated by three sectors: residential, commercial and industrial. Waste source reduced, recycled, composted, incinerated, and disposed are measured to establish a baseline and determine waste generation, and measure recycling rates. Collecting data is challenging due to a variety of factors, and takes considerable time and effort to gather and analyze. Regardless, the primary objective of the SWMD is to divert materials from landfills, therefore an accurate measurement of diversion from landfills is needed. The data collection process from beginning to end for each sector is described below.

Data availability has not prevented the SWMD from achieving Goal #2 of the State Plan, which requires a waste reduction and recycling rate of at least 25% for the residential/commercial sector. In the 2019 reference year, the SWMD's residential/commercial sector achieved a 49.8% waste reduction and recycling rate. Even though the 2020 State Plan no longer establishes the 66% industrial waste reduction and recycling rate, the SWMD's industrial sector achieved a 96.6% rate.

a. Evaluation

Residential:

The SWMD gathers data from service providers, non-profits, internal SWMD tracking of drop-off and special events, political jurisdiction curbside data, and Ohio EPA annual published data.

Commercial:

The SWMD gathers data from commercial businesses and Ohio EPA annual published data. According to U.S. Census data, the SWMD has about 838 total employer establishments³² (including 399 with less than 5 employees), and approximately 702 commercial businesses³³ with NAICS codes related to wholesale trade, retail trade, accommodation and food services, arts, entertainment, and recreation, etc. Of the 702 commercial businesses approximately 50% are establishments with less than 5 employees.

Targeting larger generators suggests surveying over 360 commercial businesses. In the past, the SWMD has spent considerable efforts tracking down data with minimal response, which led to a very streamlined survey process to contact repeat responders. For the past 6 years or so, the SWMD has called business point of contacts to obtain data. However, using this approach to collect 2019 data in year 2020 was met by several challenges the biggest of which was finding the appropriate point of contact. Now could be a great time to review the list of businesses and point of contacts to update databases.

³² <https://www.census.gov/quickfacts/fact/table/logancountyohio/PST045219>

³³ <https://data.census.gov/cedsci/table?q=Logan%20County,%20Ohio%20Business%20and%20Economy&tid=CBP2019.CB1900CBP>

The SWMD has an electronic data form available on the website which is underutilized. Focusing on the largest generators the SWMD could emphasize the online option by mailing a reminder post card to businesses with the location for accessing the survey. Clinton County SWMD has shown success with post card reminders and follow up emails and phone calls to average a 20% response rate.

Analyzing survey efforts, three NAICS categories with a concentration of large generators in the SWMD include Retail Trade, Health Care and Food Service. Comparing to similar population sized SWMD's both Clinton County and Putnam County SWMD's, are diverting a larger percent by weight of more glass, food, and scrap tires. If the SWMD updates the point of contacts for businesses an evaluation of the surveyed businesses to the total largest generators may result in additional businesses to target that have not previously reported.

Data analysis is conducted on the returned data to understand how materials are obtained and managed by entities that submit recycling information. To avoid double counting, the SWMD strives to identify if there are any materials that might be reported by more than one entity.

Across the state of Ohio, many districts are challenged with low response rates. The SWMD's survey mechanisms are similar to other district survey mechanisms. One district employing an email survey mechanism, SWACO (Franklin County, Ohio), experiences challenges with maintaining an up-to-date email database. Employing an email survey also requires follow-up phone calls to non-responders. SWACO also uses a mailed survey for those businesses where an email contact was not provided. Emailed surveys achieved a higher response rate than mailed surveys (statistics do not weigh number of calls made for emailed surveys versus mailed surveys). Both mechanisms require a considerable amount of staff time and effort to achieve responses.

Industrial:

The SWMD gathers data by surveying the industrial sector businesses and Ohio EPA annual published data. The same survey procedure described for the commercial sector is also used for the industrial sector. Similarly, point of contacts for the industrial sector could also benefit with a re-focus to track down the best point of contact

b. Conclusions/Finding

Overall, data collection is vital to measuring the waste reduction and recycling rate. Opportunities to improve the data collection efforts include:

- The SWMD could consider adding on online capability for completing the survey, such as JotForm or another platform. This type of capability will provide more convenience to those completing the survey, plus compiles the data for the SWMD
- Post card reminder mailings keep administrative costs lower and return comparable response rates.
- Phone follow-up efforts are needed to return survey responses.
- Another outreach element and touch point is educating and advertising the total diversion rate after the survey process. This lets businesses know their data contributes to the success of the SWMD surpassing Ohio EPA goals.

13. Education/Outreach Analysis

The 2016 Plan developed several education and outreach strategies to work towards the 2009 State Plan goals. The 2009 State Plan goals restructured the education and awareness goals with the intention of creating minimum standards for outreach programming but still allow for flexibility for localized outreach and education. The 2009

State Plan refocused the general “awareness” of recycling to changing behavior through outreach. This analysis evaluates the SWMD’s existing education, outreach and technical assistance efforts to determine:

- If the programs address all five target audiences (residents, schools, industries, institutions and commercial businesses, and communities and elected officials).
- Effectiveness and adequacy of programs.
- Strategy for incorporating Goal 4 into the programs.

The District’s programs, although unconventional, are the district’s best outreach. Drop-off programs for PAYT and recycling provide a voluntary, non-subscription countywide outreach. The economic incentives alone explain the reception of these programs with increasing participation each year. In addition, the availability of complete, reliable and affordable has increased the word of mouth in ways a puppet show or Facebook contest could not. However, the District has just past “scratching the surface”. Many more residents and most businesses have yet to access the current services.

As the district approaches higher level of diversions, the costs of services and outreach as well as the empirical success of these programs will have less bang for the buck. Therefore, funding new programs will require a serious turn toward user fees and registration fees, such as for food waste diversion programs and business services.

GOAL 3: MINIMUM REQUIREMENTS

District Website

The SWMD maintains a website at www.logancountyrecycles.com The website is a resource providing much of the information that residents would seek. The homepage is key to user navigation and has the ability to be updated regularly to reflect recycling services. The webpage provides an inventory of outlets that are managed by the SWMD for materials, drop-off program information (locations, materials accepted), curbside programs, CHaRM, and businesses. In addition the website uses simple layouts, fonts and graphics/photos that create a coherent visual across all communications.

Conclusions/Findings:

- Consider short less than 1-minute videos instructing how to recycle right.
- Consider adding education resources for schools and businesses such as: how to waste audit guide, classroom lessons, workplace recycling guide, waste-free classroom, etc.
- Consider including education about backyard composting.
- Consider adding more waste reduction tips and guides for homes and businesses seeking a zero waste lifestyle.

Comprehensive Resource Guide

The website is a resource guide for SWMD managed outlets and services. Business resources are also provided. Additionally, the SWMD has a list of resources and links to outside information.

Conclusions/Findings:

- The SWMD could include a link to Ohio EPA’s Material Marketplace which is a reuse network.

Inventory

The website is an inventory for SWMD managed outlets and services. The SWMD has no control over third party waste management outlets which can improperly manage materials. As such, the Policy Committee made the decision to list only SWMD managed outlets on the website.

Conclusions/Findings:

- Only including SWMD managed outlets does not provide the SWMD with a one-stop resource guide. If a resident or business wants to divert a material such as yard waste, they must reach out to other resources to find an outlet.
- A few businesses offer “take back” programs for plastic grocery bags, computers, cell phones, lead-acid batteries, and ink cartridges. These types of “take back” programs help alleviate burdens to the SWMD and will be continually pursued in local businesses. At one point, the SWMD maintained a website list of retailers and businesses available which offer point of sale returns or “take back” programs. These are no longer listed on the website.

Speaker

The Coordinator serves the role to be available for speaking engagements.

Conclusions/Findings:

- Staffing levels limit the outreach engagements to all target audiences.

GOAL 4: OUTREACH AND EDUCATION

Litter Prevention and Recycling Education

The 2016 Plan set out to make significant efforts to identify and link the SWMD’s education efforts with other existing programs and agencies with “built-in” audiences and proven accomplishments. The SWMD hired a PR marketing firm in 2019. While efforts were made the education and outreach fell short of reaching all target audiences.

- Target Audience: Residents

A major outreach campaign occurred with the launch of the PAYT drop-off programs and CHaRM in 2016 raised awareness to the SWMD and programs. The branding has remained consistent to reinforce the SWMD identity.

Education and outreach occurs now mostly through the website, Facebook, Twitter and in-person events. Since residents can recycle the same items whether collection is in a bin or at the drop-off, the SWMD is at an advantage when it comes to a universal recycling education message. A main focus of education provided on these channels is clear consistent messaging around proper recycling and the right materials to recycle. The SWMD attends the Logan County fair annually and provides recycling of bottles and cans.

Unfortunately, the MRF is experience elevated levels of contamination in more recent years. The general trend shows the explosion of contamination appears to have two features: the presence of a pandemic (temporary) and absence of strong enforcement which takes time to disincentivize. The SWMD is on track to manage both of these conditions.

- Target Audience: Schools

Education and outreach occurs through one-on-one engagement. A main objective was to provide recycling services to all the schools. Over the years, the SWMD has met in-person or conversed over the phone with every school, university, and institution located in the County at some point. Outreach is not as frequent now and occurs as needed with schools contacting the SWMD.

- Target Audience: Industries

Education and outreach occurs through one-on-one engagement. Industries contact the SWMD if assistance is needed.

- Target Audience: Institutions and Commercial Businesses

Education and outreach occurs through one-on-one engagement. Businesses requesting service or special event containers reach out to the SWMD.

- Target Audience: Communities and Elected Officials

Education and outreach occurs through one-on-one engagement.

Social Media

The SWMD uses Facebook and twitter. The Facebook page has 1,262 followers (as of June 2021). Facebook posts are posted daily. The website links to the Facebook page to also drive traffic to Facebook.

Conclusions/Findings:

The SWMD's education and outreach approach is mostly one-on-one engagements which is extremely effective for strengthening relationships. The downside is that the staff is limited making it more challenging.

The design of the programs encourage behavior change. Curbside and drop-off PAYT programs encourage behavior change in the residential sector and cost benefit by paying less disposal fees is the long-time structure for the commercial sector. PAYT creates economic incentives based on usage to effectively reduce residential garbage and increase residential recycling and source reduction. The success is evident in the metrics. In 2019, residential/commercial diversion rate increased to 50% from a 26% baseline in 2003. In addition to increased diversion, the per capita disposal rate lowered. Measuring 4.75 pounds per person per day in 2003 down to 3.23 pounds per person per day in 2019.

One area that could improve is the education and outreach programs themselves. Education and outreach lack behavior change approaches of persuasive arguments and social influence. Persuasive arguments attempt to address poor attitudes with communicating social norms, showing accepted beliefs, and demonstrating specific actions. Social influence hinges on the premise that behavior will change based on the social environment. For example, a household will socially be influenced to recycle if all households on the same street set out recycling at the curb for pickup.

Because of the increased levels of contamination, the SWMD may consider re-freshing the campaign to proper recycling at the drop-off locations.

The SWMD has noticed a decline in the number of business (commercial and industrial) responses to the annual surveys. Developing more connections with these sectors by conducting waste audits, adding more resources to the webpage, or hosting workshops could help re-engage this sector.

Opportunities

- Marketing campaigns that use different media and platforms help ensure the messages reach various audiences. Such as:
 - A house-to-house approach utilizing residential billing stuffers.
 - Online flyer samples provided to each political jurisdiction to customize their residential recycling program contact information details to clarify what is and is not recyclable.

- Facebook Live videos are a great avenue for low-budget informal videos. Despite its name “live” videos are available on Facebook after their live publication thereby expanding the Facebook audience size or awareness of events.
- Promotional campaigns such as “Get Caught Recycling”, which catches a resident in the act of recycling and awards the behavior with a small prize is used by other SWMD’s. This positively promotes recycling, allows the SWMD a chance to connect one-on-one with residents, reinforces the right way to recycle and promotes social influence.
- Branding through the SWMD’s programs could be expanded into other promotional items (t-shirts, pencils, re-usable shopping bags, etc.).
- Outreach to multi-family housing landlords and property management companies to help establish or improve multi-family housing recycling programs.
- Consider Master Recyclers. In Master Recycler training citizens can learn about recycling and sustainability. These individuals have taken extra care to receive this certification. A more formalized volunteer program will give a strong foundation and expectations for volunteers. Regular weekly tours could be scheduled and led by volunteers. The formalized program once developed could become a peer-to-peer training volunteer training program to ease the burden on current staff.
- Provide training to commercial business employees to reinforce good recycling habits.
- Conduct workshops on various topics to various audience sectors.
- Perform waste audits and provide resources for self-conducting waste-audits on the webpage.
- Offer reduction tips on social media and the webpage.
- Present or speak at community/business meetings.
- Connect community programs with other community programs to help close the loop.
- Add a link to the webpage and Facebook on all outreach collateral.

14. Processing Capacity Analysis

The purpose of this analysis is to evaluate existing capacity for processing recovered materials. The analysis evaluates material recovery facilities (MRFs) in the SWMD and surrounding areas. A MRF is a specialized facility that receives, separates, and prepares recyclable materials for marketing to end-user manufacturers.

a. Evaluation

Table H-16 identifies the MRFs used by the SWMD in 2019.

Table H-16 MRF Processing Capacity

Material Recovery Facility	County	Type of Ownership	Material Streams Processed	Processing Capacity (Tons/Year)
Allied Waste Commercial Cardboard Collection	Logan	Private	Single Material Processor – corrugated cardboard	Unknown
Dayton Glass Plant (Rumpke)	Montgomery	Private	Single Material Processor – glass	299
Logan County Recycling Center	Logan	Public	Dual Stream	3,200
WM Recycling – Columbus	Franklin	Private	Multi-Stream	3

Materials collected through the County's drop-offs and through the curbside recycling programs are sent to the Logan County Recycling Center. The SWMD has 16 drop-offs with dual stream separation for cardboard, paper (including newspaper, other paper, office paper and junk mail), plastic bottles #1 & #2s, scrap aluminum, beverage cans and steel cans, and glass. The SWMD uses a roll-off truck to collect materials from the drop-offs. The costs of the truck are shared between the MRF and the drop-offs.

The SWMD owns the County Recycling Center and manages the operations. Located in Bellefontaine, the Center has 26,700 sq. ft. for processing and storage with an additional 9,000 sq. ft. for office and education space. The center has a basic sorting line, two vertical balers and a forklift with a scale. Materials are sorted manually into dual streams – fiber and commingled – and then baled, stored, and marketed. Glass is removed from the system early in the process through the glass breaker. The facility operates one shift, five days a week.

The labor for the manual sortation is mainly supplied from Logan County Jail's Work Release inmate program, occasionally from the Jobs and Family Services Department. Typically, the jail supplies five people working approximately seven hours a day, but the number can vary from three to eight. The SWMD employs a Supervisor, a Operator and a Lead Sorter. The SWMD also uses a maintenance technician who splits time between the MRF and the drop-off sites.

The County Recycling Center processes between 3,000 to 3,200 tons per year, with an average of 3,053 tons, based on 2015 to 2019 curbside and drop-off data. The 2016 approved Plan found that the labor for the sortation was only intermittently adequate and the "temporary labor force is insufficient and unsustainable". With a temporary labor force, high turnover could make it difficult for the District increase processing capacity.

A planned improvement of \$320,000 for doubling of fiber capacity with improved sorting capability to isolate high-value fiber from expanded programs. The expected result is the capacity to manage growth and is expected to increase fiber receipts. The principal improvement will be a 180- degree reversal of the current direction of the feed and sort lines, from the south, to north, from the Material Receiving Area and completing the sorting nearest to the loading dock. The feed will allow twice current throughput, while allowing the operator the load larger volumes of fiber with fewer interactions. These alterations and upgrades to the Fiber feed-line and sorting line, will allow greater material throughput, inspection; add recovery of sorted office paper (SOP) as a high value commodity. There will also be greater separation of OCC from boxboard; decreasing a component of low value (boxboard/OCC mix) and increasing the higher value, clean OCC. Improvements are scheduled for 2021 into 2022.

Equipment ages. The standard formula for equipment life is 10 years for equipment maintained on a regular maintenance and upkeep schedule. Re-investment is needed and expected throughout the planning period. Funding is being appropriated into a separate long-term environmental fund to plan for capital expenses.

Table H-17 lists the regional facilities MRFs within 50 miles from the Logan County Recycling Center. The facilities are split between publicly and privately owned. The majority are multi-stream or multi-stream and single stream, with only two – Allied Waste Commercial Cardboard Collection and Allen County Recyclers, Inc – that are single stream. As Logan County is centrally located in the near and nearer to larger population centers, Dayton and Columbus, the County has a wider range of processing infrastructure in the region. Within 50 miles there are seven MRFs, not including the Logan County Recycling Center, and within a 100 miles there are an additional eight facilities for a total of 17 MRFs in the greater region. The total processing capacity of the MRFs within 50 miles is roughly 30,000 tons/year (likely due

to some missing data from private MRFs), meaning if the County were to boost participation in recycling programs there should be ample processing capacity available in the region.

Table H-17 Regional MRFs

Facility Name	County	Type of Ownership	Material Streams Processed	Processing Capacity (Tons/Year)	Distance from SWMD Center (Miles)
Allied Waste Commercial Cardboard Collection	Logan	Private	Single Material Stream – cardboard	Unknown	6
Shelby County Recycling Center	Shelby	Public	Multi-Stream	1,900	22
Union Recyclers	Union	Public	Single Stream & Multi-Stream	5,500	27
Allen County Recyclers, Inc	Allen	Private	Single Stream	Unknown	36
SIMS Brothers Inc	Marion	Private	Single Stream & Multi-Stream	19,000	41
Ohio Recycling	Mercer	Private	Multi-Stream	Unknown	44
Auglaize Recycling Center	Auglaize	Public	Multi-Stream	2,600	46

b. Conclusion/Findings

The SWMD has found having a MRF operating in the county provides convenience and infrastructure to address the gaps that exist in residential and commercial recycling. With the number of MRFs in the region it could make sense to explore partnerships to reach economy of scale for some materials and expand material products to include additional plastics or juice cartons.

The Logan County Recycling Center has enough space and supervisory staff to process more material. However, temporary labor for manual sortation continues to be an issue for the MRF. One solution is adding at least one additional SWMD staff to the workforce. In the region, there are ample public and private MRFs that could assist processing in additional material from the County. However, the transportation costs to other MRFs might make this process more challenging.

APPENDIX I CONCLUSIONS, PRIORITIES, AND PROGRAM DESCRIPTIONS

The 2016 Plan was developed to meet the 2009 State Plan goals. To fulfill the directives in Ohio Revised Code Section 3734.50, the SWMD's Plan must demonstrate having strategies and programs in place to address all of the required goals. This 2023 Plan Update is prepared to meet compliance with the 2020 State Plan. Appendix K shows the SWMD's progress to meeting Goal 2 of the 2020 State Plan. In order to obtain approval from Ohio EPA for the solid waste management plan, SWMD must demonstrate being able to achieve either Goal 1 or Goal 2. The SWMD demonstrates Goal 2 by diverting 55%.

This Appendix describes the accomplishments of the strategies/programs and their future direction for the 2023 Plan.

A. Actions and Priorities

The evaluation in Appendix H evaluates the SWMD's performance of strategies/programs in offering and maintaining services as outlined in the 2016 Plan. The process of the evaluation shows whether actual performance is what was expected or desired. If strategies/programs didn't perform as intended or challenges were identified, then suggestions were provided to strengthen programs, improve performance, and/or increase effectiveness.

The bulleted list below identifies potential opportunities, or actions that were found in the evaluation that could be implemented in this 2023 Plan.

1. Potential Actions/Opportunities* (what could be addressed)

Infrastructure Programs/Strategies

- Modify the City of Bellefontaine's pay-as-you-throw trash rates to provide greater economic incentive to recycle.
- Conduct a MRF composition or characterization study to identify the main contaminants and design an outreach campaign.
- Evaluate and update PAYT drop-off variable rates ever so often to keep up with inflation.
- Create and promote a reuse and repair network.
- Work with reuse/thrift stores and other take-back retailers to develop and publish a resource guide for take-back and donating materials.
- Organize and bring stakeholders together to explore food collection and management methods available.
- Connect with other regional or national food recovery organizations such as NRDC or Feeding America.
- Continue to apply for Ohio EPA grants to help businesses expand or implement recycling programs.
- Offer grants to build Class II compost processing infrastructure.
- Continue partnerships like the GoZERO partnership, with nearby compost processing facilities to pilot food waste drop-off programs.

- Exploring policies and economic incentives to boost food waste reduction in the institutional and commercial sectors (e.g. making grants available for large institutions to install fridges to preserve donated food longer).
- Improving infrastructure around collection, processing and end markets for compost.
- Expand access to harder to recycle plastics.
- Continue to explore technologies like small foam densifying machines that allow for municipalities and business to compact and recycle foam.
- Explore whether the grant funding is adequate to fill in infrastructure and program gaps, such as support for commercial and industrial recycling efforts, end market development or composting expansion.
- Conduct study to determine if waste is mis-identified.
- Consider PAYT drop-off bag price increase to incentivize behavior change.
- Conduct a study to identify mis-identified and/or mis-characterized waste.
- Work regionally on food rescue, bank and donation programs. Food rescue is the highest tier on the EPA's food waste hierarchy. The SWMD could help bring together local and regional non-profits, SWMDs and other partners to discuss building a better food redistribution network.
- Continue to collect and monitor data to determine if costs of organics collection is preventing the expansion of organics composting.
- The SWMD could consider adding on online capability for completing the data survey, such as JotForm or another platform. This type of capability will provide more convenience to those completing the survey, plus compiles the data for the SWMD
- Post card reminder mailings for data surveys keep administrative costs lower and return comparable response rates.
- Phone follow-up efforts are needed to return data survey responses.
- Another outreach element and touch point is educating and advertising the total diversion rate after the data survey process. This lets businesses know their data contributes to the success of the SWMD surpassing Ohio EPA goals.
- Add at least one additional SWMD staff to the MRF workforce.

Education Program/Strategies

- Reconcile data lists of scrap yards, buybacks and take-back retailers, as well as other collection points for materials such as batteries, used oil, etc. on the District's website for residents to be able to use.
- Encourage support of reuse and thrift stores.
- Enhance education to address waste minimization for residents and businesses and promote on the website and social media.
- Provide educational support to residents and businesses with large amounts of donatable food
- Targeting material specific campaign for paper and cardboard.
- Explore private sector partnerships and funding.
- Promoting Ohio EPA's Material Marketplace.
- Increase education specifically targeting cardboard and paper diversion.
- Increase signage at County government.
- Provide frequent school custodian training on recycling.
- Develop a masters recycler program to help expand the message to divert materials.
- Assign school and office ambassadors to champion diversion.

- Boost outreach and education around backyard composting, smart landscaping, grass-cycling, and leaf mulching or mowing in place.
- Work with the communities with compost facilities to make sure residents are informed about the program offering/services.
- Working with grocery stores and markets to develop campaigns focused on reducing waste of 'imperfect' produce and increasing food donation.
- Becoming a resource conduit for donation liability and tax incentive information.
- Coordinating with government (local, state, federal), business, industry, institutional and / or non-governmental entities to research and implement food waste reduction programs.
- Partnering with local farms to evaluate opportunities for waste reduction and small localized food scrap composting.
- Serving as a resource and advocate on donation storage and handling.
- Developing consumer education campaigns (topics could include home composting, food waste prevention awareness, what can be donated to local food banks etc.).
- Focus education around increasing the recycling of plastics.
- Consider looking at the contamination in the drop-off and curbside programs and targeting those mostly commonly incorrectly recycled materials and making campaigns out of them.
- Focus on education and resources for the commercial sector to expand their plastic film recycling.
- Additional education and advertisements of SWMD available grant resources.
- Conduct a brief survey to the business sectors to ascertain their awareness of SWMD programs.
- Inform the public to dangers and risk of common households hazardous wastes.
- Educate on using less-harmful ingredients and more environmentally friendly products.
- List other outlets available for other difficult to manage waste such as: chargeable batteries, lead-acid batteries, tires, prescriptions, smoke alarms, used motor oil, cell phones and electronics.
- Increase education resources on reduce and recycle, the first two waste management hierarchy.
- The SWMD has power to collaborate with MRFs to process additional materials thereby diverting more waste from the landfill. A key component in the region is lack of #3-#7 plastics processors. The SWMD could look to develop a regional stakeholder group to explore and attract processors to the region.
- Discuss food waste processing capacity with neighboring county infrastructure to support programs in the District.
- Focus strategies to promote source reduction as well as on-site/backyard composting options.
- Another option is to develop a regional stakeholder group to explore and attract organic processors to the region. There are successful models for public private partnerships in organic management.
- Marketing campaigns that use different media and platforms help ensure the messages reach various audiences. Such as:
 - A house-to-house approach utilizing residential billing stuffers.
 - Online flyer samples provided to each political jurisdiction to customize their residential recycling program contact information details to clarify what is and is not recyclable.
 - Facebook Live videos are a great avenue for low-budget informal videos. Despite its name "live" videos are available on Facebook after their live publication thereby expanding the Facebook audience size or awareness of events.
- Promotional campaigns such as "Get Caught Recycling", which catches a resident in the act of recycling and awards the behavior with a small prize is used by other SWMD's. This positively

promotes recycling, allows the SWMD a chance to connect one-on-one with residents, reinforces the right way to recycle and promotes social influence.

- Branding through the SWMD's programs could be expanded into other promotional items (t-shirts, pencils, re-usable shopping bags, etc.).
- Outreach to multi-family housing landlords and property management companies to help establish or improve multi-family housing recycling programs.
- Consider Master Recyclers. In Master Recycler training citizens can learn about recycling and sustainability. These individuals have taken extra care to receive this certification. A more formalized volunteer program will give a strong foundation and expectations for volunteers. Regular weekly tours could be scheduled and led by volunteers. The formalized program once developed could become a peer-to-peer training volunteer training program to ease the burden on current staff.
- Provide training to commercial business employees to reinforce good recycling habits.
- Conduct workshops on various topics to various audience sectors.
- Perform waste audits and provide resources for self-conducting waste-audits on the webpage.
- Offer reduction tips on social media and the webpage.
- Present or speak at community/business meetings.
- Connect community programs with other community programs to help close the loop.
- Add a link to the webpage and Facebook on all outreach collateral.

*The areas of improvement do not commit the SWMD to undertake every specific action. To help the SWMD determine priority areas for actions, the SWMD staff engaged in a strategy session. Through this session a broad goal to achieve greater to reduce the disposal rate and strengthen sustainable programs lessen the dependency on drop-off recycling by enhancing curbside recycling was established. With this goal in mind, strategies and actions to accomplish this goal were discussed, identified, and prioritized.

2. Priorities

While the residential/commercial recycling rate averaged 55%, the SWMD's waste management system demonstrated a 3% annual increase in disposal from 2015 to 2019, which is a higher rate than the less than half percent population grew. With the disposal rate trending higher than population growth, the SWMD is targeting priorities to reduce the landfill disposal.

There are several outreach and education actions that could be implemented in this 2023 Plan. Outreach and education are critical to a recycling program's success. Strategic communications campaigns provide the most powerful results in creating behavior change. Best practices include education campaigns that are simple and engaging with regular consistent messaging across multimedia platforms. Investments should be made in expanded communication programs to target groups and ensure diversion efforts succeed.

Priority areas to focus efforts in the 2023 Plan include:

Priority Program	Priority Area
Food Scrap Drop-off	Diverting food waste from landfill
PAYT Drop-off	Bag fee rate increases
Commercial and Industrial Business Surveys	Collecting data

Community Curbside Grant Assistance	Grant per household financial assistance to communities implementing curbside recycling.
MRF	MRF capital improvements to improve processing – better sorting to attract end markets and higher commodity pricing
Organics Initiatives	Cover crops project is a test method for building up soil, so more water can be absorbed/recycled. It's quicker and makes use of what is available for community to get better yields and save money.

Additionally the Policy Committee will conduct their annual meeting in October to review the ADR, spending income in previous year and year to date spending and income.

B. Programs

11. Residential Recycling Programs

ID	Name	Start Date	End Date	Goal
Non-Subscription Curbside				
NSC1	Bellefontaine City PAYT/Curbside Recycling	ongoing	ongoing	1 and 2

The City of Bellefontaine offers an option based PAYT/curbside recycling program serviced by the private sector. Residents in the City of Bellefontaine must subscribe to one of the available option services for the PAYT program (seven options were available in 2019). Residents may use the City authorized blue trash bag, a regulation size purchased container, or lease a 90-gallon container. Residents choosing the smaller waste disposal options pay lower monthly collection fees. Fixed component fees are included on utility bills.

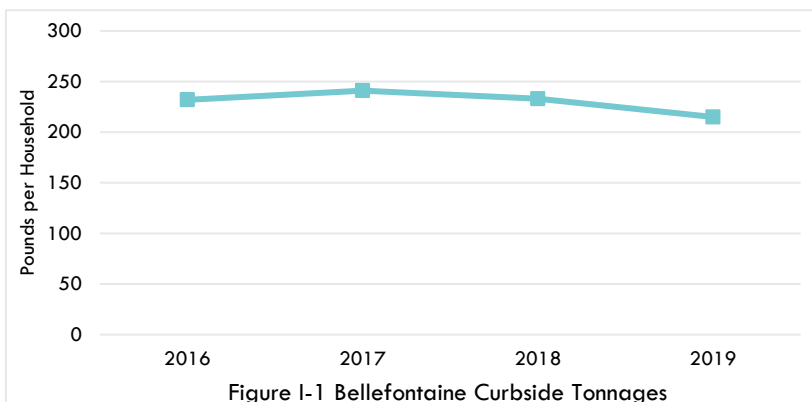
Mixed paper includes newspaper, magazines, glossy inserts, junkmail, chipboard, and paper. Commingled recyclables include glass (clear, brown, and green), plastics, aluminum cans, bi-metal cans, steel cans, and cartons. Bellefontaine's hauler uses RecycleBank, an online tracking and reward system residents have the opportunity to participate in. Once residents sign up they earn points for recycling, points are then turned into local deals, donations or other savings.

Recycling bins are provided by the City and can be picked up at the city Utility Office. Waste disposal and recycling collection services are provided weekly. In 2019, Republic Services provided the curbside and waste disposal service through a contract with the City of Bellefontaine. The number of households served by this program varies from month-to-month but covers approximately 4,600 homes (the reported number of single-family households that receive service). Apartments are served if they can be serviced like a single-family home (no high-density apartments with dumpsters for trash). The table below tracks tonnage and participation from 2016 through 2019.

Year	Tons	Households ¹
2016	579	4,972
2017	600	4,972
2018	580	4,972
2019	535	4,972

¹Includes Lake Township households

The District and City had several meetings in 2016 to discuss progress and barriers to success of PAYT / curbside recycling program, community and contractor compliance inspections, and survey results indicating supplemental use of drop-offs. PAYT rate increases are a regular component of incentivizing recycling. However, progress (in terms of increased tons) is relatively short-lived. One identified barrier is that not all households have two recycling bins to support the dual collection – one for paper and one for commingled.



Target for Next 5 Years: The SWMD will assist the City of Bellefontaine in negotiating their collection contract with their service provider. Goals include providing every household with at least two recycling bins per household and increasing the bin size to hold more material. The SWMD will strive to "break-through" with the low-income neighborhoods/community which has historically been the lowest participation. Incentives to recycle through rate setting will continue to be a meeting focus with the District, the City, and their contracted provider.

ID	Name	Start Date	End Date	Goal
Non-Subscription Curbside				
NSC2	Lake Township PAYT/Curbside Recycling	ongoing	ongoing	1 and 2

Lake Township offers an option based PAYT/curbside recycling program serviced by the private sector. This is a community-based program where the Township contracts for waste collection services with a hauler on behalf of the resident leaving no other options for waste collection service to Lake Township residents. Residents may use the City authorized tan trash bags. Lake Township uses the host fee to subsidize the fixed component of service.

Recyclables are collected using a two-bin system (one for paper, one for commingled). Mixed paper includes newspaper, magazines, glossy inserts, junkmail, chipboard, and paper. Commingled recyclables include glass (clear, brown, and green), plastics, aluminum cans, bi-metal cans, steel cans, and cartons.

The township is undergoing a full reconciliation of service addresses. The gap between official lists and service addresses is substantial. To date, more than 100 addresses have been added to the service and education program.

Target for Next 5 Years: Incentives to recycle through rate setting will be a meeting focus with the SWMD, the Township and their contracted provider.

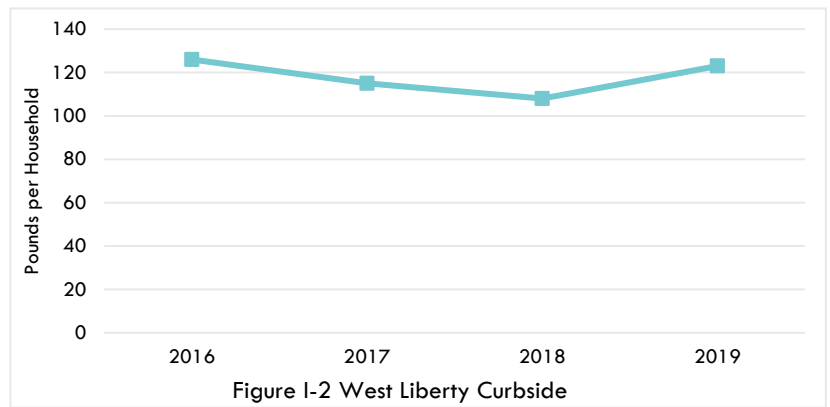
ID	Name	Start Date	End Date	Goal
Non-Subscription Curbside				
NSC3	West Liberty PAYT/Curbside Recycling	ongoing	ongoing	1 and 2

The Village of West Liberty offers an option based PAYT/curbside recycling program serviced by the Village. In 2017, the Village switched to away from options and moved to all PAYT bags. Residents may use the Village authorized orange trash bags only. Bags costs in 2019 will increase slightly in 2020 to \$1.50 for large (32 gallon)

and \$1.00 for small (13 gallon) (Prices as of March 2020). The base rate for service for each residential property is \$13 per month and includes a fee for curbside recycling. Fixed component fees are included on utility bills.

Recyclables are collected using a two-bin system (one for paper, one for commingled). Mixed paper includes newspaper, magazines, glossy inserts, junkmail, chipboard, and paper.

Commingled recyclables include glass (clear, brown, and green), plastics, aluminum cans, bi-metal cans, steel cans, and cartons.



Year	Tons	Households
2016	126	736
2017	115	736
2018	108	736
2019	123	736

¹Based on number of households that have a bin.

Target for Next 5 Years: Incentives to recycle through rate setting will continue to be a focus of meeting with the District, the Village and their contracted provider.

ID	Name	Start Date	End Date	Goal
Full-Time Urban Drop				
FTU1	Bellefontaine PAYT Drop-off (Campbell Hill)	ongoing	ongoing	1 and 2
FTU2	Bellefontaine PAYT Drop-off	ongoing	ongoing	1 and 2
ID	Name	Start Date	End Date	Goal
Full-Time Rural Drop-off				
FTR1	North Side (Stokes Twp) PAYT Drop-off	ongoing	ongoing	1 and 2
FTR2	Belle Center Village PAYT Drop-off (Richland Twp)	ongoing	ongoing	1 and 2
FTR3	DeGraff Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR4	East Liberty PAYT Drop-off	ongoing	ongoing	1 and 2
FTR5	Huntsville Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR6	Lakeview Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR7	Middleburg PAYT Drop-off (Zane Township)	ongoing	ongoing	1 and 2
FTR8	Moundwood PAYT Drop-off (Washington Twp)	ongoing	ongoing	1 and 2
FTR9	Quincy Village PAYT Drop-off	ongoing	ongoing	1 and 2

ID	Name	Start Date	End Date	Goal
FTR10	Rushsylvania Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR11	Russells Point PAYT Drop-off	ongoing	ongoing	1 and 2
FTR12	West Liberty Village PAYT Drop-off	ongoing	ongoing	1 and 2
FTR13	West Mansfield PAYT Drop-off (Bokescreek Twp)	ongoing	ongoing	1 and 2
FTR14	Zanesfield (Jefferson Township) PAYT Drop-off	ongoing	ongoing	1 and 2

In

2006, the District developed a plan to provide drop-off recycling locations that were convenient, easy to use, pleasant to visit, available 24/7, and included the concept of PAYT. In 2007, the first “model” drop-off recycling center was constructed and opened. Construction included underground conduit, utility poles, concrete improvements, a small shed, fencing, landscaping, lights, and video surveillance cameras. Each drop-off site has at least three 33-yard roll-offs for recyclables, 8-yard roll-offs for trash (number of containers varies per site), and a bag vending system (housed in the shed). The District owns the containers and equipment to service and process recyclables collected.

Residents drop-off recyclable materials and trash in the appropriate well-marked containers. Anyone using the drop-off sites for trash disposal must use the green colored PAYT bags that can be purchased at the on-site vending machine or at select retail locations in the County. User fees are charged for trash bags only. PAYT drop-off bag prices have not been raised since 2013 costing \$2.50 each.

Materials accepted are cardboard, mixed paper, and commingled recyclables. Separate containers are provided for the three collection streams. Mixed paper includes: newspaper, magazines, glossy inserts, junkmail, chipboard, and paper. Commingled recyclables include: glass (clear, brown, and green), plastics #1 and #2, aluminum cans, bi-metal cans, steel cans, and cartons. Household batteries are placed in separate material slots at the shed. Plastic film is only accepted at the Bellefontaine (1100 S Detroit) location.

Each of the drop-off recycling centers had a “monitor” who quietly supervised their particular center. Monitors visited the site three times a week, before and after each weekend and one more time during the week. Each monitor checked the recycling containers to report on capacity, vending machines, PAYT trash containers, and the general site conditions (illegal dumping, loose litter, a light that isn’t working, etc.) After each visit the monitor logs onto the internet and filed a report on a special webpage. The information is downloaded instantly to the District’s database. Changes to operations allows for SWMD staff to be at a drop-off location daily, therefore allowing less reliance on the site monitors. As site monitors quit or move on, the SWMD is not finding new monitors. In 2020, only 4 site monitors were in-tact.

The District funds, negotiates all collection and processing contracts, coordinates between the participating villages and haulers, and provides education through publications, pamphlets and flyers along with promotional items.

Initial operational challenges included: changing needs with seasons and tourism, determining what containers and how many were needed, and holiday schedules. Plastic film (plastic bags) collection was problematic consuming about a third of labor time to service the containers that filled up and overflowed regularly. Illegal dumping and contamination were other issues.

In 2017, tonnages collected increased from 2016. In 2017, the District made improvements to the efficiencies of single-use bag collections which resulted in increased diversions. Also, a summer intern conducted site surveys, showing a need to focus on education and service access for the younger demographic and income challenged

portions of the local economy. As a result, the District hired a Public Relations firm. One site floods frequently resulting in repeated damage and replacement of electrical and monitoring equipment. An analysis showed the cost-benefit of the location does not warrant moving this location at this time.

Additional tonnage increases were recorded in 2018. Other program modifications include: ordering a new prototype vending machine, renovating/replacing/improving security, and increasing enforcement activity. PAYT bag sales data showed increases. The three-year planning effort for drawstring PAYT bags largely faltered due to continued manufacturing problems. Despite these problems, the community likes the concept.

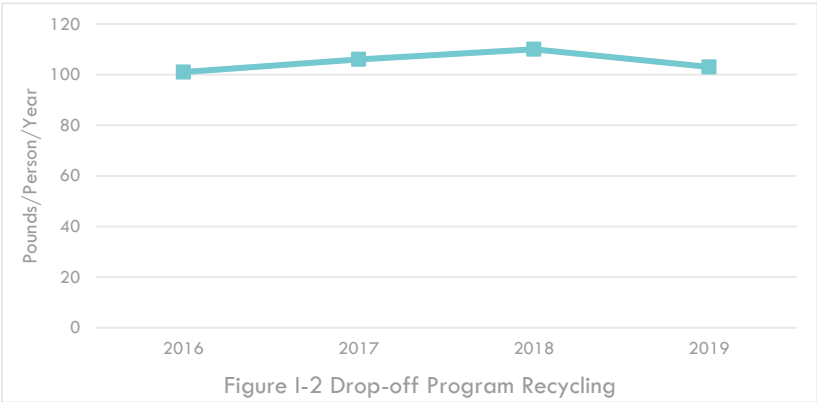
In 2019, PAYT bag sales increased significantly even though tonnages dipped slightly. PAYT bag fee increases scheduled for the year were delayed due to the increased usage. The District briefly considered the remaining issue of sustainability, not yet addressed: energy efficiency. A review of energy consumption, fixed and variable costs, and alternative technologies was completed of the drop-off sites. There is no final report to present but conclusions and recommendations suggest installing solar adequate to grid-tied to power the site on an average basis (excess during the day and consumption at night). This project is pending the installer.

On average approximately 104 pounds per person are being recycled through the drop-off recycling centers. This calculation was determined from the number of persons per community and the average tonnage recycled from 2016 through 2019.

Target for Next 5 Years: With the increasing residential/commercial disposal rate the SWMD is planning to create tiered bag fee increases throughout this 2023 Plan to continue encouraging diversion. In addition, the SWMD will introduce a minibag option to further incentivize source reduction and recycling. The minibag, expected to be introduced in 2023, is subject to manufacturing constraints. The actual introduction may be sooner or later but will not be later than 2024. Minibag rates are not expected to impact revenues as the cost/gallon of disposal will remain relatively constant.

12. Commercial/Institutional and Industrial Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
Fiber Collection – Commercial & Institutional Recycling Assistance	1999	Ongoing	1 and 2



The largest generated material at the schools is the fiber stream (paper and cardboard). To divert this material at schools the District devised a program to provide collection and processing services. Schools are provided trailers, desk side baskets, and classroom containers to collect paper and cardboard. Each school administrator is provided a 7-gallon desk side basket and each classroom a 14 gallon container. Toters – size and type depend on what services the schools best

need – to assist maintenance, custodians, students in moving recyclables are also provided. The District also operates a collection route to haul the recyclables to the MRF.

The District assists commercial businesses in their recycling efforts by identifying available haulers offering services. When connections are made, businesses negotiate directly with haulers for services with the District offering contract assistance if needed. To encourage commercial businesses to contract with private haulers to recycle fiber materials, especially cardboard, an encouragement was provided in the form of a rebate to the hauler. When market conditions are favorable, rebates are paid to entities with viable quantities of valuable material (OCC and SOP). Rebates are paid based on a formula that factors condition of material, current market values for commodities, and a per ton administration fee. When the result is positive, rebates are paid. When negative, the SWMD evaluates on a case-by-case basis if a loss is accepted. Recently (COVID and recession), the loss was accepted.

The purpose of this type of economic incentive helps to encourage a self-motivated system where haulers actively pursue customer accounts alleviating most of District outreach/involvement.

County government office buildings are provided containers, collection and processing by the District. Fiber stream is the main target, but a small amount of plastic and aluminum beverage containers are accepted. Number of bins needed at each location is determined by the amount of generated material and the amount of space available. To date user fees were not charged for this service. The District's equipment is not conducive for collecting at office buildings and thus has impeded expanding this to other offices. Ideally private sector haulers would agree to service this route and expand to include other offices in the County.

In 2017, the District reviewed new directions and configuration of office and school programs. Improvements were made to the cardboard route.

Information for businesses to contact the SWMD is located on the website. The SWMD outreach is one-on-one to those already being serviced.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Agricultural Community Assistance</i>	1998	Ongoing	4

The District has a relationship with the Co-op Extension office, Soil and Water Conservation District and Farm Bureau to assist with recycling services to the agricultural community on an as needed basis. The District assists the agricultural community by directing oil and chemicals to appropriate outlets for proper handling. Through the United States Department of Agriculture – Natural Resources Conservation Service – Conservation LaSecurity Program (CSP) farmers are given annual payments for recycling all farm lubricants during the year providing they show proof (receipts or equivalent) of lubricants brought onto the farm and proof of recycling. The District's role is to provide education so that farmers can receive payment from CSP.

The agricultural community preferred to keep its relationship with the District informal, preferring to receive assistance from the District, as it is needed rather than relying on regular programming. The Co-op Extension office is housed at the District offices. Assistance is provided at the fair.

Target for Next 5 Years: Environmental Sustainability - Cover Crops - Our general goal is sustainable waste management for all sectors of the economy. There are four "pillars" of sustainability:

1. **human** (education; skill development; full access to services),
2. **social** (quality of life; equitable distribution of services)
3. **economic** (quality of growth; invest/maintain capital over time).

4. **environmental** (protect natural capital e.g., land, air, water, minerals etc.).

This initiative ensures that the needs of the population are met with minimal risk of compromising the needs of future generations. District activities have a significant carbon cost, adding measurable harm to otherwise beneficial District activities. This consumption of energy to operate department programs and pursue goals requires balance/offsets to ensure that future generations will not be excessively burdened for our immediate benefit.

Environmental sustainability will be achieved in a combination of programs:

1. Reduced fossil fuel consumption (per ton of diversions), such as
 - a. Reducing winter consumption for heat in the MRF
 - b. Adding solar panels to drop-sites to increase use of green energy
 - c. Cover crop initiatives to sequester carbon in the soil, demonstrating to the agricultural community that many benefits are derived from collaborating with the environment rather than competing.

The SWMD is committing to 3 years at \$18,000 annually. The program costs will cover sampling and education costs. Through the process other funding agencies will be solicited.

13. Industrial Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
<i>Industrial Committee</i>	2005	Ongoing	4 and 5

Within Keep Logan County Beautiful, KLCB, an industrial group known as Keep Logan County Clean was organized for industrial businesses or representatives to discuss how the District could meet industry needs and how industrial generators can help the District achieve its goals and to share information on industrial recycling progress, new technologies, new resources, etc.

The SWMD leans on KLCB as the main outreach to the industrial sector. From 2016 to 2021, there have been no meetings or engagement which limits the education and connections to the industrial sector. The disconnect is due to lack of a formal program.

Target for Next 5 Years: The SWMD will work with KLCB and the new part-time outreach specialist to develop a formal program to re-engage this sector. Manufacturing is a principal industry in Logan County making up about 29% of the area's employment. This sector will often produce a significant amount of pre-and-post-consumer waste with a great potential for recycling. Many companies realize the cost-saving potential for recycling items like cardboard, fibers, scrap metal and other items that could be disposed. The target audience could be engaged in a variety of ways in the future to divert and recycle more items.

At this time, the emphasis on this target audience is to encourage the completion of the industrial surveys. The initial challenge the new part-time outreach specialist will be tasked with is to develop an outreach contact database and personally invite contacts to the industrial committee meetings. The SWMD envisions 3 meetings a year with the first year focused on exploring barriers to complete the annual surveys and collaborate on methods to streamline the survey.

Topics for follow up years will include:

- Exploring private sector partnerships and funding.
- Promoting Ohio EPA's Material Marketplace.
- Increasing education specifically targeting cardboard and paper diversion.

14. Restricted/Difficult to Manage Wastes

Name	Start Date	End Date	Goal
CHaRM (Center for Hard to Recycle Materials)	2008	Ongoing	4 and 5

CHaRM is a collection drop-off for hard to recycle materials. Residents may bring acceptable materials to the building marked CHaRM where materials are unloaded from vehicles and weighed in the covered drive thru building. The SWMD uses outside labor sources and partnerships. User fees may apply. The District reserves the right to charge any fees and fluctuate fees based on materials, markets, or management methods. CHARM services change year to year with the changing needs of society and the costs involved in providing these services. User fees and hours of operation are available on the District's website, print media, radio, and social media platforms.



	2015	2016	2017	2018	2019
Cars	387	340	382	346	Not available
Cost	\$13,000	\$31,452	\$42,204	\$33,583	\$34,066
Total Pounds	9,553	9,551	11,700	9,864	98,668

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
HHW Education	1994	Ongoing	6

The District provides technical support, awareness, and education on household hazardous wastes. HHW education and awareness is provided to the residents through the District's website. Website identifies materials accepted at CHaRM and directs residents to use CHaRM for HHW materials. On average, approximately six phone calls per week are fielded about HHW materials with more in the spring, summer and fall and fewer in the winter.

Target for Next 5 Years: The SWMD website and social media will be boosted to:

- Inform the public to dangers and risk of common households hazardous wastes.
- Educate on using less-harmful ingredients and more environmentally friendly products.
- Increase education resources on reduce and recycle, the first two waste management hierarchy.

Name	Start Date	End Date	Goal
Lead Acid Battery Strategy	1990	Ongoing	6

The District directs residents to proper outlets for managing lead-acid batteries properly. Outlets include retailers take back programs, auto service centers (repair and maintenance), and CHaRM. Proper management guidance is located on the website as well as communicated to phone inquiries.

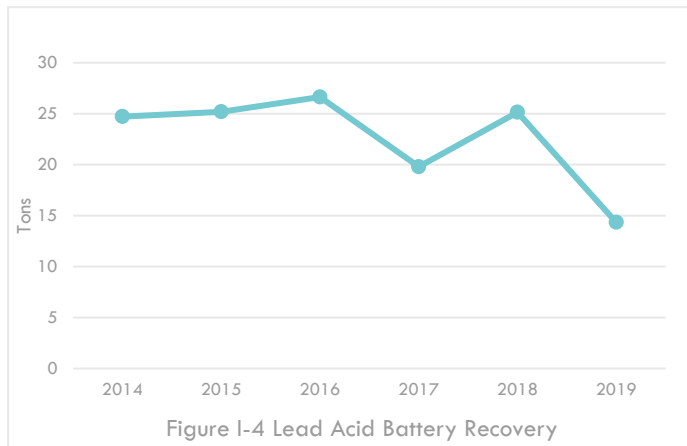
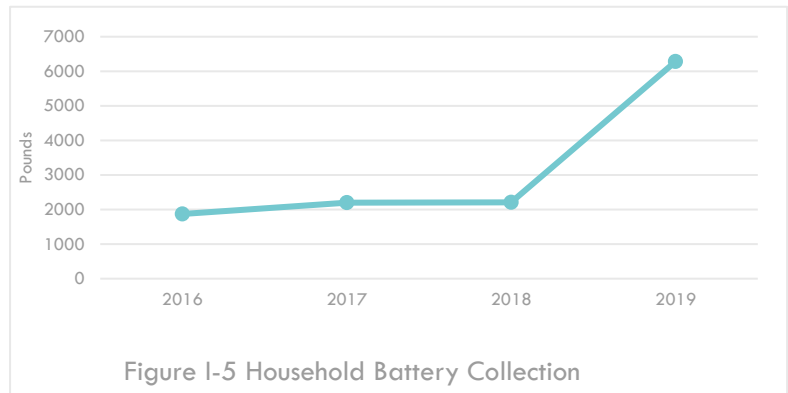


Figure I-4 shows lead-acid battery recovery measured through the District survey efforts and collected through CHaRM. The data reflects decreases in 2017 and 2019 which is attributable to lack of reporting from surveyed businesses. Prior to 2008, when the law prohibiting disposal of lead-acid batteries in solid waste or hazardous waste landfills and requiring retailers to take back batteries went into effect, reported battery recycling measured over 100 tons. Since then the total tons of batteries recovered decreased to a rough average of 23 tons. With the law in effect the District expected an increase in reported tonnages or at least sustained levels.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Household Battery Collection</i>	1998	Ongoing	6

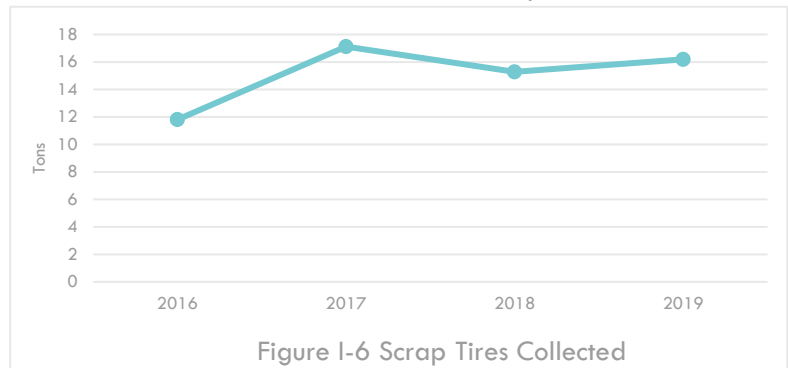
Household batteries such as AA, AAA, C, D, button batteries, and 9-volt batteries can all be dropped off at any one of the drop-off recycling centers. Each shed at the drop-off recycling centers has a special door next to the vending machine with a sign, "Battery Drop". No user fees are charged for residents recycling batteries. This program provides an easy and cost-effective method for residents to properly dispose of batteries. Collected batteries are weighed, packaged in buckets, and shipped to a battery recycler, which is labor intensive on the SWMD. Overall this is a costly program to manage.



Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Waste Tire Management Program</i>	1993	Ongoing	6

The District accepts scrap tires from residents at CHaRM. User fees are assessed. In addition, private businesses and processors provide alternative outlets for scrap tires at a nominal fee. A service provided by the District to the County is location and servicing of a drop-box for scrap tires at the County Engineer's office for use only by engineers.



Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Yard Waste Infrastructure</i>	Ongoing	Ongoing	6

Infrastructure available for yard waste management is not funded by the District. Infrastructure is a combination of private and public facilities and collection operations. The District is available and serves the role to consult with the known facilities and services for technical support and strategic assistance. Known facilities, services and management strategies in the District are described below:

- Bellefontaine City Yard Waste Management
 - City of Bellefontaine operates two Class IV compost facilities. One is located at North County Road 32 (registered 2009) the other is 600 S Troy Road (registered in 2015). The City provides residents with curbside collection of leaves only on a seasonal basis. The collection duration lasts until all the leaves are collected; approximately two to three weeks in the fall each year. Collected leaves are land applied.
- Cherokee Run Compost Facility
 - A private operated facility open to all residents and businesses for yard waste diversion. Hours of operation coincide with landfill operating hours. Fees are assessed for materials dropped off.
- DeGraff Village Leaf Collection
 - The Village collects leaves in the fall for a set period of time. Collected leaves are given to a local dairy farmer for bedding. The Village also offers a spring cleanup to pick up storm damage tree limbs or branches. When brush is collected the village contracts a chipper and hauls away the mulch.
- Quincy Village Compost Facility
 - The services department clears any storm damage debris, cleans the streets and offers curbside leaf collection during the fall. Collected leaves are land applied. The Village operates a small Class IV compost facility, which was not available to the residents.
- West Liberty Village Curbside Yard Waste Collection and Compost Facility

- The Village collects yard debris one day a week and leaves during the fall. The compost facility is for village use only and unavailable to the public.
- New Day Farms
 - Private operated Class III facility unavailable to the public.
- Hauler/Grocer Food Waste
 - Private operations reporting data to Ohio EPA.

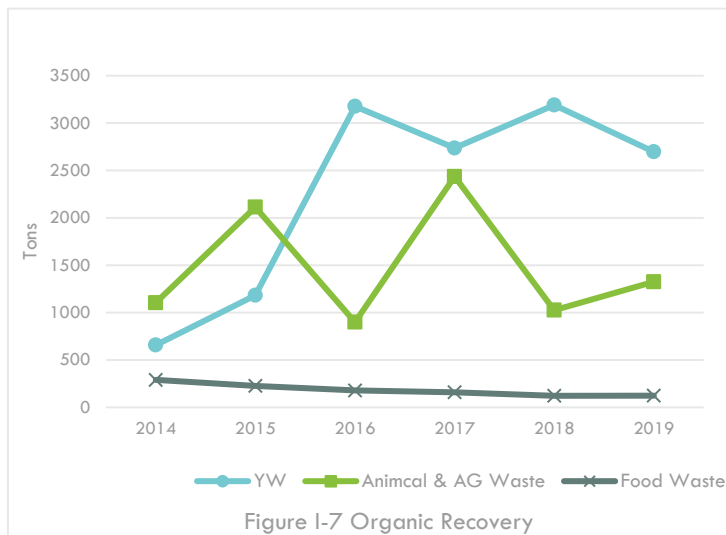


Figure I-7 depicts organics recovery in the District. Education and better reporting has led to increased tonnages in yard waste recovery.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
Organics Initiatives	2016	Ongoing	6

With yard waste comprising about 14% of the waste stream, the District designed this program to explore gaps. The first initiative concentrates efforts to expand marketing of compost, followed by more exploration into alternative yard waste management strategies and food waste composting.

- 1) Market Expansion of Compost: Product quality, volume produced, size of market, distance to market, perceived value and competition all influence the value of compost. The District focused on perceived value – education, to improve market expansion. Website blog articles and Facebook education efforts focused on benefits of composting.
- 2) Yard Waste Management Alternatives: The District explored the existing infrastructure for capacity finding little to no interest in expanding operations. Conversations with the County Commissioners explored property ownership and public private partnership arrangements to develop additional infrastructure. External challenges and obstacles prevented this type of arrangement to advance.
- 3) Food Waste Management Alternatives: Food donation, food rescue, and various technologies are a few strategies the District intended to explore. Timing of other programs and strategies resulted in no organized plans to explore these alternatives.

Target for Next 5 Years: No infrastructure is anticipated in the next planning cycle. Additional strategies to implement to encourage market expansion of compost:

- Boots on the ground initiative to work with the current compost facilities and their practices to encourage (if not already doing so) to create a soil rich amendment rather than mulch.
- Working with County Engineer and parks division departments to include the use of compost in projects to help drive demand.

Name	Start Date	End Date	Goal
Food Scrap Drop-off Program	2021	Ongoing	6 and 2

The SWMD is developing a food scrap drop-off demonstration project to begin in 2021 with one site. The first site will start with 2 containers with plans to grow to 5 containers before additional sites are added. The SWMD has arranged an MOU with Olive Tree to service and process GO ZERO food scrap containers. The first two containers will be open to 40 users. Users must register for access to compost and deliver their compost to the location. The plan in the budget allows for growth to 9 sites with an average of 5 containers per site. A potential barrier that could impeded success are vectors and other nuisances. The SWMD will work closely with the Health Department to implement and help monitor the program.

Conversations between the SWMD and the service provider direct the compost to out-of-district processing outlets.

Registered users will be provided with a packet of information for how to properly use the compost container. Once registered the site location will be revealed. The promotion, education, and outreach for this will be developed as the outreach priority for the 2023 Plan (see Appendix L).

15. Funding/Grants/Economic Incentives/Market Development

Name	Start Date	End Date	Goal
<i>Grant Subsidies Program</i>	1993	Ongoing	7 and 9

The District may provide one-time funding in the form of grant subsidies to governmental entities for purchase of materials or items made from recycled materials. Funding is limited and is solely dependent on monies leftover from regular budget items. From 2016 to 2020 no special recycling projects or zero waste events were provided funding from the District.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Market Development Projects</i>	1996	Ongoing	7 and 9

The District may give funding to various agencies for approved market development projects. The funding provided is to be administered strictly at the Board of Director's discretion. To maintain appropriate funds to approved projects requesting 50% funding or less. This is a program with enormous potential for abuse. Therefore, the District did not advertise or promote this program. The District provided a small line item to authorize **very limited** activity in this area. From 2016 to 2020, no programs or initiatives were funded.

Target for Next 5 Years: Continuing, however, no budget is planned for this program. Any funds disbursed will be unused funds after regular budget items are disbursed.

Name	Start Date	End Date	Goal
<i>Program Improvements/Revisions</i>	2006	Ongoing	7 and 9

Consulting with the community, the Board of Directors determines on an annual basis how to best spend the available allocation to implement new or improved programs. Allocations are likely to change from year to year and may be made in any proportion deemed most promising, based on real opportunities to improve diversions. Likely uses include: grants or allocations to study or pilot program improvements, capital improvements at facilities to increase diversions, and community incentive programs (rewards/rebates).

All interested parties may seek these funds. Project specific grants will be awarded based on projected audience size and improved participation and/or tons diverted. All grant applications will be required to project these achievements. Awards will require reporting on actual achievements in terms of surveyed improvements in participation or empirical estimates of increased diversion or decreased violations. With the explicit exception of community incentives (rewards/rebates), these funds will not be used to offset existing program operational expenses. The intent is to propel programs towards the next level of recycling. Examples of improvements include: public space recycling; multi-family housing programs; organic collections or programs; glass restaurant recycling, development of recyclable collection points for businesses, restaurants and offices; replacement curbside bins with multi-colored bins to better separate recyclables and improve participation; and development of a curbside inspection program to improve program compliance.

The District reserves the right to reduce funding this program should the District experience a decrease in revenues at anytime during the planning period.

Target for Next 5 Years: Continuing. Any funds disbursed will be unused funds after regular budget items are disbursed.

Name	Start Date	End Date	Goal
<i>PAYT Incentive Program</i>	2006	Ongoing	7 and 9

The PAYT Rebate Program is an incentive program for PAYT Recycling Centers. The SWMD provides monetary incentive funds to an eligible community based on the weight of residential recyclable material collected through the community's PAYT Recycling Center program. This monetary incentive is paid for with SWMD funds and is distributed during the first quarter of the year. The SWMD emphasizes using the rebate money to encourage residents to recycle more, through educational and promotional efforts and/or incentive programs such as giving gift certificates to residents who recycle.

Community recycling incentives are a way to give back to the host communities and helps to promote a favorable opinion of the recycling centers. The monetary incentives motivate recycling efforts and encourage residents to keep their recycling close to where they live. Because the commodity markets are so unpredictable, community recycling incentives are never guaranteed.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Community Curbside Grant Assistance</i>	2021	Ongoing	7 and 9

Community Curbside Grant Assistance is an incentive program for communities implementing curbside recycling programs. The SWMD is estimating budgeting to provide monetary incentive funds based on \$2 per household for trash collection and \$2 per household for curbside recycling to an eligible community. This is not an entitlement but a method of estimating appropriations.

This monetary incentive is paid for with SWMD funds and is distributed during the year. The SWMD emphasizes using the rebate money to encourage residents to recycle more, through educational and promotional efforts and/or incentive programs such as giving gift certificates to residents who recycle.

Because the commodity markets are so unpredictable, curbside grant assistance are never guaranteed.

16. Feasibility Studies

Name	Start Date	End Date	Goal
<i>Waste Generation Rate Study</i>	2016	Ongoing	none

Investigating high waste generation rates (it is a possibility as much as 20,000 tons of waste disposal may be misreported as Logan County waste) was slated for implementation in the short-term (2016-2018). This study was not conducted due to unforeseen challenges requiring more attention from District staff during this time. Depressed markets in commodity prices led to pressing changes and modifications of MRF operations and more enforcement attention at drop-off sites. This also directed focused attention on education efforts. Then, COVID-19 resulted in additional operation modifications to respond to the pandemic.

Target for Next 5 Years: The cause is commonly believed to be a combination of mis-reporting waste origin to avoid other district's fees and the broad categories used by landfills, which differs from planners. Planners call residential and commercial waste "MSW" whereas landfill categorize all non-exempt waste and all waste from industries that is not "special waste" as included in MSW. These reasons would reasonably explain high generation for planners using reported MSW numbers from landfills. Discussions with the landfill are ongoing to attempt to harmonize their reports with our estimates.

Name	Start Date	End Date	Goal
<i>Single Stream Recycling Operation Study</i>	2016	DISCONTINUE 2021	

The 2016 Plan assumed the MRF would make modifications to process single stream recyclables, reserving the right not to move forward. Adding single stream processing is dependent upon demand and contract agreements with collection/haulers and communities serviced and level of awareness and best practices in the community. The District has not added single stream processing.

Single Stream has been removed from our capital plans indefinitely. There will be no further investments until commodities markets are recovered and better single stream designs are available.

Name	Start Date	End Date	Goal
<i>MRF Ownership and Operation Study</i>	2016	Ongoing	none

This study is planned to evaluate public ownership and operation of the MRF versus a publicly owned and privately operated (specifically a separate non-profit entity) MRF. This study was not conducted for the same challenges which delayed the Waste Generation Rate Study.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Transfer Facility Study</i>	2030	Ongoing	none

The privately owned in-district landfill has about 40 years of remaining capacity (according to Ohio EPA record). While this seems far off, the SWMD is aware planning takes time. Future vertical and horizontal expansions may extend capacity or, maybe not. Additionally, there has been service issues and cost increases which add to the obligation of investigative planning for future waste collection and disposal options in the County.

Transfer stations offer flexibility in terms of disposal options. Deciding whether a transfer station is appropriate for Logan County is a process that will take time. A feasibility study will consider all of a project's relevant factors—including economic, technical, legal, and scheduling considerations.

The district is authorized to establish the need and timing of a transfer station and begin development of a transfer station as funds are allocated in this plan starting in 2030. If the need precedes the schedule and expenses are less than \$200,000 (approximately 10% of the planned SWMD expenses found in Table O-8) for one year, that is, the expenses do not succeed into subsequent planning years, then the District will not ratify an amended plan budget. If the need precedes the schedule for funding this development, and significant resources are needed before 2030 that succeed into subsequent planning years, the district will ratify an amended budget to move the investment forward sooner.

17. Facility Ownership/Operations

Name	Start Date	End Date	Goal
<i>Material Processing Center (MRF)</i>	2009	Ongoing	none

The Material Processing Center (MRF) sits on a 4.49-acre lot housed a 26,700 square foot building with 9,000 square foot for mixed office and education space located at 1100 S. Detroit Street, Bellefontaine, Ohio. The processing space was equipped with a basic sorting line, two vertical balers, and one forklift (equipped with a scale). Materials are processed in a dual stream (fiber and commingled), baled, stored, and marketed. The basic sorting line relies on manual separation of commingled recyclables. The facility operates one shift, five days a week. Jobs and Family Services Department supplies some labor but most labor was supplied by the Logan County Jail's Work Release inmate program. Typically the jail supplies five people working approximately 7 hours a day. The number of persons fluctuates as low as three or as much as eight. The District employs: one Supervisor, one Operator, and one Lead Sorter. A maintenance Technician is shared between the MRF and the Drop-off sites. A roll-off truck (capital and maintenance expenses) is also shared between the MRF and Drop-off sites.

In 2016, the District received Ohio EPA grant funding for improvements included self-dumping containment, self-feeding baler improvements, improving access between southern receiving and northern shipping (relocating fencing and constructing an access road along the west side). Also, added a joint commodities marketing area on the load dock. Commodity market pricing declined. District focused on producing quality bales and added an inspector position on the sorting line.

Curbside recyclables are collected and delivered to the MRF by private industry. The relationship between the municipalities and the contracted collector/hauler is the major and only factor to add single stream processing capacity at the MRF. The District received Ohio EPA grant funding in 2017 for baler replacement. Staffing turnover and low unemployment in the county led to a wage assessment with an outcome of increased wages. Commodity market pricing continued at historic lows.

In 2018 an additional roll-off track was added to the fleet, began constructing a larger receiving area, and added fire suppression at the MRF. Commodity price collapse continued affecting economics and quality control. With some prices decreasing as much as 80%, and markets more difficult to access without greater quality. The District managed to remain sustainable throughout 2018 for two main reasons: inmate labor and dual-stream quality. The district funds a full time Deputy with the Logan County Sheriff's Office, allowing transport and labor of

5 to 10 inmates per day to operate the sorting lines. The District estimates the value of this program as a net \$250,000 per year. In the down turned commodity markets and new bale standards, the district moved commodities, including difficult materials such as film, mixed rigid plastics, and 3-7 plastics. Dual stream in-feed material is much less contaminated, allowing a more predictable, valuable, and desirable product to be achieved. However, the commodity prices received are extremely low compared to 2016 and 2017.

In 2019, the receiving area construction was completed, design and bid specs were completed for a new bulk in-feed system for commingled, and designs for a new bulk in-feed to facilitate separation of sorted office paper (SOP) were developed. The District also began a planning process to balance the carbon emissions from its operations.

In 2020, in response to the COVID-19 pandemic, essentially the District shut down in-person activities to the public, maintaining full MRF activity with deep cleaning, PPE, and a number of other adjustments. Service for several small generators were suspended to limit contact; incoming materials were segregated into aging piles, and high-risk activities such as CHaRM were delayed or canceled. Scheduled projects were delayed until the budget outlook becomes clearer. Market disruptions have been expected and observed although not necessarily in the ways the District anticipated. For example, the initial worry the markets would suspend did not materialize and prices went (both) unexpectedly up and down. The District continues to improve the average value of commodities by creating more valuable sorts, such as SOP in the residential stream and natural HDPE. The result has been a continuing improvement of average value. Also, the District constructed a receiving area that increases capacity to match 15-year projections, but also to rethink the delivery system to the sorters, capturing much contamination prior to separation of commodities.

Beginning in 2021, capital improvement projects on the fiber line to improve the bulk feed, sort line, inspection and post-sort containment began. Total costs of \$320,000 are budgeted which includes \$200,000 in Ohio EPA grant awards over the 2021 and 2022 calendar years. Capital expenses will be needed and are annually budgeted.

Target for Next 5 Years: Continue improvements to restore and improve overall financial sustainability.

18. Other

Name	Start Date	End Date	Goal
Health Department Assistance	1991	Ongoing	none

As authorized in Ohio Revised Code Section 3734.57, the District provides funding “to boards of health within the district, if solid waste facilities are located within the district, for the enforcement of this chapter and rules adopted and orders and terms and conditions of permits, licenses, and variances issued under it; to boards of health for collecting and analyzing water samples from public or private wells on lands adjacent to solid waste facilities that are contained in the approved or amended plan of the district; to boards of health within the district for enforcing laws prohibiting open dumping; and to boards of health within the district that are on the approved list under Section 3734.08 of the Revised Code for the training and certification required for their employees responsible for solid waste enforcement by rules adopted under division (L) of Section 3734.02 of the Revised Code.”

Funding provided to the Health Department by the District was used for implementing the activities described in ORC 3734.57(B). In 2016, the District provided \$75,000 in annual funding to the Health District. This was increased to \$80,000 in 2017 and 2018 then adjusted to \$60,000 in 2019. Funding is provided to assist in monitoring the Cherokee Run Landfill, which included ground water monitoring and litter prevention and littering calls.

The Health Department is required to submit yearly reports on the activities implemented each year with the funding provided by the District.

Target for Next 5 Years: The budget is set at \$80,000 annually to assist.

Name	Start Date	End Date	Goal
<i>Local Law Enforcement - litter</i>	Existing	Ongoing	none

The District provides funding to the Sheriff's Department for a dedicated deputy to enforce laws prohibiting litter and illegal dumping as well as laws related to the transportation of solid waste and to transport inmate labor daily to the MRF. The deputy provided periodic verbal updates to the commissioners.

A continual challenge is the reduced time a deputy dedicates to this program. Funding provided is used to transport Jail's Work Release inmate program for MRF labor. Typically, the jail supplies five people working approximately 7 hours a day.

Target for Next 5 Years: SWMD will collaborate with the Sheriff's Department to align funding with structured hours and tasks of a dedicated deputy to enforce laws prohibiting litter and illegal dumping as well as laws related to the transportation of solid waste. This should help equalize the specified services received to the funding provided.

Name	Start Date	End Date	Goal
<i>County Assistance</i>	1991	Ongoing	none

As authorized in Ohio Revised Code 3734.57, the Board of Directors of the District has the authority to administer funds to the "County to defray the added costs of maintaining roads and other public facilities and of providing emergency and other public services resulting from the location and operation of a solid waste facility within the county under the District's approved solid waste management plan."

Revenues were not appropriated to this program and no funding was issued from 2016 to 2020.

Target for Next 5 Years: No revenues are budgeted.

Name	Start Date	End Date	Goal
<i>Municipal / Township Assistance</i>	Existing	Ongoing	none

As authorized in ORC Section 3734.57 the Board of Directors of the District has the authority to administer funds "...to individual municipal corporations and townships within the district to defray their added costs of maintaining roads and other public facilities and of providing emergency and other public services resulting from the location and operation within their boundaries of composting, energy or resource recovery, incineration, or recycling facility that either is owned by the district or is furnishing solid waste management facility or recycling services to the district or pursuant to a contract or agreement with the board of county commissioners or directors of the district".

The District issues funds as a grant program specifically for allowable expenditures by local communities. Local communities can submit requests for funding for qualifying projects. These requests are reviewed by and approved by the District, and often project approvals contain restrictions. Communities are reimbursed for expenditures, but

the money is not disbursed to a community until the District receives reimbursable expenditures. No grants were issued from 2016 to 2020.

Target for Next 5 Years: No revenues are budgeted.

Name	Start Date	End Date	Goal
<i>Disaster Debris Management</i>	Existing	Ongoing	none

Logan County's Emergency Management Agency (EMA) is the lead agency for coordinating natural disaster efforts. The county emergency operations plan includes a section (Annex M) dedicated to debris management.

The emergency operations plan includes provisions establishing a debris management team that names the director of the Logan County Emergency Management Agency and the District Coordinator as co-chairs. Other members of the debris management team include representatives of: The Logan County Health District; Cherokee Run Landfill; Ohio EPA; the Logan County Engineer; the Logan County Commissioners; and officials of the affected jurisdictions.

In addition to acting as co-chair of the debris management team, the District Coordinator will also serve as the debris manager during a debris-generating event. As debris manager, the District Coordinator will coordinate operations and finance areas of debris management. Coordination duties will include contacts with affected jurisdictions and scheduling and coordination of resources conducting debris operations. Finance support include: contacts and negotiations with contractors, contract negotiations, support of and coordination with jurisdiction officials for expenses and scheduling; and documentation of all resources, personnel, materials, and costs for reimbursement purposes.

Name	Start Date	End Date	Goal
<i>Waste Sort</i>	2006	Ongoing	none

The primary purpose of a waste sort is to examine the quantity and composition of waste in order to characterize the strengths and weaknesses of waste programs around the county. By understanding what/how residents are discarding waste; the District can tailor specific solutions to the results found in the waste sort. A waste sort was not conducted during the 5-year implementation years (2016-2021) of the 2016 Plan.

Target for Next 5 Years: A waste sort is not planned for the short term next 5 years of this 2023 Plan.

Name	Start Date	End Date	Goal
<i>Private Recyclers / Processors</i>	Existing	Ongoing	2

A combination of public and private infrastructure lends to the success of the minimization, reduction, reuse, and diversion of waste. While the District does not fund private recyclers and processors such as Sims Bothers, Inc., they are valuable to the diversion infrastructure. Private recyclers/processors operate in the District and accept materials from residents/businesses for recycling. Surveys to obtain their recycling data are conducted annually.

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>Other District Recycling Collections</i>	Late 1990's	Ongoing	2

Any recycling provided by the District which does not fall into another waste reduction or recycling program. Namely roadside litter collection, however, any other recycling opportunities were included. Roadside clean-up programs with jail inmates and juvenile offenders; Adopt-A-Road groups, and continuous monitoring of the roads and highways by police and sheriff deputies continued.

The SWMD loans out ClearStream Recycling containers to events to divert materials during away from home or special events. The SWMD provides the containers and collects the materials after the events.

Year	Events
2017	Farmers Market (Saturdays – May through October) Rock the Lake, Cruise In, Logan County Fair, Party at the Beach, DeGraff Country Fair
2018	Farmers Market (Saturdays – May through October), Rock the Lake, Cruise In, Logan County Fair and Party at the Beach, DeGraff Country Fair
2019	Farmers Market (Saturdays – May through October), Cruise In, Logan County Fair and Party at the Beach, DeGraff Country Fair, Athletic Boosters Event

Target for Next 5 Years: Continuing

Name	Start Date	End Date	Goal
<i>SWMD Accounting Review</i>	2023	Ongoing	none

Ohio law limits how solid waste management districts can spend disposal fee and generation fee revenue to 10 allowable uses outlined in ORC 3734.57(G). There are other revenue mechanisms solid waste management districts may use that are not regulated to the 10 allowable uses. The SWMD uses both regulated and unregulated revenue mechanisms to support operations, programs, and activities. In this planning cycle the SWMD will begin a more conscious effort to divide revenues and expenses into “District Administration” and “Operations” categories to identify regulated and unregulated revenues and expenses.

In creating a more strictly regulated and unregulated accounting system, the Policy Committee will retain the typical planning and review roles and the Board of Directors will retain day-to-day decision-making, budgeting, staffing and direct oversight of implementation and resources.

Name	Start Date	End Date	Goal
<i>Countywide Collection Agreement</i>	2023	Ongoing	none

In the SWMD households and businesses make their own independent arrangements for trash collection and pay their own bills. Haulers make their own decisions about what services to provide and whether to stay in business or sell-out. There is public sector involvement in solid waste management services in Bellefontaine and West Liberty where these political jurisdictions contract for services on behalf of their households. Weaknesses in the SWMD’s private sector model include:

- Access to service can be an issue for more rural areas that don't justify at the curb trash collection on economics alone.
- Typically, curbside recycling services are not provided.
- Few competitors and fees for service are high due to lack of rate competition and the level and comprehensiveness of recycling services is limited.

Of recent, the only private waste and recycling collection service provider announced cancellation of rural collection service routes (with little (no) notice) in the county and region. This coupled with the rising collection service costs are driving factors for the SWMD to begin exploring a countywide collection agreement.

There are a few models the SWMD could consider:

- **Ordinance/Licensing Model** - A local ordinance specifies some basic levels of service expected from service providers. Information on fees may have to be published regularly. Recycling services may be required. Certain parts of the community may need to be picked up on certain days. Documentation of truck licensing and maintenance may need to be provided. These are typical ways that some structure is built into what services are provided.
- **Contracted Services Model** - Municipalities, counties, or even larger developments/subdivisions bundle groups of customers together, develop specifications for service, identify a funding mechanism and then take proposals/quotes from private sector service providers to deliver the specified services. Some contracting approaches still leave the billing of customers up to the service providers while others do their own billing and pay the hauler independently. Contracting may be used for all solid waste management services in an area, only for residential, or only for a specific service type (such as curbside recycling or bulky item pickup).
- **Franchise Model** - In this approach, an exclusive right to provide services is granted, typically for one or more types of services (solid waste, recycling, yard waste collection), and for one or more sectors (residential, commercial, etc.). The public agency (either municipality or county) specifies service requirements and takes quotes for the service so that rates are established through a competitive process. The contract is typically long term, often 5, 10 or even 20 years in length. The franchise requirements can dictate where material will be taken or require that certain facilities be constructed.
- **Flow Control Model** - This approach can be a hybrid of many of the others, but includes features to direct waste to specific facilities, often providing the public sector with a tool to allow funding and development of infrastructure.

Each model has its own strengths and weaknesses. The SWMD will be looking for a model that can provide excellent, professional, cost-effective, safe, and environmentally-sound collection services to the households and businesses in the County. Expectation of services to be delivered on-time and expects any service provider to implement and comply with the best management practices of the solid waste industry. For example, it is expected service providers use a modern, well-maintained, and clean fleet of vehicles to provide its services. Additionally, the experience in communicating effectively, frequently, and in a timely manner with the County on a regular basis will be required.

The SWMD expects discussion and planning to begin as early as CY 2023. No external expenses are anticipated only Internal staff support costs are expected.

19. Data Collection

Name	Start Date	End Date	Goal
<i>Commercial and Industrial Business Surveys</i>	2005	Ongoing	2

The District employed a variety of methods and approaches (internet, email, and phone) to survey businesses and industries throughout the county. Both industrial and commercial survey forms were available online. They were often used as a guideline for businesses and industries which did not already have a developed system for waste-related and recyclable data keeping. Only occasionally were forms filled out completely. The District made use of any information in any form provided.

Effective December 1, 2020, the 2020 State Plan eliminated the industrial recycling goal where District's demonstrate 66% diversion in the industrial sector. Because of this change the District no longer needs to survey industrial businesses to demonstrate compliance with the industrial recycling goal. The District will consider the option to survey the industrial sector before each survey year.

Target for Next 5 Years: The SWMD will add on online capability for completing the survey, such as JotForm or another platform. This type of capability will provide more convenience to those completing the survey, plus compile the data for the SWMD. Contact databases will also be updated in 2022. Additional strategies to help reach this sector to obtain recycling data.

- Post card reminder mailings keep administrative costs lower and return comparable response rates.
- Phone follow-up efforts are needed to return survey responses.
- Another outreach element and touch point is educating and advertising the total diversion rate after the survey process. This lets businesses know their data contributes to the success of the SWMD surpassing Ohio EPA goals.

APPENDIX J REFERENCE YEAR OPPORTUNITY TO RECYCLE AND DEMONSTRATION OF ACHIEVING GOAL 1

The SWMD is demonstrating compliance with Goal #2, and is not demonstrating Goal #1.

APPENDIX K WASTE REDUCTION AND RECYCLING RATES AND DEMONSTRATION OF ACHIEVING GOAL 2

Goal 2 states “The SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector.”

Table K-1 Residential/Commercial Annual Rate of Waste Reduction

Year	Population	Recycled	Disposed	Total Generated	Waste Reduction & Recycling Rate (%)	Per Capita Waste Reduction & Recycling Rate (ppd)
2019	45,559	28,952	29,237	58,189	49.75%	3.48
2020	45,364	29,301	26,716	56,016	52.31%	3.54
2021	45,363	29,376	26,715	56,091	52.37%	3.55
2022	45,361	29,460	26,714	56,174	52.44%	3.56
2023	45,360	29,485	26,713	56,198	52.47%	3.56
2024	45,358	29,524	26,712	56,237	52.50%	3.57
2025	45,357	29,561	26,712	56,273	52.53%	3.57
2026	45,356	29,600	26,711	56,310	52.56%	3.58
2027	45,355	29,599	26,710	56,309	52.57%	3.58
2028	45,353	29,598	26,709	56,308	52.57%	3.58
2029	45,352	29,598	26,709	56,307	52.57%	3.58
2030	45,351	29,597	26,708	56,305	52.57%	3.58
2031	45,350	29,597	26,708	56,304	52.57%	3.58
2032	45,349	29,596	26,707	56,304	52.57%	3.58
2033	45,349	29,596	26,707	56,303	52.57%	3.58
2034	45,348	29,596	26,706	56,302	52.57%	3.58
2035	45,347	29,595	26,706	56,301	52.57%	3.58
2036	45,346	29,595	26,705	56,300	52.57%	3.58
2037	45,346	29,595	26,705	56,300	52.57%	3.58

Source:

Population – Appendix C, Table C-1

Recycled – Appendix E, Table E-4 and E-5

Disposed – Appendix D, Table D-3

Sample Calculation:

Total Generated = Recycled + Disposed

Waste Reduction & Recycling Rate = Recycled / Total Generated

Per Capita Waste Reduction & Recycling Rate = (Recycled x 2000 lbs/ton) / (Population x 365 days)

The SWMD met the 25% residential/commercial waste reduction rate goal in the reference year, 2019, and the SWMD is projected to continue to meet that goal throughout the planning period. While Goal #2 is being met, the actual waste reduction and recycling rate in the reference year was slightly lower than the 2017 Plan projected rate, 49.75% actual compared to 50.46% projected. The difference between the actual and projected diversion rate for 2019 is slightly more disposal than projected.

- 2019 projected disposal 29,237 tons (17% more than actual)
- 2019 projected recycling and composting 28,952 (14% more than actual)

The 2017 Plan estimated lower disposal as a result of PAYT programs, other economic incentive programs, and education and outreach.

Table K-2 Industrial Annual Rate of Waste Reduction

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Non-Recyclable Waste	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2019	62,915	2,215		65,130	96.60%
2020	87,546	2,215		89,761	97.53%
2021	64,691	2,215		66,906	96.69%
2022	64,691	2,215		66,906	96.69%
2023	65,985	2,215		68,200	96.75%
2024	67,304	2,215		69,519	96.81%
2025	68,650	2,215		70,865	96.87%
2026	68,650	2,215		70,865	96.87%
2027	68,650	2,215		70,865	96.87%
2028	68,650	2,215		70,865	96.87%
2029	68,650	2,215		70,865	96.87%
2030	68,650	2,215		70,865	96.87%
2031	68,650	2,215		70,865	96.87%
2032	68,650	2,215		70,865	96.87%
2033	68,650	2,215		70,865	96.87%
2034	68,650	2,215		70,865	96.87%
2035	68,650	2,215		70,865	96.87%
2036	68,650	2,215		70,865	96.87%
2037	68,650	2,215		70,865	96.87%

Source:

Recycled – Appendix F, Table F-4 and F-5

Disposed – Appendix D, Table D-3

Sample Calculation:

Total Generated = Recycled + Disposed

Waste Reduction & Recycling Rate = Recycled / Total Generated

The waste reduced and recycled for the industrial sector in the reference year 2019 is roughly 97%. As shown in Table K-2, Non-Recyclable Waste is not included in the calculations to determine waste generation because the materials are delivered directly to the company that recycles the materials or the tons were provided by Ohio EPA reports.

Table K-3 Annual Rate of Waste Reduction: Total Solid Waste

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2019	91,867	31,452	123,319	74.50%
2020	116,847	28,931	145,777	80.15%
2021	94,067	28,930	122,997	76.48%
2022	94,150	28,929	123,080	76.50%
2023	95,470	28,928	124,398	76.75%
2024	96,829	28,927	125,756	77.00%
2025	98,212	28,927	127,138	77.25%
2026	98,250	28,926	127,176	77.26%
2027	98,249	28,925	127,175	77.26%
2028	98,249	28,924	127,173	77.26%
2029	98,248	28,924	127,172	77.26%
2030	98,248	28,923	127,171	77.26%

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2031	98,247	28,923	127,170	77.26%
2032	98,247	28,922	127,169	77.26%
2033	98,247	28,922	127,168	77.26%
2034	98,246	28,921	127,167	77.26%
2035	98,246	28,921	127,166	77.26%
2036	98,246	28,920	127,166	77.26%
2037	98,245	28,920	127,165	77.26%

Recycled – Appendix F, Table F-4 and F-5 and Appendix E, Table E-4 and E-5

Disposed – Appendix D, Table D-3

Sample Calculation:

Total Generated = Recycled + Disposed

Waste Reduction & Recycling Rate = Recycled / Total Generated

The data listed in the tables demonstrates the SWMD will achieve Goal #2 through the planning period.

APPENDIX L MINIMUM REQUIRED EDUCATION PROGRAMS: OUTREACH AND MARKETING PLAN AND GENERAL EDUCATION REQUIREMENTS

A. Minimum Required Education Program

GOAL 3: MINIMUM REQUIREMENTS

District Website

The SWMD maintains a website at www.logancountyrecycles.com. The website is a resource providing much of the information that residents would seek. The homepage will continue to be updated regularly to reflect recycling services. The webpage provides an inventory of outlets that are managed by the SWMD for materials, drop-off program information (locations, materials accepted), curbside programs, CHaRM, and businesses. In addition, the website uses simple layouts, fonts and graphics/photos that create a coherent visual across all communications.

Throughout 2017 and 2018 the SWMD worked with a third party expert to substantively improve the website to “find the nearest Recycling and PAYT site”, as well as countywide mailers, rebranding, social media content while tracking what worked and didn’t. The SWMD continued to refine messages and build participation. Results were within pre-project goals for improving community engagements with metrics including a 10% increase in usage of the sites. However, the expense surpassed the budget and most activities moved in-house for 2019.

A part-time outreach specialist is budgeted to begin in 2022. The part-time education specialist will develop education resources for schools and businesses such as: how to waste audit guide, classroom lessons, workplace recycling guide, waste-free classroom, waste reduction tips and guides for homes and businesses, backyard composting, etc. These resources will be added to the website as well as a link to Ohio EPA’s Material Marketplace which is a reuse network.

The SWMD is budgeting for website re-design in 2023. From 2023 to 2026 the SWMD will work on developing Short Educational Videos which is one of the best ways to reach residents in today’s world of information overload, businesses and schools. Videos should be short, no more than one-minute, videos to focus on key educational initiatives, i.e., proper recycling to avoid illegal dumping, HHW, and other ways to reduce waste. Videos are more popular than ever and are a worthwhile investment to deliver one-way messages in a variety of media: website, YouTube, social media, etc. Videos also provide another communication measure as it is visible how many people the videos reach.

Comprehensive Resource Guide

The website is a resource guide for SWMD managed outlets and services. Business resources are also provided. Additionally, the SWMD has a list of resources and links to outside information.

Inventory

The website is an inventory for SWMD managed outlets and services. The SWMD has no control over third party waste management outlets which can improperly manage materials. As such, the Policy Committee made the decision to list only SWMD managed outlets on the website.

Speaker

The Coordinator serves the role to be available for speaking engagements. The part-time outreach specialist will also serve to be available for speaking engagements.

During late 2019 and early 2020, the SWMD progressed toward the hiring of a dedicated education person, to be shared with the Logan County Cooperative Extension. However, pandemic-related declines in income to the General Fund of the County eliminated the project for 2020 and 2021. The SWMD aspires to resume efforts to hire a part-time (shared fulltime) outreach specialist in 2022.

This outreach specialist will carry out social media engagements, produce short videos for the website, assist with education and awareness relating to district programs. This will include an expanding food waste diversion program, with special emphasis on education about contamination.

Year	Education Presentations/On-site Tours		Speaking Events	Fair/Festival Booths
	Number	Attendance		
2017	2	~15		Honda Environmental Fair HTM Environmental Fair Farmers Market
2018	3	~15		Honda Environmental Fair HTM Environmental Fair Farmers Market
2019	1	~25	Exchange Club Ben Logan High School ~200 students	Honda Environmental Fair HTM Environmental Fair Farmers Market

B. Outreach and Education – Outreach Plan and General Education Requirements

As prescribed by the 2020 State Plan, each SWMD will provide education, outreach, marketing, and technical assistance regarding education and reuse through an outreach and marketing plan. Per *Format 4.0* the outreach and marketing plan needs to have the following components:

1. Five target audiences as identified in Ohio EPA Format 4.0.
2. Follow basic best practices when developing and selecting outreach programs.
3. Outreach priority.
4. Education and outreach programs to all appropriate audiences in the context of the priority using social marketing principles and tools.

The outreach and marketing plan needs to demonstrate these best practices

- Demonstrate that the SWMD will address all of the five target audiences;
- Explain how the SWMD will align its outreach and education programs with recycling opportunities (both existing and needed); and

- Explain how the SWMD will incorporate principles and tools for changing behavior into the outreach and marketing plan.

To align with *Format 4.0* the SWMD's existing programs were organized by target audience. By design education and outreach is webbed into existing SWMD programs and cross several target audiences.

Education/Outreach Program	Target Audience				
	Residents	Schools	Industries	Institutions and Commercial Businesses	Communities and Elected Officials
HHW Education	X				
Fiber Collection		X		X	
Industrial Committee			X		
Technical Assistance		X	X	X	X
Food Scrap Drop-off – Outreach Priority	X				
Elected Official Outreach					X
School Outreach		X			
General Public Outreach	X				
Social Media Outreach	X	X	X	X	X
Advertisements and Promotional Item Distribution	X	X	X	X	X

The SWMD experienced a decline in education and outreach activities. This result is mainly attributed to the decision to collaborate with third-party sources to implement.

The District will expand its outreach to include value and sustainability driven purpose in an effort to engage young generations, economically deprived and minority communities. Lower income and minority communities will require wider reach than Facebook and Instagram. The District will attempt to identify the gathering places for these communities and engage them where they are.

Name	Start Date	End Date	Goal
HHW Education	Ongoing	Ongoing	4

Education and outreach elements are described in Appendix I.

Name	Start Date	End Date	Goal
Fiber Collection	Ongoing	Ongoing	4

Education and outreach elements are described in Appendix I.

Name	Start Date	End Date	Goal
Industrial Committee	Ongoing	Ongoing	4

Education and outreach elements are described in Appendix I.

Name	Start Date	End Date	Goal
Technical Assistance	Ongoing	Ongoing	4

The SWMD conducts waste assessments and audits, provides education, resource materials, and assistance to the commercial and industrial sectors on source reduction, reuse and recycling. Assistance to set up recycling programs is also provided. No waste audits were conducted. In 2019, the SWMD met with one organization to set up an in house recycling program.

Emphasis on available business recycling, apartment recycling and long-term planning for improves recycling infrastructure will be the first priority for coordination with Bellefontaine in years 3-5, moving out to the Lake area and the rest of the county in years 4 though 8. The SWMD is developing an online how-to waste audit for businesses to self-conduct.

Name	Start Date	End Date	Goal
Food Scrap Drop-off – OUTREACH PRIORITY	2021	Ongoing	4

Start date is expected in 2021.

Research

Research demonstrates food scraps as a material being landfilled. The SWMD is piloting a demonstration of food scrap composting to begin in 2021 and expected to grow and continue through the planning period. Recognizing this is a new program, the District needs to be ready to implement a communication strategy to inform users.

Baseline food scraps disposed in 2019 is 4,060 tons.

Outreach Planning and Implementation

There are two audience groups the District is targeting.

1. Restaurants and Cafeterias
2. Residents

The behavior change desired is that they divert food scraps at the food scrap drop-off location.

Target Audience	Tier	Tactic	Deliverable	Metrics
Audience: Restaurants and Cafeterias sign up as a user for the food scrap drop-off program Problem (Desired Behavior Change): Divert food scraps from the landfill	1	Educate restaurants and cafeterias to new program specifics.	SUMMER 2021 Staff pre-educate restaurants and cafeterias that a new opportunity to divert food scraps is coming and when to expect change. District release a press release. District will develop collateral of how to divert food scraps (photos, videos, etc.)	Establish baseline tonnage at food scrap drop-off.
	1	Provide pre-training to restaurant and cafeteria staff.	SUMMER 2021 Develop signs for back of house and front of house to educate on what can	Provide training to 100% of users signed up to participate.

Target Audience	Tier	Tactic	Deliverable	Metrics
			be composted. Develop list of procedures for restaurants and cafeterias to follow.	
	1	After food scrap drop-off location is open observe behavior and conduct onsite interviews with recycling users to understand barriers and obstacles to using the program.	FALL 2021 Staff locations and / or use sandwich education signs to show best practices. Obtain quotes from users for social media.	Define barrier to craft message. Track media posts messages and frequencies.
	1	After four weeks, staff food scrap drop-off location to obtain feedback.	FALL 2021 Discover incidents barriers and benefits.	Track registered users. Define barrier to craft communication message.
	1	Continued outreach to users.	WINTER 2022 Use signs and show stats to show impact of diverting food scraps.	Using measurement baseline determine campaign success after 3 months of implementation

Target Audience	Tier	Tactic	Deliverable	Metrics
Audience: Residents sign up as a user for the food scrap drop-off program Problem (Desired Behavior Change): Divert food scraps from the landfill	1	Educate residents to new program specifics: opportunity, materials accepted, user-based fees,	SUMMER 2021 Staff pre-educate residents that a new opportunity to divert food scraps is coming and when to expect change. District release a press release. District will develop collateral of how to divert food scraps (photos, videos, etc.)	Establish baseline tonnage at food scrap drop-off.
	1	After food scrap drop-off location is open observe behavior and conduct onsite interviews with recycling users understand what media platform to use to reach the audience.	FALL 2021 Staff locations and / or use sandwich education signs to show best practices. Obtain quotes from users for social media.	Define barrier to craft message. Track media posts messages and frequencies.
	1	After four weeks, staff food scrap drop-off location to obtain feedback.	FALL 2021 Discover incidents barriers and benefits.	Track registered users. Define barrier to craft communication message.
	1	Continued outreach to users.	WINTER 2022 Use signs and show stats to show impact of diverting food scraps.	Using measurement baseline determine campaign success after 3 months of implementation

Evaluation

The District tracks recycling annually from a variety of sources. The District plans to monitor the annual tonnage of food scraps recovered to measure for impacts from outreach and infrastructure changes as well as the number of users registered.

Name	Start Date	End Date	Goal
Elected Official Outreach	Ongoing	Ongoing	4

At a minimum of once one a year the SWMD reaches out one-on-one to community officials hosting PAYT drop-off locations via email and/or phone. Conversations include discussion of the sites, any issues, future changes, and discussion of the PAYT Incentives.

The new Community Curbside Grant Assistance program will also involve outreach to elected officials. At a minimum of once a year the SWMD will reach out one-on-one to community officials with curbside programs via email and/or phone. Conversations include discussion of the program, any issues, future changes, assistance with contracts, and discussion of the Grant Assistance.

Name	Start Date	End Date	Goal
School Outreach	Ongoing	Ongoing	4

The SWMD holds tours and speaking presentations for schools. In 2019, at Ben Logan High School (approximately 200 students) the SWMD participated in an event to educate students on recycling, the environment, and their budget. In 2019, approximately 25 Girl Scouts toured the MRF and received additional education discussions about recycling.

Name	Start Date	End Date	Goal
General Public Outreach	Ongoing	Ongoing	4

General Public Outreach provides awareness education as well as engaging outreach tactics for all SWMD programming. In 2018, the SWMD used a direct mail piece to reach all households in the county. The message focused on increasing traffic to the PAYT and recycling centers. The same direct mail approach was also used in 2019 with the message focused on how to sort recyclables.

The SWMD also provides booths at various festivals and fairs. This allows for one-on-one conversations with the general public. At the Farmers Market the SWMD was able to focus on various topics such as: double up/low income and utilize a summer intern to talk about PAYT/recycling and composting. Additionally, the SWMD is able to display, gather information and hand out promotional items.

As another awareness tactic the SWMD used a billboard education campaign to inform the general public on 3 different messages.

Small group presentations are requested and the SWMD speaks to Girl Scouts, 4-H, Exchange Club, etc.

Name	Start Date	End Date	Goal
Social Media Outreach	Ongoing	Ongoing	4

The SWMD uses Facebook and Twitter as social media outlets and regularly posts information about SWMD events. The SWMD will use postings to drive traffic to the webpage. The type of posts to Facebook will also direct residents to social norms of recycling, composting, and reducing waste.

Social media blast topics from 2017 to 2019 included:

- How and where to recycle
- Proper recycling techniques
- Crazy popular – “what not to do Tuesday”
- Weather related closures

In 2017, 2018 and 2019 conducted a weeklong Facebook contest for Earth Day, with daily questions and prizes, plus one large random raffle at end of week.

The SWMD will aim to increase the number of Facebook followers by 10% by year 2026 by including Facebook on all collateral and creating engaging posts. Audience sectors the SWMD will try to understand how to engage through research are Generation Z and Alpha, minority communities, and lower-income households.

Name	Start Date	End Date	Goal
Advertisements and Promotional Item Distribution	Ongoing	Ongoing	4

The SWMD uses various media to reinforce messaging. All advertisements and marketing collateral are branded with SWMD logo, colors and fonts to create and reinforce brand identity. These forms of advertising were used to alert residents about various recycling opportunities including drop-off sites, CHaRM, litter cleanup activities, and education programs. Where appropriate at outreach activities, SWMD staff distributes promotional materials such as recycled-content pens, pencils, magnets, and notepads to further reinforce the recycling, litter prevention, and/or waste reduction message(s) being presented.

Promotional items were handed out to speaking engagements, festival/fair booths, and on-site tours.

APPENDIX M CAPACITY ANALYSIS

This appendix provides the SWMD's strategy for ensuring access to solid waste management facilities. While the primary focus of this strategy is ensuring access to adequate disposal capacity, the SWMD will also ensure that it has access to processing capacity for recyclables, and if needed, access to transfer facilities.

A. Access to Publicly Available Landfill Facilities

Table M-1 Remaining Operating Life of Publicly Available Landfills

Facility	Location		Years of Remaining Capacity
	County	State	
Direct Hauled			
Crawford County Landfill	Crawford	OH	22
SWACO Franklin County Sanitary	Franklin	OH	42
Hancock County Landfill	Hancock	OH	28
Cherokee Run Landfill Inc.	Logan	OH	40*
Republic Services Celina Sanitary Landfill	Mercer	OH	1
Wood County Landfill	Wood	OH	38
County Environmental Landfill of Wyandot	Wyandot	OH	113
Transferred through Transfer Station			
Pine Grove Regional Facility	Fairfield	OH	84*
Rumpke Sanitary Landfill	Hamilton	OH	44
Stony Hollow Landfill	Montgomery	OH	24
Sunny Farms Landfill	Seneca	OH	8
Jay County Landfill	Jay	IN	Unk.

Source(s) of Information

2019, 2018, 2017 Ohio Solid Waste Facility Data Report Tables (Table 13) published by Ohio EPA

*Ernie Stall, Ohio EPA provided updated capacity data.

Table M-1 lists the municipal solid waste landfills where waste from the SWMD was disposed in the reference year. The landfills listed include those that accepted direct-haul and those that accepted transferred waste. Over the reference year and two previous years, the SWMD sent material for disposal to 11 in-state landfills and at least 1 out-of-state landfill.

Table M-2 lists the landfill facilities and percentage of SWMD's waste accepted in 2019. Note three of the landfills used in the years before the reference year were not used in 2019, Pine Grove Regional Landfill, Stony Hollow Landfill and Pine Grove Regional Landfill. (These landfills received less than 1% of the Districts' solid waste in 2018 and 2017). The landfills identified and percentages include direct hauled and transferred waste.

Table M-2 Tons and Percent Waste Sent to Disposal

Facility	Location		Tons	Percentage of Logan's 2019 Disposed Waste
	County	State		
Crawford County Landfill	Crawford	OH	6	Less than 0.1%

Facility	Location		Tons	Percentage of Logan's 2019 Disposed Waste
	County	State		
SWACO Franklin County Sanitary	Franklin	OH	0.3	Less than 0.1%
Rumpke Sanitary Landfill	Hamilton	OH	2,807	7.2%
Hancock County Landfill	Hancock	OH	142	Less than 0.5%
Cherokee Run Landfill Inc.	Logan	OH	32,318	82.7%
Republic Services Celina Sanitary Landfill	Mercer	OH	12	Less than 0.1%
Wood County Landfill	Wood	OH	15	Less than 0.1%
County Environmental Landfill of Wyandot	Wyandot	OH	23	Less than 0.1%
Jay County Landfill	Jay	IN	1,379	3.5%
Various In-State Landfills via Transfer Stations	Multiple	OH	111	Less than 0.5%
Total			36,812	100%

Source:

2019 Ohio Facility Data Tables published by Ohio EPA

Sample Calculation: 2,807 tons to Rumpke Sanitary Landfill / 39,080 total tons disposed by the SWMD in 2019 = 7.2% of the SWMD's waste disposed was disposed in Rumpke Sanitary Landfill.

Percentage of waste disposed in landfills = landfill total tons / total landfilled waste x 100%

Various In-State Landfills via Transfer Stations: The majority of waste from the District sent to transfer stations was then transported to and disposed of at exactly one landfill. The remaining 111 tons were sent to transfers stations that used multiple landfills for disposal.

As seen in Table M-2, the vast majority of the SWMD's waste, 83%, was disposed of in-county at the Cherokee Run Landfill. This landfill has 40 years of capacity left.

The Rumpke Sanitary Landfill in Hamilton County represents the landfill receiving the next highest amount of the District's solid waste with 7%. This landfill has 44 years of capacity and no known reasons to suspect potential capacity shortages in the near and long term. In early 2021, Rumpke Waste & Recycling purchased an additional 466 acres with plans to improve and increase the size of the facility.³⁴

Both of these landfills have capacity to continue taking waste throughout the first eight years of the planning period, thus the SWMD assumes adequate capacity is demonstrated for this planning cycle.

B. Capacity at Private Landfill Facilities

Captive or residual waste landfills are designated exclusively for the disposal of one or any combination of wastes from seven specific industrial categories. Due to regulations these facilities will not receive municipal solid waste. Residual/captive landfills are landfills used to dispose of waste generated exclusively by the manufacturing company that owns the landfill. The SWMD did not send waste to captive landfills in the reference year.

Table M-3 Remaining Operating Life of Privately Available Landfills

Facility	Location	Years of Remaining Capacity
None		

Source(s) of Information:

³⁴ Demeropolis, Tom. "Rumpke Buys Hundreds of Acres in Western Hamilton County." *Cincinnati Business Courier*, 26 Feb. 2021, <https://www.bizjournals.com/cincinnati/news/2021/02/26/rumpke-buys-466-acres-in-western-hamilton-county.html>. Accessed 4 March 2021.

C. Incinerators and Energy Recovery Facilities

The SWMD has not sent any waste to a waste-to-energy facility during the reference year or previous two years. In general, incinerating solid waste is not a major component of solid waste management in Ohio.

Table M-4 Incinerators and Energy Recovery Facilities Used by the District in the Reference Year

Facility Name	Location		Type of Facility	Waste Processed from the District (in tons)
	County	State		
<i>In-District</i>				
None				
<i>Out-of-District</i>				
None				
<i>Out-of-State</i>				
None				
Total				

APPENDIX N EVALUATING GREENHOUSE GAS

The Waste Reduction Model (WARM)

WARM is a tool that US EPA developed to quantify the effects of waste management decisions on greenhouse gas emissions. The model demonstrates the benefits of alternative management technologies over traditional management methods. The WARM model is updated regularly. A SWMD can use a different but comparable modeling program to calculate greenhouse gas emission reductions provided the model accounts for waste management and recycling activities.

WARM is intended to compare municipal solid waste management scenarios. Therefore, data is used for only the residential/commercial sector.

Each SWMD will run WARM twice and include the results in the solid waste management plan:

- For the first run, enter all quantities recycled in the reference year in the landfill column (for the baseline year) and for the alternative scenario, enter the quantities recycled in the tons recycled column.
- For the second run, enter the quantities of residential/commercial material recycled in the reference year in the tons recycled column (for the baseline scenario), and then enter the quantities projected to be recycled in the sixth year of the planning period in the alternative scenario column.

Include printouts of the results for both runs in the solid waste management plan.

A. GHG Measurement

Gases that trap heat in the atmosphere are called greenhouse gases. The main greenhouse gases are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. Each gas's effect on the climate depends on how much is in the atmosphere, how long they stay in the atmosphere, and how strongly they impact the atmosphere. Disposal and treatment of materials results in greenhouse gas emissions from collection, transport, landfill disposal, manufacture, etc.

The most common way to measure climate impact of waste management is to state the impact in carbon equivalents. Since waste reduction results in the reduction of several types of greenhouse gases, the conversion to a standard carbon equivalent (CO₂E) measurement allow for a total quantification of the impact. It also provides a standard language to compare these actions to others such as transportation and energy conservation efforts. A carbon equivalent, CO₂E, is simply the amount of CO₂ that would have the same global warming potential as the waste reduction impacts, when measured over a specified timescale. The international reporting standard for CO₂ emissions is metric tons, so carbon dioxide amounts may be reported as MTCO₂E, metric tons of carbon equivalent.

Produced by US EPA, the Waste Reduction Model (WARM) was designed to help solid waste planners, municipal leaders, and other stakeholder organizations track and report greenhouse gas emissions reductions. It is a database tool that helps decision makers predict the strategies that most reduce GHG emissions. The WARM model calculates GHG emission across six waste management modalities (source reduction, recycling, composting,

anaerobic digestion, combustion, and landfilling). Modeling different combinations of waste management practices allows decision makers to see which approach leads to the least GHG entering the atmosphere.

WARM is a standard tool used for waste management GHG impacts, however the model does have limitations. For example, the WARM GHG-related impacts of composting organics were developed within the framework of the larger WARM development effort and the presentation of results, estimation of emissions and sinks, and description of ancillary benefits are not comprehensive. Also, the material categories within the model are not exhaustive therefore materials like household hazardous wastes (HHW) and used motor oil excluded from the modeling because they have no related WARM proxy.

This report shows the metric tons of carbon dioxide equivalent (MTCO₂E), which describes the global-warming potential of all common greenhouse gases as an equivalent of carbon dioxide. Negative values indicate GHG savings and positive values indicate increasing emissions. In 2019, Logan County generated 58,189 tons of MSW from the residential and commercial sectors, landfilling or incinerating 50% (29,237 tons), and diverting 50% (28,952 tons). The tons diverted in the reference year (2019) were plugged into WARM to determine the GHG emission savings from the material being diverted instead of landfilled. The GHG emissions were also calculated for County's sixth planning year (2028) compared to the reference year – see Table N-1.

Table N-1: GHG Emissions from Residential/Commercial Sector Diversion

Total GHG Emissions for Reference Year 2019 <i>(Reduction from diverting instead of landfilling)</i>	(54,969) MTCO ₂ E
Total GHG Emissions for Projection Year 2028 <i>(Reduction from increased tons diverted 2028 compared to 2019)</i>	(57,228) MTCO ₂ E
Incremental GHG Emissions Savings	(1,570) MTCO ₂ E

By the SWMD having diversion programs, the diverted tons of residential/commercial material in the reference year resulted in approximately 54,969 MTCO₂E prevented from being emitted. In other words, if the diverted material was landfilled nearly 55,000 MTCO₂E of emissions that would have been produced. To put this into perspective, the diversion programs are equivalent to:

- Removing emissions from 11,671 passenger vehicles
- Conserving nearly 6.2 million gallons of gasoline
- Conserving over 78,850 barrels of oil
- Conserving 5,001 households' annual energy consumption

With the projected increase in diversion by 2028 (29,598 tons), there is projected to be an additional savings of 1,570 MTCO₂E which is equivalent to:

- Removing emissions from an additional 333 passenger vehicles
- Conserving about 176,700 more gallons of gasoline
- Conserving 2,252 more barrels of oil
- Conserving 143 additional households' annual energy consumption

APPENDIX O FINANCIAL PLAN

Ohio Revised Code Section 3734.53(B) requires a solid waste management plan to present a budget. This budget accounts for how the District will obtain money to pay for operating the District and how the District will spend that money. For revenue, the solid waste management plan identifies the sources of funding the District will use to implement its approved solid waste management plan. The plan also provides estimates of how much revenue the District expects to receive from each source. For expenses, the solid waste management plan identifies the programs the SWMD intends to fund during the planning period and estimates how much the SWMD will spend on each program. The plan must demonstrate that planned expenses will be made in accordance with ten allowable uses that are prescribed in ORC Section 3734.57(G).

Ultimately, the solid waste management plan must demonstrate that the SWMD will have adequate money to implement the approved solid waste management plan for a period of 15 years, from 2023 to 2037.

Ohio law limits how solid waste management districts can spend disposal fee and generation fee revenue to 10 allowable uses outlined in ORC 3734.57(G). There are other revenue mechanisms solid waste management districts may use that are not regulated to the 10 allowable uses. As demonstrated in this Appendix O, the SWMD uses both regulated and unregulated revenue mechanisms. Based on the conducted revenue analysis, the SWMD generates a 50/50 split of unregulated and regulated revenues to support operations, programs, and activities.

A. Funding Mechanisms and Revenue Generated

In this section, all of the funding mechanisms expected to be used by the SWMD are discussed. In addition, anticipated revenues from each source listed below are projected for each year of the planning period.

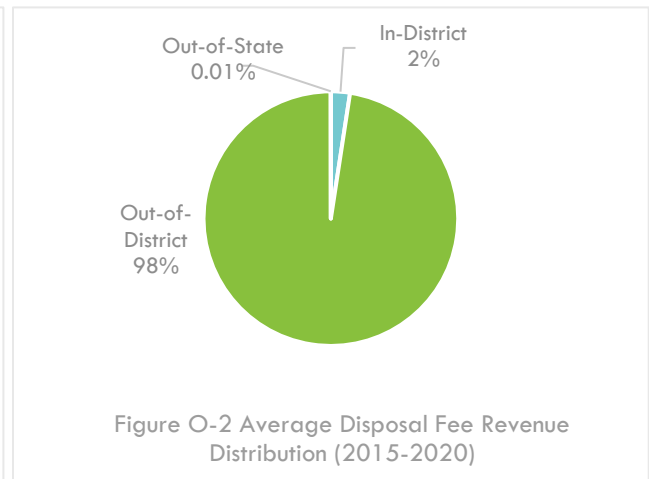
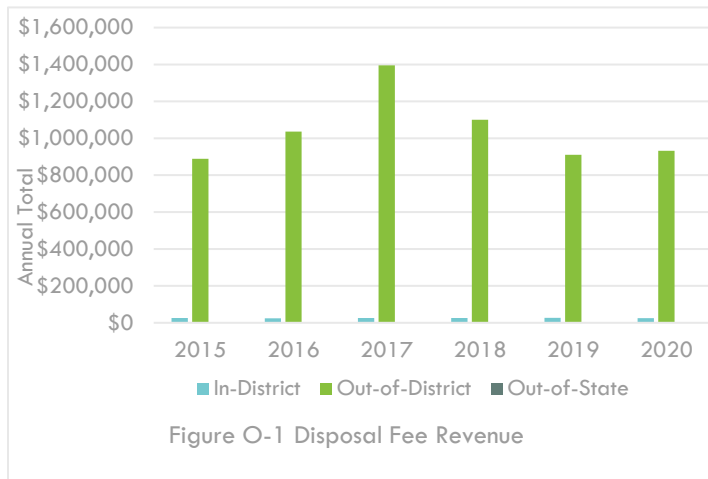
1. Disposal Fee

Disposal fees are collected on each ton of solid waste that is disposed at landfills in the levying SWMD. There are three components, or tiers, to the fee. The tiers correspond to where waste was generated – in-district, out-of-district, and out-of-state. In-district waste is solid waste generated by counties within the levying SWMD and disposed at landfills in that SWMD. Out-of-district waste is solid waste generated in Ohio counties that are not part of the SWMD and disposed at landfills in the SWMD. Out-of-state waste is solid waste generated in other states and disposed at landfills in the SWMD.

Ohio's law prescribes the following limits on disposal fees:

- The in-district fee must be $\geq \$1.00$ and $\leq \$2.00$;
- The out-of-district fee must be $\geq \$2.00$ and $\leq \$4.00$; and
- The out-of-state fee must be equal to the in-district fee.

Statute (Ohio Revised Code 3734.57(B)) allows for the SWMD to generate revenues by levying fees on any waste disposed in landfills located in the SWMD. There is one landfill in Logan County, the Cherokee Run Landfill. The SWMD's existing fee structure is: \$1.00 per ton of solid waste in-district; \$3.00 per ton of solid waste out-of-district; and \$1.00 per ton of solid waste out-of-state. The disposal fee most recently changed in October 2016, when the out-of-district was increased from \$2 per ton to \$3 per ton.



The total disposal fee revenue for the District fluctuated from 2015 to 2020 by over \$500,000. The lowest disposal revenue during that period was in 2015 while the out-of-district fee was still \$2 per ton. The in-district to the Cherokee Run Landfill has remained fairly consistent, with an average of \$25,876 generated in disposal fee revenue per year. The out-of-state disposal has also remained consistent and very minimal during the period, with an average of \$160 per year in revenue. Figure O-1 and Figure O-2 show the total revenue from each fee category and the average percentage contribution of each category to the total revenue, respectively. Both figures show that the main driver of the District's disposal fee revenue comes from out-of-district disposal. Out-of-district disposal generated on average over a million dollars in revenue and accounts for 98% of the disposal fee revenue.

Table O-1 shows the historical and projected revenues from disposal fees.

In-district revenue projections: Revenue from 2015 through 2020 are actual revenues reported on the SWMD's quarterly fee reports. Annual revenues from 2021 through the planning period were held constant at \$25,876, the average annual revenue from 2015 through 2020.

Out-of-district revenue projections: Revenue from 2015 through 2020 are actual revenues reported on the SWMD's quarterly fee reports. Annual average tonnage from 2015 through 2020 is 372,670 tons disposed. During this time the landfill held a contract for additional out of district waste that expired in 2019. Using the average over this time period would inflate the out-of-district disposal revenue for the planning period. Annual revenues from 2021 through the planning were calculated from an estimated average tonnage of 310,645 tons which was received in year 2020. As shown in Table O-1, a fee increase in 2024 to \$4 per ton is budgeted to maintain a positive annual budget. The fee increase will be ratified with the 2023 Plan.

Out-of-state revenue projections: Revenue from 2015 through 2020 are actual revenues reported on the SWMD's quarterly fee reports. Annual revenues from 2021 through the planning period were held constant at \$160, the average annual revenue from 2015 through 2020.

Table O-1 Disposal Fee Schedule and Revenue (in accordance with ORC Section 3734.57(B))

Year	Disposal Fee Schedule (\$/ton)			Revenue (\$)			Total Disposal Fee Revenue (\$)
	In-District	Out-of-District	Out-of-State	In-District	Out-of-District	Out-of-State	
2015	\$1	\$2	\$1	\$25,612	\$888,891	\$194	\$914,697

Year	Disposal Fee Schedule (\$/ton)			Revenue (\$)			Total Disposal Fee Revenue (\$)
	In-District	Out-of-District	Out-of-State	In-District	Out-of-District	Out-of-State	
2016	\$1	\$3	\$1	\$24,641	\$1,036,081	\$43	\$1,060,765
2017	\$1	\$3	\$1	\$26,373	\$1,395,615	\$0	\$1,421,988
2018	\$1	\$3	\$1	\$26,374	\$1,100,374	\$156	\$1,126,904
2019	\$1	\$3	\$1	\$26,964	\$910,713	\$298	\$937,974
2020	\$1	\$3	\$1	\$25,290	\$931,935	\$268	\$957,493
2021	\$1	\$3	\$1	\$25,876	\$931,935	\$160	\$957,971
2022	\$1	\$3	\$1	\$25,876	\$931,935	\$160	\$957,971
2023	\$1	\$3	\$1	\$25,876	\$931,935	\$160	\$957,971
2024	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2025	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2026	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2027	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2028	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2029	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2030	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2031	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2032	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2033	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2034	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2035	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2036	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616
2037	\$1	\$4	\$1	\$25,876	\$1,242,580	\$160	\$1,268,616

Source(s) of Information:

CY 2015-2020 revenues sourced from Logan County quarterly fee reports. All other amounts projected.

In-District, Out-of-District and Out-of-State revenue projections were all based on 2015 to 2020 average revenue amounts.

Sample Calculations:

Total Revenue from Disposal Fee (2015) = In District Fee + Out-of-District Fee + Out-of-State Fee

2021 Average Annual In-District revenue = (\$25,612+\$24,641+\$26,373+\$26,374+\$26,964+\$25,920)/6

2. Generation Fee

In accordance with ORC 3734.573, a solid waste management district may levy fees on the generation of solid wastes within the SWMD. The SWMD does not collect generation revenues and does not anticipate adopting generation fees during the planning period covered by this Plan Update.

Table O-2 Generation Fee Schedule and Revenue

Year	Generation Fee Schedule (\$ per ton)	Total Revenue from Generation Fee (\$)
2015	None	\$0

3. Designation Fee

In accordance with Ohio Revised Code 343.014, a solid waste management district may adopt designation fees to assure adequate financing to implement the approved solid waste plan. Designation fees have not been adopted.

Table O-3 Designation Fee Schedule and Revenue

Year	Designation Fee Schedule (\$ per ton)	Total Designation Fee Revenue (\$)
2015	None	\$0

4. Loans

The SWMD secured a 20-year loan in 2009 from Fifth Third Bank to cover the costs to build pay-as-you-throw drop-off recycling centers, purchase property for MRF operations, and purchase equipment for operations of the MRF. The debt was secured by the County Commissioners who combined multiple loans into one grouping. The total loan amount, \$1,885,000 was financed, refinanced and rolled over to 2013.

The SWMD appropriated \$800,000 in 2015 and \$203,051 in 2016 into the debt sinking fund. As of June 2019 the balance owed is \$1.4 million. The loan payments are being paid out of the debt sinking fund. Based on the payment schedule the SWMD will need to pay \$85,000 in 2025 and \$125,000 each year after through 2032.

The SWMD does not intend to secure loans to finance implementing this 2023 Plan.

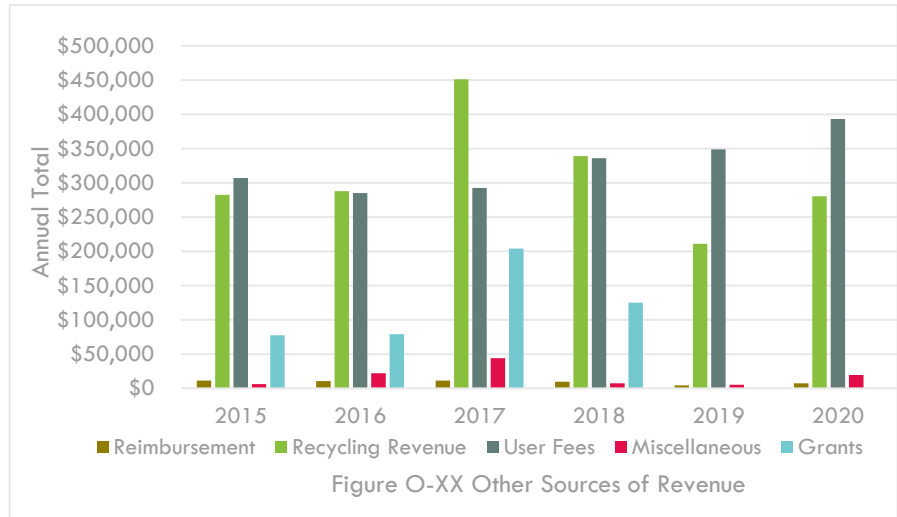
Table O-4 Loans

Year Debt Was/Will be Obtained	Outstanding Balance	Lending Institution	Repayment Term (years)	Annual Debt Service (\$)
2013	\$1,450,000.00	Fifth Third Bank	20 years	
2014				
2015				\$800,000 paid to fund
2016				\$203,051 paid to fund
2017				
2018				
2019				
2020				
2021				
2022				
2023				
2024				
2025				(\$85,000)
2026				(\$125,000)
2027				(\$125,000)
2028				(\$125,000)
2029				(\$125,000)
2030				(\$125,000)
2031				(\$125,000)
2032				(\$125,000)

5. Other Sources of District Revenue

The SWMD receives revenues from: reimbursements, recycling revenue, user fees, grants and other miscellaneous sources. Figure O-3 shows the other sources of revenue from 2015 to 2020 and their fluctuations.

Reimbursements: The reimbursement revenues are from how the SWMD manages contract costs for programs, essentially as administrative pass-through. For example, Lake Township PAYT contracts with a private hauler, the contracted hauler invoices the SWMD, the SWMD pays the invoice and then the SWMD invoices the township. The reimbursements should match the expenses for these services. Projected revenues beginning in year 2021 are held constant at the 2015 to 2019, 5-year average. (Sample calculation: $(\$11,346 + \$10,628 + \$11,340 + \$9,759 + \$4,451)/5 = \$9,505$).



Recycling Revenue: Income from sale of recyclable materials. Recycling revenue fluctuates with the markets. From 2015 to 2020, the SWMD received an average of \$308,710 per year in recycling revenue. However, the recycling revenue for the SWMD fluctuated significantly – the SWMD received \$415,225 in revenue in 2017 and a low of \$210,962 in 2019, a roughly \$240,000 difference. The 5-year 2015 to 2019 average revenue is \$314,363. The SWMD is projecting \$300,000 revenue in 2021 followed by a 10% increase annually till 2025 when the projection is held constant.

User Fees: User fees are another key funding source for the SWMD. User fees are charged on trash bags and materials accepted at CHaRM. The SWMD charges a fee for trash bags at the drop-off recycling centers as way to incentivize recycling. The price of bags has increased from \$2 per bag in 2013 to it's current rate of \$2.50 per bag in 2020. The price of bags is intended to be structured to pay for the program expenses including trash pick-up and disposal costs. Total collected in user fees dipped slightly from 2015 to 2016 but since 2016 have increased every year, with an average of \$327,000 collected annually from 2015 to 2020.

Projections for CHaRM user fees are held constant at \$13,093, the 5-year average from 2015 to 2019, however the user fees are subject to change and adjust annually. Projected revenues from PAYT drop-off bag fees are calculated in the table below. A \$0.25 annual increase is applied till bag prices reach \$3.50 each.

YEAR	#HH Participating	#Bags/Month	#Bags/Year	FEE	Revenue
2021	2066	11600	139200	\$2.50	\$348,000.00
2022	2066	11948	143376	\$2.75	\$394,284.00
2023	2066	12306	147677	\$3.00	\$443,031.84
2024	2066	12676	152108	\$3.25	\$494,349.69
2025	2066	13056	156671	\$3.50	\$548,347.89
2026	2066	13448	161371	\$3.50	\$564,798.33
2027	2066	13851	166212	\$3.50	\$581,742.28
2028	2066	14267	171198	\$3.50	\$599,194.55

YEAR	#HH Participating	#Bags/Month	#Bags/Year	FEE	Revenue
2029	2066	14695	176334	\$3.50	\$617,170.38
2030	2066	15135	181624	\$3.50	\$635,685.50
2031	2066	15589	187073	\$3.50	\$654,756.06
2032	2066	16057	192685	\$3.50	\$674,398.74
2033	2066	16539	198466	\$3.50	\$694,630.70
2034	2066	17035	204420	\$3.50	\$715,469.63
2035	2066	17546	210552	\$3.50	\$736,933.71
2036	2066	18072	216869	\$3.50	\$759,041.73
2037	2066	18615	223375	\$3.50	\$781,812.98

Bags per month increase at 3% annually.

Grants: In the 2016 Plan, the SWMD identified grants as a priority funding mechanism for the planning period and beyond. The SWMD had planned on receiving \$150,000 every year from 2016 to 2020. The district reached 65% of that goal receiving around \$485,000 in grants out of the \$750,000 targeted. Due to COVID-19 and the resulting state revenue shortfalls for 2019 year, the Ohio EPA is suspended their grant program for 2019 and 2020. The SWMD also identified pursuing grants opportunities outside of the Ohio EPA grants, which might be more important with the funding disruptions from COVID-19. If the SWMD had received a \$150,000 grant in 2020, the SWMD would have been at 85% of their funding goal.

In 2019, grant dollars were appropriated to pay for tire dump cleanups. The SWMD received a \$200,000 Ohio EPA grant with \$100,000 in 2021 and \$100,000 in 2022. No revenue is projected in the planning period.

Miscellaneous: The SWMD also receives revenue from other sources that are typically more inconsistent in frequency and amount. The sources can include donations, interest, and other projects. The SWMD received over \$100,000 total in revenue in this category from 2015 to 2020, averaging \$17,400 per year. The range in this revenue fluctuations widely, with a low of \$5,209 in 2019 and a high in 2017 with \$44,006.

Projected revenues beginning in year 2021 are held constant at the 2105 to 2019, 5-year average. (Sample calculation: $(\$6,212 + \$22,121 + \$44,006 + \$7,278 + \$5,209) / 5 = \$16,965$).

Table O-5 Other Revenues and Other Revenue Sources

Year	Reimbursement	Recycling Revenue	User Fees	Miscellaneous	Grants	Total Other Revenue
2015	\$11,346	\$282,599	\$307,067	\$6,212	\$77,434	\$684,658
2016	\$10,628	\$287,940	\$285,153	\$22,121	\$78,975	\$684,817
2017	\$11,340	\$451,225	\$292,573	\$44,006	\$203,975	\$1,003,120
2018	\$9,759	\$339,090	\$335,982	\$7,278	\$125,000	\$817,109
2019	\$4,451	\$210,962	\$348,794	\$5,209	\$361	\$569,777
2020	\$7,445	\$280,444	\$393,144	\$19,488	\$0	\$700,520
2021	\$9,505	\$300,000	\$361,094	\$16,965	\$100,000	\$787,564
2022	\$9,505	\$330,000	\$407,378	\$16,965	\$100,000	\$863,848
2023	\$9,505	\$363,000	\$456,125	\$16,965	\$0	\$845,596
2024	\$9,505	\$399,300	\$507,443	\$16,965	\$0	\$933,214
2025	\$9,505	\$439,230	\$561,441	\$16,965	\$0	\$1,027,142
2026	\$9,505	\$439,230	\$577,892	\$16,965	\$0	\$1,043,592
2027	\$9,505	\$439,230	\$594,836	\$16,965	\$0	\$1,060,536

Year	Reimbursement	Recycling Revenue	User Fees	Miscellaneous	Grants	Total Other Revenue
2028	\$9,505	\$439,230	\$612,288	\$16,965	\$0	\$1,077,988
2029	\$9,505	\$439,230	\$630,264	\$16,965	\$0	\$1,095,964
2030	\$9,505	\$439,230	\$648,779	\$16,965	\$0	\$1,114,479
2031	\$9,505	\$439,230	\$667,850	\$16,965	\$0	\$1,133,550
2032	\$9,505	\$439,230	\$687,492	\$16,965	\$0	\$1,153,193
2033	\$9,505	\$439,230	\$707,724	\$16,965	\$0	\$1,173,425
2034	\$9,505	\$439,230	\$728,563	\$16,965	\$0	\$1,194,263
2035	\$9,505	\$439,230	\$750,027	\$16,965	\$0	\$1,215,728
2036	\$9,505	\$439,230	\$772,135	\$16,965	\$0	\$1,237,836
2037	\$9,505	\$439,230	\$794,907	\$16,965	\$0	\$1,260,607

Source(s) of Information:

CY 2015-2020 revenues sourced from quarterly fee reports. All other amounts are projections.

Sample Calculations:

Other Revenue Total (2015) = interest + recycling revenue + rates and charges + out of state contract fee + grants + fee penalty + reimbursements + taxes + other

6. Summary of District Revenues

Table O-6 Total Revenue (in accordance with ORC 3734.57, ORC 3734.572 and ORC 3734.573)

Year	Disposal Fees	Other Revenue	Total Revenue
2015	\$914,697	\$684,658	\$1,599,356
2016	\$1,060,765	\$684,817	\$1,745,582
2017	\$1,421,988	\$1,003,120	\$2,425,108
2018	\$1,126,904	\$817,109	\$1,944,013
2019	\$937,974	\$569,777	\$1,507,752
2020	\$957,493	\$700,520	\$1,658,013
2021	\$957,971	\$787,564	\$1,745,534
2022	\$957,971	\$863,848	\$1,821,818
2023	\$957,971	\$845,596	\$1,803,566
2024	\$1,268,616	\$933,214	\$2,201,829
2025	\$1,268,616	\$1,027,142	\$2,295,757
2026	\$1,268,616	\$1,043,592	\$2,312,208
2027	\$1,268,616	\$1,060,536	\$2,329,152
2028	\$1,268,616	\$1,077,988	\$2,346,604
2029	\$1,268,616	\$1,095,964	\$2,364,580
2030	\$1,268,616	\$1,114,479	\$2,383,095
2031	\$1,268,616	\$1,133,550	\$2,402,165
2032	\$1,268,616	\$1,153,193	\$2,421,808
2033	\$1,268,616	\$1,173,425	\$2,442,040
2034	\$1,268,616	\$1,194,263	\$2,462,879
2035	\$1,268,616	\$1,215,728	\$2,484,343
2036	\$1,268,616	\$1,237,836	\$2,506,451

Year	Disposal Fees	Other Revenue	Total Revenue
2037	\$1,268,616	\$1,260,607	\$2,529,222

CY 2015-2020 revenues sourced from quarterly fee reports. All other amounts are projections (refer to Table O-2 and O-5).

Sample Calculations:

Total Revenue (2014) = Disposal Fees + Generation Fees + Designation Fee + Other Revenue

Table O-6 includes all funding mechanisms that will be used, and the total amount of revenue generated by each method for each year of the planning period. The SWMD finances its operations with three main sources of revenue: disposal fee, recycling revenue, and user fees. Recycling revenue and user fees are revenue sources generated outside of division (B) of section 3734.57 section [3734.571](#), [3734.572](#), or [3734.573](#); or division (A), (B), or (D) of section [3734.574](#) of the Revised Code.

In 2019, total revenue was \$1,507,752. The largest source of revenue is the disposal fee.

B. Cost of Implementing Plan

Table O-7 Expenses

Line #	Category/Program	2015	2016	2017	2018	2019	2020	2021	2022
1	1. Plan Monitoring/Prep.	\$138,136	\$104,687	\$127,059	\$114,197	\$109,332	\$125,845	\$100,000	\$100,000
1.a	a. Plan Preparation	\$0	\$18,754	\$127,059	\$114,197	\$109,332	\$125,845		
1.b	b. Plan Monitoring	\$138,136	\$85,933	\$0	\$0	\$0	\$0	\$100,000	\$100,000
1.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0		
2	2. Plan Implementation	\$1,856,907	\$1,271,779	\$1,007,917	\$1,825,367	\$1,099,405	\$1,421,920	\$1,559,602	\$1,715,299
2.a	a. District Administration	\$417,773	\$424,468	\$403,679	\$1,126,854	\$509,465	\$604,354	\$697,154	\$773,299
2.a.1	Personnel	\$343,559	\$343,962	\$348,295	\$337,472	\$349,683	\$403,644	\$472,154	\$543,299
2.a.2	Office Overhead	\$74,214	\$80,506	\$55,384	\$789,382	\$159,782	\$200,710	\$225,000	\$230,000
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0		
2.b	b. Facility Operation	\$380,828	\$436,675	\$395,736	\$429,839	\$304,994	\$581,742	\$600,000	\$630,000
2.b.1	MRF/Recycling Center	\$380,828	\$436,532	\$395,736	\$429,839	\$304,994	\$581,742	\$600,000	\$630,000
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0	\$0		
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0	\$0		
2.b.4	Special Waste	\$0	\$143	\$0	\$0	\$0	\$0		
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0		
2.d	d. Recycling Collection	\$133,690	\$137,683	\$127,507	\$138,787	\$197,126	\$161,512	\$172,000	\$182,000
2.d.1	Curbside	\$12,371	\$12,371	\$12,371	\$27,096	\$11,437	\$10,406	\$12,000	\$12,000
2.d.2	Drop-off	\$121,319	\$125,312	\$115,136	\$111,690	\$185,689	\$151,106	\$150,000	\$150,000
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0	\$10,000	\$20,000
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0		
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0		
2.d.6	Other	\$0	\$0	\$0	\$0	\$0	\$0		
2.e	e. Special Collections	\$16,000	\$31,452	\$47,995	\$33,583	\$39,101	\$37,688	\$40,000	\$40,000
2.e.1	Tire Collection	\$3,000	\$0	\$5,691	\$0	\$5,035	\$1,835	\$5,000	\$5,000
2.e.2	HHW Collection	\$4,416	\$21,732	\$19,944	\$20,301	\$22,197	\$18,898	\$20,000	\$20,000
2.e.3	Electronics Collection	\$8,584	\$9,720	\$22,359	\$13,282	\$11,868	\$16,955	\$15,000	\$15,000
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0		
2.e.5	Other Collection Drives	\$0	\$0	\$0	\$0	\$0	\$0		
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$14,500	\$33,000
2.g	g. Education/Awareness	\$26,197	\$38,451	\$33,000	\$96,304	\$45,969	\$36,624	\$35,949	\$57,000
2.g.1	Education Staff	\$26,197	\$22,086	\$0	\$0	\$0	\$0	\$0	\$22,000
2.g.2	Advertisement/Promotion	\$0	\$16,365	\$13,510	\$6,089	\$42,475	\$25,949	\$25,949	\$25,000
2.g.3	Other	\$0	\$0	\$19,490	\$90,215	\$3,493	\$10,675	\$10,000	\$10,000
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities	\$0	\$0	\$0	\$0	\$0	\$0		
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0	\$0		
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0		
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0		
2.k	k. Waste Assessments/Audits	\$0	\$0	\$0	\$0	\$0	\$0		
2.l	l. Dump Cleanup	\$0	\$0	\$0	\$0	\$0	\$0		
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0		
2.n	n. Emergency Debris Management	\$82,418	\$0	\$0	\$0	\$2,750	\$0	\$0	\$0
2.o	o. Loan Payment	\$800,000	\$203,051	\$0	\$0	\$0	\$0	\$0	\$0
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0		
3	3. Health Dept. Enforcement	\$85,000	\$56,250	\$0	\$0	\$60,000	\$50,219	\$0	\$0
	Health Department Name:	\$85,000	\$56,250	\$0	\$0	\$60,000	\$50,219	\$0	\$0
4	4. County Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.a	a. Maintaining Roads								
4.b	b. Maintaining Public Facilities								
4.c	c. Providing Emergency Services								
4.d	d. Providing Other Public Services								
5	5. Well Testing								
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement	\$99,359	\$137,548	\$196,286	\$192,573	\$124,401	\$112,004	\$193,904	\$199,599
7.a	a. Health Departments	\$0	\$18,750	\$80,000	\$80,000	\$0	\$0	\$80,000	\$80,000
7.b	b. Local Law Enforcement	\$99,359	\$118,798	\$116,286	\$112,573	\$124,401	\$112,004	\$113,904	\$119,599
7.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0		
8	8. Health Department Training								
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.b	b. Maintaining Public Facilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)								
	Total Expenses	\$2,179,402	\$1,570,264	\$1,331,261	\$2,132,137	\$1,393,139	\$1,709,988	\$1,853,506	\$2,014,898

Line #	Category/Program	2023	2024	2025	2026	2027	2028	2029	2030
1	1. Plan Monitoring/Prep.	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
1.a	a. Plan Preparation					15000	15000	4000	
1.b	b. Plan Monitoring	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
1.c	c. Other								
2	2. Plan Implementation	\$1,412,164	\$1,425,019	\$1,562,953	\$1,639,022	\$1,675,967	\$1,713,820	\$1,752,612	\$1,992,378
2.a	a. District Administration	\$858,504	\$894,679	\$931,913	\$957,261	\$983,463	\$1,010,551	\$1,038,555	\$1,067,509
2.a.1	Personnel	\$623,504	\$654,679	\$687,413	\$708,036	\$729,277	\$751,155	\$773,690	\$796,900
2.a.2	Office Overhead	\$235,000	\$240,000	\$244,500	\$249,225	\$254,186	\$259,396	\$264,865	\$270,609
2.a.3	Other								
2.b	b. Facility Operation	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$380,000
2.b.1	MRF/Recycling Center	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000
2.b.2	Compost								
2.b.3	Transfer								\$200,000
2.b.4	Special Waste								
2.c	c. Landfill Closure/Post-Closure								
2.d	d. Recycling Collection	\$197,000	\$202,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000
2.d.1	Curbside	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
2.d.2	Drop-off	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
2.d.3	Combined Curbside/Drop-off	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
2.d.4	Multi-family								
2.d.5	Business/Institutional	\$5,000	\$10,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
2.d.6	Other								
2.e	e. Special Collections	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
2.e.1	Tire Collection	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
2.e.2	HHW Collection	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
2.e.3	Electronics Collection	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
2.e.4	Appliance Collection								
2.e.5	Other Collection Drives								
2.f	f. Yard Waste/Other Organics	\$49,000	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000	\$100,000	\$110,000
2.g	g. Education/Awareness	\$87,660	\$58,340	\$59,040	\$59,761	\$60,504	\$61,269	\$62,057	\$62,869
2.g.1	Education Staff	\$22,660	\$23,340	\$24,040	\$24,761	\$25,504	\$26,269	\$27,057	\$27,869
2.g.2	Advertisement/Promotion	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
2.g.3	Other	\$40,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities								
2.h.2	ODNR pass-through grant								
2.i	i. Service Contracts								
2.j	j. Feasibility Studies								
2.k	k. Waste Assessments/Audits								
2.l	l. Dump Cleanup								
2.m	m. Litter Collection/Education								
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$0	\$0	\$85,000	\$125,000	\$125,000	\$125,000	\$125,000	\$125,000
2.p	p. Other								
3	3. Health Dept. Enforcement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Health Department Name:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	4. County Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.a	a. Maintaining Roads								
4.b	b. Maintaining Public Facilities								
4.c	c. Providing Emergency Services								
4.d	d. Providing Other Public Services								
5	5. Well Testing								
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement	\$205,579	\$211,858	\$218,450	\$225,373	\$232,642	\$240,274	\$240,274	\$240,274
7.a	a. Heath Departments	\$100,000	\$100,000	\$100,000	\$120,000	\$120,000	\$120,000	\$130,000	\$130,000
7.b	b. Local Law Enforcement	\$125,579	\$131,858	\$138,450	\$145,373	\$152,642	\$160,274	\$160,274	\$160,274
7.c	c. Other								
8	8. Heath Department Training								
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.b	b. Maintaining Public Facilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)								
	Total Expenses	\$1,737,743	\$1,756,877	\$1,901,404	\$2,004,395	\$2,048,609	\$2,094,094	\$2,142,886	\$2,382,652

Line #	Category/Program	2031	2032	2033	2034	2035	2036	2037
1	1. Plan Monitoring/Prep.	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
1.a	a. Plan Preparation				15000	15000	4000	
1.b	b. Plan Monitoring	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
1.c	c. Other							
2	2. Plan Implementation	\$2,023,151	\$2,054,969	\$1,962,867	\$1,996,886	\$2,032,064	\$2,068,445	\$2,106,071
2.a	a. District Administration	\$1,097,446	\$1,128,403	\$1,160,414	\$1,193,519	\$1,227,757	\$1,263,168	\$1,299,795
2.a.1	Personnel	\$820,807	\$845,432	\$870,795	\$896,918	\$923,826	\$951,541	\$980,087
2.a.2	Office Overhead	\$276,639	\$282,971	\$289,620	\$296,601	\$303,931	\$311,627	\$319,708
2.a.3	Other							
2.b	b. Facility Operation	\$380,000	\$380,000	\$380,000	\$380,000	\$380,000	\$380,000	\$380,000
2.b.1	MRF/Recycling Center	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000	\$180,000
2.b.2	Compost							
2.b.3	Transfer	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
2.b.4	Special Waste							
2.c	c. Landfill Closure/Post-Closure							
2.d	d. Recycling Collection	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000	\$207,000
2.d.1	Curbside	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
2.d.2	Drop-off	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
2.d.3	Combined Curbside/Drop-off	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
2.d.4	Multi-family							
2.d.5	Business/Institutional	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
2.d.6	Other							
2.e	e. Special Collections	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
2.e.1	Tire Collection	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
2.e.2	HHW Collection	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
2.e.3	Electronics Collection	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
2.e.4	Appliance Collection							
2.e.5	Other Collection Drives							
2.f	f. Yard Waste/Other Organics	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000
2.g	g. Education/Awareness	\$63,705	\$64,566	\$65,453	\$66,367	\$67,308	\$68,277	\$69,275
2.g.1	Education Staff	\$28,705	\$29,566	\$30,453	\$31,367	\$32,308	\$33,277	\$34,275
2.g.2	Advertisement/Promotion	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
2.g.3	Other	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities							
2.h.2	ODNR pass-through grant							
2.i	i. Service Contracts							
2.j	j. Feasibility Studies							
2.k	k. Waste Assessments/Audits							
2.l	l. Dump Cleanup							
2.m	m. Litter Collection/Education							
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$125,000	\$125,000	\$0	\$0	\$0	\$0	\$0
2.p	p. Other							
3	3. Health Dept. Enforcement	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Health Department Name:	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Health Department Name:	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	4. County Assistance							
4.a	a. Maintaining Roads							
4.b	b. Maintaining Public Facilities							
4.c	c. Providing Emergency Services							
4.d	d. Providing Other Public Services							
5	5. Well Testing							
6	6. Out-of-State Waste Inspection							
7	7. Open Dump, Litter Law Enforcement	\$240,274	\$240,274	\$240,274	\$240,274	\$240,274	\$240,274	\$240,274
7.a	a. Heath Departments	\$130,000	\$130,000	\$130,000	\$160,000	\$160,000	\$200,000	\$200,000
7.b	b. Local Law Enforcement	\$160,274	\$160,274	\$160,274	\$160,274	\$160,274	\$160,274	\$160,274
7.c	c. Other							
8	8. Heath Department Training							
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.b	b. Maintaining Public Facilities	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)							
Total Expenses		\$2,413,425	\$2,445,243	\$2,353,141	\$2,417,159	\$2,452,338	\$2,528,719	\$2,566,344

The expense line items in Table O-7 are the same as those that the SWMD uses to report expenses for the quarterly fee report. In 2015, Ohio EPA updated the expense line items on the quarterly fee report. In some cases, the line items used to report expenses historical quarterly fee reports will differ from the line items in Table O-7. Each expense applicable to the SWMD allocated to line items in Table O-7 are explained here:

1. Plan Monitoring/Prep.

1.a Plan Preparation

2015 – 2020 – The costs shown for 2015 through 2020 are actual expenses for line item 1.b. Plan Monitoring. These expenses were recorded in line item 1.a. in the SWMD's quarterly fee reports.

2021 – 2037 – The expense line items shown are estimates for consulting fees for plan preparation.

1.b Plan Monitoring

2015 – 2020 – The costs shown for 2015 through 2020 are actual expenses for monitoring the solid waste management plan and conducting annual district report surveys. Some of the years with plan monitoring expenses appear in line item 1.a. as shown recorded on the quarterly fee reports.

2021 – 2037 – The expense line items shown are estimates for plan monitoring.

2. Plan Implementation

2.a District Administration

2.a.1 Personnel

2015 – 2020 – - Expense line items include cost for payroll, payroll taxes, and benefits for District personnel (including PERS, Medicare, and insurance). The costs shown for 2015 through 2020 are actual expenses. Administrative costs also include some program costs which are difficult to separate into their own line item. Those program costs are absorbed into the various administrative costs line items. The District employs a Coordinator, office manager, field supervisor, field technician, and roll-off truck driver.

2021 – 2037 - In 2021 an increase of \$47,000 plus overhead costs are added to support a County Administrator's partial salary. In 2021, the U.S. national inflation rate is projected to trend around 2.26%. In February 2022 annual inflation accelerated to 7.9%³⁵. Logan County budgeted for a 7% annual increase in 2022, 5% in 2023, 2024 and 2025, then 3% through the remaining planning period. In 2022, the staff salary rates are adjusted 10% to bring salaries in line with current cost of living. In 2023, a full-time MRF employee rate plus benefits is added.

2.a.2 Office Overhead

2015 – 2020 – - Supplies (including postage, reproductions, advertising, printing, utilities, etc.), equipment, travel, vehicles, uniforms, telephone, legal fees, workshops, training materials, vehicle purchase and maintenance, and other contract services. The costs shown for 2015 through 2020 are actual expenses. In 2018, an equipment fund was developed and \$500,000 was appropriated into the fund specifically for equipment purchases.

2021 – 2037 - Projecting into the future, costs are budgeted at \$150,000 a year plus a distribution to the equipment fund. Most equipment is amortized over a 10-year life so to support future equipment replacement and needs. The SWMD will contribute \$75,000 in 2021; \$80,000 in 2022; \$85,000 in 2023; \$90,000 in 2024; and beginning in 2025 the contribution to the fund is inflated at 5% annually.

³⁵ <https://tradingeconomics.com/united-states/inflation-cpi>

2.b. Facility Operation

2.b.1 MRF/Recycling Center

2015 – 2020 – Processing operations, capital expenses, and rebates are actual expenses. Processing operation expenses include supplies and maintenance. Capital improvements are external to this cost/revenue balance. Rebates are revenue shares offered for cardboard and office paper. Rebates are funded on market condition revenues up to a maximum of \$54,900. Rebates fluctuate with the markets. No statutory regulated district revenues are involved. Rebates are reduced dollar for dollar as commodity revenues decrease. For budgeting purposes rebates are maxed at \$54,900 each year. Funds for capital expenses are allocated from line item 2.a.2. Costs were higher in 2020 for capital improvement projects which include the fire suppression system and doubling the container feed and sorting line.

2021 – 2037 – Projected expenses are best estimates. Operational costs are affected by a number of variables including the types and quantities of materials processed, level of processing needed for preparing for markets, staffing levels, and markets. Capital purchases and improvements depend largely on grant funding. If grant funding is not secured, improvements will be scaled back and possibly postponed. Beginning in 2021, capital improvement projects on the fiber line to improve the bulk feed, sort line, inspection and post-sort containment began. Total costs of \$320,000 are budgeted which includes \$200,000 in Ohio EPA grant awards over the 2021 and 2022 calendar years. The remaining planning period expense holds constant at \$430,000. Capital expenses will be needed in the future and are budgeted in line item 2.a.2 Office Overhead to appropriate annually to a long-term environmental fund. Beginning in year 2023 the costs are held at the average annual operation costs excluding any capital expenses.

2.b.3 Transfer

2030 – 2037 – In this budget planning period, the SWMD is allowing for a projected annual expense of \$200,000. While capacity is not yet a priority issue, collection service issues coupled with price increases warrant conversations and planning about future options. Allocating funding in this line item would allow the SWMD to explore those options. Potential spends may include request for qualifications and/or proposals development and assistance, siting development, acquisition, etc. If funding is not needed for these services, the SWMD may re-allocate these funds to support additional green energy and carbon sequestration, expanded or pro-longed health department services, monitoring and lab expenses, other facility inspections, and/or capital improvements.

The district is authorized to establish the need and timing of a transfer station and begin development of a transfer station as funds are allocated in this plan starting in 2030. If the need precedes the schedule and expenses are less than \$200,000 (approximately 10% of the planned SWMD expenses found in Table O-8) for one year, that is, the expenses do not succeed into subsequent planning years, then the District will not ratify an amended plan budget. If the need precedes the schedule for funding this development, and significant resources are needed before 2030 that succeed into subsequent planning years, the district will ratify an amended budget to move the investment forward sooner.

2.d. Recycling Collection

2.d.1 Curbside

2015 – 2020 – Curbside expenses shown are SWMD expenses for the Lake Township program. These expenses are offset by reimbursement revenues from the Township.

2021 – 2037 - The SWMD is budgeting \$12,000 annually.

2.d.2 Drop-off

2015 – 2020 – This comprises capital and operational costs to operate the PAYT drop-off recycling program (provide drop-off bins, collect recyclables, dispose of trash, maintenance, repairs, supplies and signs). Other costs include maintenance, fuel, and supplies for maintaining a vehicle for the District. Vehicle maintenance expenses fluctuate.

2021 – 2037 – Projected budget is held constant at \$150,000 annually throughout the planning period

2.d.3 Combined Curbside/Drop-off

2021 - Community curbside grant assistance is budgeted up to the total included in this line item beginning in year 2021. Community curbside grant assistance is available to those political jurisdictions offering curbside recycling programs. The Board will determine the actual appropriations each year based on the availability of funds. Local governments will submit requests with detailed explanation of the planned use and the value to the district. No local government may request more than \$100K total over a 5 year period.

2.d.5 Business/Institutional

2023 - Budget of \$5,000 in 2023, \$10,000 in 2024, and \$15,000 in 2025. Budget is held at \$15,000 constant through planning period for Program Improvements/Revisions. Funding will be awarded based on projected audience size and improved participation and/or tons diverted. Allocations are likely to change from year to year and may be made in any proportion deemed most promising, based on real opportunities to improve diversions. Any funds not disbursed will not be allocated to other line item expenses.

2.e. Special Collections

2.e.1. Tire Collection

2015 – 2020 – Actual expenses for tire clean ups and management.

2021 – 2037 – A budget of \$5,000 annually is set for clean ups of waste tire clean ups.

2.e.2. HHW Collection

2015 – 2020 – Actual expenses for CHaRM.

2021 – 2037 – Annual budget is held constant at \$20,000.

2.e.3. Electronics Collection

2015 – 2020 – Actual expenses for electronics collected and managed through CHaRM.

2021 – 2037 – Annual budget is held constant at \$15,000.

2.f. Yard Waste/Other Organics

2021 – 2037 – Food Scrap Drop-off program expense are projected at \$5,500 in 2021, \$15,000 in 2022 and \$31,000 in 2023. The budget projects a \$10,000 annual increase from 2025 to 2030 and then held constant for the remaining planning years. These projections allow for growth of food scrap drop-off sites and containers to service at each site. The first site will grow to 5 containers before additional sites are added. The plan in the budget allows for growth to 9 sites with 5 containers per site.

Additional program costs allocated to this line item include the Cover Crops project. Revenue sources generated outside of division (B) of section 3734.57 section [3734.571](#), [3734.572](#), or [3734.573](#); or division (A), (B), or (D) of section [3734.574](#) of the Revised Code will be used to fund this project. In 2021, 2022 and 2023 a total of \$54,000 will be allocated up to 500 acres in the demonstration project. Plan projections show a \$25,000 expense annually thereafter.

2.g. Education/Awareness

2.g.1 Education Staff

2015- 2020 – Expenses shown include supporting partnerships to expand and boost school, teacher, youth, adult, and stakeholder education.

2022- 2037 – Projected expenses shown include a budget for part-time education staff.

2.g.2. Advertisement/Promotion

2015 – 2020 - The costs shown are actual expenses for education supplies, promotions, publications (brochures, flyers, etc.), advertising, school program activities, promotional items, etc.

2021 – 2037 - Annual budgeted program costs are held constant at \$25,000 annually.

2.g.3. Other

2015 – 2020 – Expenses include annual awards, special promotions, contests, signs for Adopt-a-Road, etc.

2021 – 2037 – Budgeting \$10,000 every year for website hosting/management, etc. and other education expenses. In 2023, \$30,000 is budgeted for updating the SWMD's website.

2.m.1 Emergency Debris Management

2015 –2020 - The District financially supports contractors, negotiates contracts, support of and coordination with jurisdiction officials for expenses and scheduling; and documentation of all resources, personnel, materials, and costs for reimbursement purposes.

2021 –2037 – No expenses budgeted in the planning period.

2.o. Loan Payment

2015 – 2020 – Actual appropriations to the debt sinking fund.

2021 – 2037 – Budget projected as shown in Table O-4 Debt.

3. Health Dept. Enforcement

2015 - 2020 – Actual expenses.

2021 - 2037 - No expenses budgeted.

4. County Assistance

No expenses incurred or budgeted

5. Well Testing

No expenses incurred or budgeted

6. Out-of-State Waste Inspection

No expenses incurred or budgeted

7. Open Dump, Litter Law Enforcement

7.a. Health Departments

2015 – 2020 - Funding is provided to the Health Department by the District to ensure the implementation of activities described in ORC 3734.57(B). Expenses shown are actual. This annual funding for the Health Department will still be restricted to the authorization in contracts and the fund will be controlled by the district. Expenses funded will be verified for allowable uses.

2021 – 2022 - A budget of \$80,000 annually is set.

2023 – 2025 - A budget of \$100,000 annually is set.

2026 – 2028 - A budget of \$120,000 annually is set.

2029 – 2033 - A budget of \$130,000 annually is set.

2034 – 2035 - A budget of \$160,000 annually is set.

2036 – 2037 - A budget of \$200,000 annually is set.

8. Health Department Training

No expenses incurred or budgeted

9. Municipal/Township Assistance

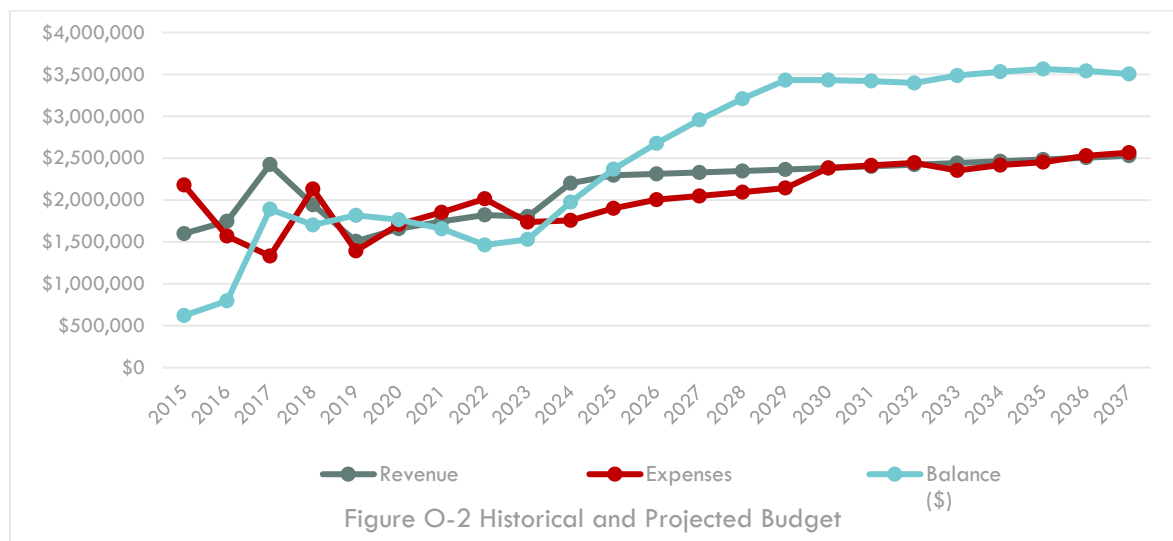
No expenses incurred or budgeted

Nothing contained in these budget projections should be construed as a binding commitment by the SWMD to spend a specific amount of money on a particular strategy, facility, program and/or activity. Coordinator will review and revise the budget as needed, with support from the Board of County Commissioners and Policy Committee, to implement planned strategies, facilities, programs and/or activities as effectively as possible with the funds available. Revenues, including unused disposal fee revenue (fund balance) not otherwise committed to an existing strategy, facility, program or activity may be used to increase funding to improve the effectiveness of an existing strategy, facility, program or activity, and to provide funding for a new strategy, facility, program or activity the Policy Committee concludes is justified based on staff and consultant recommendations.

The SWMD reserves the right to revise the budget and reallocate funds as programs change or as otherwise determined to be in the best interest of the SWMD. The Board of County Commissioners shall thereafter approve any adjustments to the budget on an annual or more frequent basis. The SWMD is committed to implementing planned strategies, facilities, programs and/or activities in a cost-effective manner.

Table O-8 Budget Summary

Year	Revenue (\$)	Expenses (\$)	Annual Surplus/Deficit (\$)	Balance (\$)
2014	Ending Balance			1,201,454
2015	\$1,599,356	\$2,179,402	-\$580,046	\$621,407
2016	\$1,745,582	\$1,570,264	\$175,318	\$796,726
2017	\$2,425,108	\$1,331,261	\$1,093,846	\$1,890,572
2018	\$1,944,013	\$2,132,137	-\$188,124	\$1,702,448
2019	\$1,507,752	\$1,393,139	\$114,613	\$1,817,060
2020	\$1,658,013	\$1,709,988	-\$51,975	\$1,765,086
2021	\$1,745,534	\$1,853,506	-\$107,971	\$1,657,114
2022	\$1,821,818	\$2,014,898	-\$193,080	\$1,464,035
2023	\$1,803,566	\$1,737,743	\$65,823	\$1,529,858
2024	\$2,201,829	\$1,756,877	\$444,952	\$1,974,810
2025	\$2,295,757	\$1,901,404	\$394,354	\$2,369,164
2026	\$2,312,208	\$2,004,395	\$307,813	\$2,676,977
2027	\$2,329,152	\$2,048,609	\$280,543	\$2,957,520
2028	\$2,346,604	\$2,094,094	\$252,510	\$3,210,030
2029	\$2,364,580	\$2,142,886	\$221,694	\$3,431,724
2030	\$2,383,095	\$2,382,652	\$443	\$3,432,167
2031	\$2,402,165	\$2,413,425	-\$11,260	\$3,420,907
2032	\$2,421,808	\$2,445,243	-\$23,434	\$3,397,473
2033	\$2,442,040	\$2,353,141	\$88,899	\$3,486,372
2034	\$2,462,879	\$2,417,159	\$45,720	\$3,532,092
2035	\$2,484,343	\$2,452,338	\$32,005	\$3,564,097
2036	\$2,506,451	\$2,528,719	-\$22,267	\$3,541,830
2037	\$2,529,222	\$2,566,344	-\$37,122	\$3,504,707



C. Alternative Budget

The SWMD does not anticipate the need to identify any type of contingent funding or financing that would be necessary to fund any type of program activity in conjunction with Plan implementation efforts.

D. Major Facility Project

A SWMD that is considering whether to construct and operate a new solid waste management facility or renovate an existing solid waste facility will provide a budget for the facility. For the purposes of this section, a solid waste management facility means a facility the SWMD owns and operates or will own and operate to manage solid waste and/or recyclable materials. Examples of solid waste management facilities include:

- a municipal solid waste landfill or solid waste transfer station
- a yard waste composting facility
- a material recovery facility
- a recycling center
- a permanent household hazardous waste collection facility

The SWMD is not planning to construct or operate a new solid waste management facility during the first 5-years of the planning period. The budget provided in this plan allocates funds as early as 2030 towards facility operation transfer facility line item (line item 2.b.3 Transfer). The privately owned in-district landfill has about 40 years of remaining capacity (according to Ohio EPA record). While this seems far off, the SWMD is aware planning takes time. Future vertical and horizontal expansions may extend capacity or, maybe not. Additionally, there has been service issues and cost increases which add to the obligation of investigative planning for future waste collection and disposal options in the County.

Transfer stations offer flexibility in terms of disposal options. Deciding whether a transfer station is appropriate for Logan County is a process that will take time. Adding funding in 2030 allows for the SWMD to begin the process of research (economic and social impacts), planning, siting, etc. SWMD expects to prepare another Plan Update before 2030 so is not estimating any facility budgets at this time.

APPENDIX P DESIGNATION

A. Statement Authorizing/Precluding Designation

The Board of County Commissioners of the Logan County Solid Waste Management District is hereby authorized to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code.

The District reserves the right to implement facility designations, and to adopt District rules concerning facility designations.

B. Designated Facilities

The District reserves the right to implement facility designations, and to adopt District rules concerning facility designations. Should the District implement facility designations, in accordance with ORC 343.01(I)(2), the District will use the following procedure for issuing a waiver to allow solid waste to flow to facilities other than those designated by the District:

1.) Applicant submits a written request for waiver to the District at the following address:

Logan County Board of Commissioners
117 E. Columbus Avenue
Bellefontaine, Ohio 43311

2.) Written request shall include:

- Name and address of generator.
- Annual quantity (tonnage) of material being redirected.
- Type and nature of material being redirected.
- Facility where material will be disposed.
- Reason for waiver request.

Within 90 days of receipt of the waiver request, the District will act. Evaluation of a waiver request will be based on projections contained in the approved plan under Section 3734.53(A)(6) and (A)(7) and implementation and financing of the approved plan. Should the waiver be consistent with plan projections and will not adversely impact plan implementation and financing, the District may grant a waiver allowing solid waste to be taken to an undesignated facility for a minimum period of one year.

C. Documents

None included.

APPENDIX Q DISTRICT RULES

A. Existing Rules

The Logan County Solid Waste Management District is hereby authorized to adopt rules in accordance with and pursuant to Division (G) of Section 343.01 of the ORC and Division of (C) of Section 3734.53 of the ORC, to the extent any such rules are determined by the Board from time to time to be necessary or desirable to implement any provision or to accomplish any objective of this Solid Waste Management Plan.

The Logan County Solid Waste Management District does not have any rules allowed under these Divisions.

B. Proposed Rules

At this time the District is not proposing any rules allowed under these Divisions. The District reserves the right to adopt and implement rules as needed for the implementation of this solid waste management plan.

APPENDIX R BLANK SURVEY FORMS AND RELATED INFORMATION

Company Name		SIC or NAICS CODE #	
Number of Employees		Operating Years	
Address		City	
County		Contact Person	
Telephone		Email	

Please answer the following questions by putting a checkmark in the box provided next to either "yes" or "no". Feel free to provide any additional information in the space provided.

1. Does your company transport its own solid waste?	YES:	<input type="checkbox"/>	NO:	<input type="checkbox"/>
2. Does your company use products that are recycled?	YES:	<input type="checkbox"/>	NO:	<input type="checkbox"/>
3. Has your company made any changes in operation to reduce the amount of solid waste generated?	YES:	<input type="checkbox"/>	NO:	<input type="checkbox"/>

The following chart is provided to list the names of any landfills that the company uses to dispose of waste. Please specify if these facilities are captive. A captive facility is one that is used or owned solely by company.

NAME	ADDRESS	TYPE OF FACILITY	CAPTIVE
Republic Waste Industries, Inc. – Cherokee Run Landfill	2946 US Route 68 North Bellefontaine, OH 43311	Landfill	
			<input type="checkbox"/>
			<input type="checkbox"/>

Below, please check the description that best represents the recycling activities of your company.

<input type="checkbox"/>	No, we currently do not recycle.
<input type="checkbox"/>	No, we have stopped recycling.
<input type="checkbox"/>	Informal, some employees chose to recycle.
<input type="checkbox"/>	Informal, we recycle when there is a market available.
<input type="checkbox"/>	Formal, the company has recently begun recycling.
<input type="checkbox"/>	Formal, the company has been recycling for years.
<input type="checkbox"/>	We are currently planning a recycling program.

If your company does recycle, please list the name of the facilities below :

NAME	ADDRESS	MATERIALS RECYCLED
(Continued on attached sheet)		

In the following table please specify the type and amount of waste generated as well as the means of its disposal:

Type of Waste	Total Amount Generated*	Total amount recycled	Total amount incinerated	Total amount composted	Total amount landfill	Other (please specify)	Time period represented**
Cardboard							
Office Paper							
Corrugated Paper							
Newspaper							
Fabric/Cloth							
Pallets							
Wood scrap							
Aluminum							
Ferrous metal							
Nonferrous Metal							
Glass							
Plastic							
Rubber inc Tires							
Stone/Clay/Sand							
Concrete							
Sludge							
Non-hazardous chemicals							
Electronics							
Composites							
Other							
TOTAL							
*Please specify the unite of measurement, if an exact measurement is unknown, a percentage may be used in those categories that apply.							
** Please specify the period of time in which these measurements were taken, such as annually, biannually, etc.							

Estimating Methods

TRASH						
Size/# of containers	2yd	4d	6yd	8yd	compactor	open top
X-pulled week						
X-pulled Month						
Tons per Month						
Tons per Year						

RECYCLE								
	Tons	Lbs.	Cubic Yards	Baled	Loose	Per/Week	Per/Month	Per/Year
OCC								
Newspaper								

Office Paper								
Metals								
Aluminum Cans								
Steel Cans								
Batteries								
#1 PET								
#2 HDPE								
Pallets / Wood								
Other (specify)								
Other (specify)								
Other (specify)								
Other (specify)								

Do you generate “universal waste” such as batteries or light bulbs? If so, how do you manage them?

Yes, these materials are managed to meet the US and Ohio EPA Universal Waste standards.

Do you have “waste” products that might be useful to another company or industry? e.g. saw dust & foam

Possibly

Additional comments:

ALL INFORMATION HELD IN STRICT CONFIDENTIALLY

If your company does recycle, please list the name of the facilities below :

NAME	ADDRESS	MATERIALS RECYCLED

APPENDIX S SITING STRATEGY

The District will rely upon the Ohio EPA siting strategy contained in Ohio Administrative Code 3745-27, 3745-30, and 3745-37 as well as other available siting criteria guidance from the Southwest District Office.

APPENDIX T MISCELLANEOUS PLAN DOCUMENTS

During the process of preparing a plan, the policy committee signs three official documents certifying the plan. These documents are as follows:

1. *Certification Statement for the Draft Solid Waste Management Plan* –The Policy committee signs this statement to certify that the information presented in the draft solid waste management plan submitted to Ohio EPA is accurate and complies with the Format 4.0.

2. *Resolution Adopting the Solid Waste Management Plan* (adopted prior to distributing the draft plan for ratification) – The policy committee signs this resolution to accomplish two purposes:

- Adopt the draft solid waste management plan.
- Certify that the information in the solid waste management plan is accurate and complies with the Format 4.0.

The policy committee signs this resolution after considering comments received during the public hearing/public comment period and prior to submitting the solid waste management plan to political jurisdictions for ratification. The policy committee should not make any changes to the solid waste management plan after signing the resolution.

3. *Resolution Certifying Ratification of the Solid Waste Management Plan* – The policy committee signs this resolution to certify that the solid waste management plan was ratified properly by the political jurisdictions within the solid waste management district. The policy committee signs this resolution after the solid waste management plan is ratified and before submitting the ratified plan to Ohio EPA)

Other documents to include in Appendix T include:


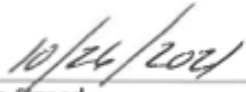
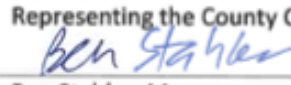
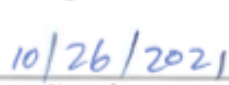
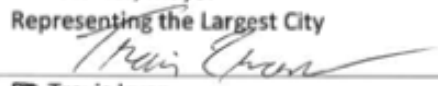
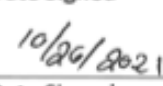
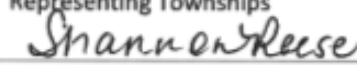
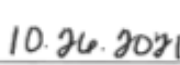
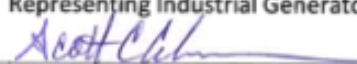

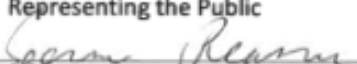
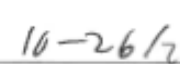
- Public notices

Copies of notices sent to:

- adjacent SWMDs;
- the director of Ohio EPA;
- the 50 industrial, commercial or institutional facilities that generate the largest quantities of solid waste within the SWMD; and
- the local trade associations representing the industrial, commercial or institutional facilities generating the largest quantities of solid waste in the SWMD.

Certification Statement for the Draft Plan

We as members of Logan County Solid Waste Management District Policy Committee do hereby certify that to the best of our knowledge and belief, the statements, demonstrations and all accompanying materials that comprise the draft District Solid Waste Management Plan Update (2023-2037), and the availability of and access to sufficient solid waste management facility capacity to meet the solid waste management needs of the District for the fifteen year period covered by the Plan Update are accurate and in compliance with the requirements in the Ohio EPA District Solid Waste Management Plan Format, version 4.0.

 Mark Robinson Representing the County Commissioners	 Date Signed
 Ben Stahler, Mayor Representing the Largest City	 Date Signed
 Travis Travis Irvan Representing the Health Department	 Date Signed
David Jackson Representing Townships	Date Signed
 Shannon Reese Representing Industrial Generators	 Date Signed
 Scott Coleman, P.E. Representing the Public	 Date Signed
 Spencer Reames Representing Citizen	 Date Signed

RESOLUTION No.

**Resolution Adopting Fee Schedule
of the 2023 Solid Waste Management Plan
Logan County Solid Waste District**

A resolution declaring that the fee schedule presented in the 2023 Solid Waste Management Plan for the Logan County Solid Waste District has been adopted by the policy committee.

WHEREAS, this Solid Waste Management District Policy Committee is ratifying \$1.00 per ton of solid waste in-district; \$4.00 per ton of solid waste out-of-district; and \$1.00 per ton of solid waste out-of-state disposal fees scheduled to begin after plan ratification and approval by Ohio EPA in order to support programming through the planning period to meet State Goals;

NOW, THEREFORE, BE IT RESOLVED that the Solid Waste Management Policy Committee of the Logan County Solid Waste District declares the fee schedule for the Logan County Solid Waste District to be adopted, and shall cause the 2023 Plan to undergo the public comment period followed by a public hearing before ratification and submittal to the Director of the Ohio Environmental Protection Agency for approval.

This resolution shall be in effect immediately upon its adoption.

Motion made by Spencer Reames, seconded by Shannon Reese.
Upon call of the roll the following vote resulted:

Members	Yea	Nay	Abstain	Not Present
Mark Robinson, Chairman	✓	—	—	—
Ben Stahler	✓	—	—	—
David Jackson	✓	—	—	—
Dr. Travis Irvan	✓	—	—	—
Shannon Reese	✓	—	—	—
Spencer Reames	✓	—	—	—
Scott Coleman	—	—	—	✓


Chairman, Solid Waste Policy Committee

ATTEST:


Member, Solid Waste Policy Committee

March 22, 2022

LEGAL NOTICE

NOTICE OF PUBLIC COMMENT LOGAN COUNTY SOLID WASTE DISTRICT

Pursuant to Sections 3734.55(A) of the Ohio Revised Code, the Policy Committee of the Logan County Solid Waste District (LCSWD) will conduct a 30-day public comment period on the updated plan, adopted by the Policy Committee on March 22, 2022

Please direct any questions to Angel Payne, Coordinator, Logan County Solid Waste District, 1100 S Detroit Street, Bellefontaine, Ohio 43311. Telephone 937-599-1253

LOGAN COUNTY SOLID WASTE DISTRICT

The Logan County Solid Waste Management District (LCSWD) has prepared a 15-year solid waste plan update as required by Section 3734.54 of the Ohio Revised Code.

LCSWD is hereby establishing a 30-day written comment period April 27 until May 27, 2022 on the draft solid waste management plan (Ohio Revised Code Section 3734.55).

The solid waste plan includes a solid waste facility inventory, projections and strategies, facilities and programs to be used, an analysis of progress made toward achieving state waste reduction goals, and costs to finance the plan. This plan is an update to a plan previously written by the LCSWD and includes descriptions of the following programs: commercial/industrial sector recycling recognition and assistance; residential recycling initiatives including drop-off and curbside recycling programs; environmental grants for schools, municipalities, and businesses; recycling opportunities for scrap tires, appliances, household hazardous wastes, and electronics; yard waste and food composting programs; Health Department enforcement of open dumps and other solid waste related issues; market development initiatives; recycling statistics/data collection programs; education and awareness programs, including utilization of social media and initiation of outreach partnerships; and litter collection/reduction efforts.

The plan includes a demonstration of access to capacity that determines there is more than twenty-five years of landfill capacity available to the LCSWMD. The plan authorizes the Board of County Commissioners to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code.

LCSWD funds programs through a variety of methods: user fees, commodity revenues, Pay-As-You-Throw bag fees and District Disposal Fees. District Disposal Fees are levied on the customers of the Cherokee Run Landfill, which accepts waste from Logan County and numerous other Districts. This Plan Update provides a waste disposal fee increase on Out-of-District waste. Beginning in 2023, the fee for waste from Logan County will remain \$1/ton; the fee for waste from outside of Logan County but inside

Ohio will increase from \$3/ton to \$4/ton upon approval. The fee for waste originating from out-of-state will remain at \$1/ton.

Other significant changes include expanded food waste composting opportunities, funding to improve local curbside programs, increased digital community engagement, increased trash fees, new options for Pay-As-You-Throw bag size and prices, environmental sustainability programs, implementation of feasible options for: a countywide disposal rate agreement; a local transfer station; and increased competition for solid waste services in the district.

The draft plan will be available for public review beginning at the following locations:

- Logan County Commissioners, 117 E Columbus Ave # 100, Bellefontaine, OH 43311
- Logan County District Library, 220 N Main St, Bellefontaine, OH 43311
- Logan County Solid Waste District, 1100 South Detroit Street, Bellefontaine, OH
- Logan County Health District, 310 South Main Street, Bellefontaine, OH
- logancountyrecycles.com

Comments on the draft plan will be accepted by the Logan County Solid Waste Policy Committee for a thirty (30) day period extending from April 27, 2022 through May 27, 2022. During this period, anyone may comment on the draft plan by forwarding his or her comments, in writing, to:

Logan County Solid Waste District Policy Committee
c/o 1100 South Detroit Street, Bellefontaine, Ohio 43311

A public hearing on the updated plan will be held on Tuesday, June 7, 2022 at 3 pm at the Logan County Solid Waste District Office, located at: 1100 South Detroit Street, Bellefontaine, Ohio 43311

out-of-state will remain at \$1/ton. Other significant changes include expanded food waste composting opportunities, funding to improve local curbside programs, increased digital community engagement, increased trash fees, new options for Pay-As-You-Throw bag size and prices, environmental sustainability programs, implementation of feasible options for a countywide disposal rate agreement; a local transfer station; and increased competition for solid waste services in the district.

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- logancountyrecycles.com

Comments on the draft plan will be accepted by the Logan County Solid Waste Policy Committee for a thirty (30) day period extending from April 27, 2022 through May 27, 2022. During this period, anyone may comment on the draft plan by forwarding his or her comments, in writing, to:

Logan County Solid Waste District Policy Committee
c/o 1100 South Detroit St., Bellefontaine, Ohio 43311

A public hearing on the updated plan will be held on Tuesday, June 7, 2022 at 3 pm at the Logan County Solid Waste District.

State of Ohio

Logan County, Ohio

Jon B. Hubbard

being duly sworn, says that he is the representative of the publisher of the **Bellefontaine Examiner** a newspaper printed and of general circulation in the said county, and that the annexed

advertisement was published in said paper

April 23, 2022



Sworn to and subscribed before me **A NOTARY PUBLIC**

ON this **23rd** day of **April, 2022**



Thomas J. Hubbard
Notary Public
In and For the State of Ohio
Recorded in Logan County
My Commission Expires
May 28, 2024



Printer's Fee \$ **159.51**

RESOLUTION No. 0607-21

**Declaring Adoption of the amended 2022 Solid Waste Management Plan for
Logan County Solid Waste Management District**

A resolution declaring that the amended Solid Waste Management Plan for the Logan County Solid Waste Management District (District) has been adopted.

WHEREAS, the District completed the draft amended Solid Waste Management Plan and submitted it to the Ohio Environmental Protection Agency for review and comment on August 16, 2021, and the Ohio Environmental Protection Agency provided comments in a non-binding advisory opinion issued on September 29, 2021;

WHEREAS, the District considered the Ohio Environmental Protection Agency's non-binding advisory opinion and revised the amended Solid Waste Management Plan as the Policy Committee determined to be necessary or appropriate;

WHEREAS, the District conducted a 30-day public comment period from April 27, 2022 to May 27, 2022 and held a public hearing June 7, 2022, to allow members of the public to provide comments regarding the amended Solid Waste Management Plan; and

WHEREAS, the District incorporated one change resultant to the public comment period and such change is reflected in the narrative of the draft amended Solid Waste Management Plan;

NOW, THEREFORE, BE IT RESOLVED by the Policy Committee of the Logan County Solid Waste Management District as follows:

1. The Policy Committee hereby adopts the final amended Solid Waste Management Plan for Logan County Solid Waste Management District; and
2. The Policy Committee certifies that, to the best of its knowledge and belief, the statements, demonstrations, and all accompanying materials that comprise the District's draft, amended Solid Waste Management Plan, and availability of and access to sufficient solid waste management facility capacity to meet the solid waste management needs of the District for the planning period covered by the Plan, are accurate and are in compliance with the requirements of Sections 3734.53 to 3734.56 of the Ohio Revised Code, Ohio Administrative Code 3745-27-90, and the state *Solid Waste Management Plan Format*, version 4.0.

This resolution shall be in effect immediately upon its adoption.

Travis Irvan moved the adoption of this RESOLUTION, Spencer Reames seconded the motion and the roll being called upon its adoption, the vote resulted as follows:

Page 1 of 2

<u>Members</u>	<u>Yea</u>	<u>Nay</u>	<u>Abstain</u>	<u>Not Present</u>
Mark Robinson, Chairman	X			
Ben Stahler	X			
David Jackson				X
Travis Irvan MPH	X			
Shannon Reese	X			
Spencer Reames	X			
Scott Coleman	X			

Total votes FOR the resolution: 6 Total votes AGAINST the resolution: 0


Chairman, Solid Waste Policy Committee

ATTEST:


Angel Payne Date: 6/15/2022
Coordinator, Logan County Solid Waste Management District

APPENDIX U RATIFICATION RESULTS

Table U-1 Ratification Results

Logan			
Board of County Commissioners	Approved	Rejected	Date Resolution Adopted
Community	Population		Date Resolution Adopted
	Approved	Rejected	
Cities			
Bellefontaine City			
Townships			
Bloomfield Township			
Bokescreek Township			
Harrison Township			
Jefferson township			
Lake Township			
Liberty Township			
McArthur Township			
Miami Township			
Monroe Township			
Perry Township			
Peasant Township			
Richland Township			
Rushcreek Township			
Stokes Township			
Union Township			
Washington Township			
Zane Township			
Villages			
Belle Center Village			
DeGraff Village			
Huntsville Village			
Lakeview Village			
Quincy Village			
Ridgeway Village			
Rushsylvania Village			
Russells Point Village			
Valley Hi Village			
West Liberty Village			
West Mansfield Village			
Zanesfield Village			
Total	0	0	
County Population	45,635		
Ratification percentage	0%		