ROSS PICKAWAY HIGHLAND FAYETTE SOLID WASTE MANAGEMENT DISTRICT

2024 – 2038 REVISED DRAFT SOLID WASTE MANAGEMENT PLAN UPDATE

November 2023

Prepared by:



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Section i. Solid Waste Management District Information

Table i-1. Solid Waste Management District Information

SWMD Name	Ross, Pickaway, Highland, Fayette Joint Solid Waste Management District		
Member Counties	Ross, Pickaway, Highland, Fayette		
Coordinator's Name (main contact)	Erica Tucker		
Job Title	District Director		
Street Address	141 W. Main St, Suite 400		
City, State, Zip Code	Circleville, OH 43113		
Phone	740-420-5452		
E-mail address	etucker@pickawaycountyohio.gov		
Webpage	http://rphfsolidwastedistrict.com/about.html		

Member Name	Representing	
County: Ross	-	
James Lowe	County Commissioners	
Steve Neal	Public Interest	
Jim Hatfield	Township Trustee	
Janelle McManis	Health Department	
Jeff Carman	Municipal	
Ray Wells	RPHF County Citizens	
Julia Hume	Industrial/Commercial/ Institutional	
County: Pickaway		
Harold Henson	County Commissioners	
Ed Cox	Public Interest	
Matt Corder	Township Trustee	
Andy Bull	Health Department	
Jim Stanley	Municipal	
Darwin Whitehead	RPHF County Citizens	
Allie Kroeger	Industrial/Commercial/ Institutional	
County: Highland	-	
Dave Daniels	County Commissioners	
Tara Campbell	Public Interest	
Fred Yochum	Township Trustee	
Anna McCoppin	Health Department	
Whitney Aliff	Municipal	
Chuck Williams	RPHF County Citizens	
Phil Loudin	Industrial/Commercial/ Institutional	
County: Ross	1	
Tony Anderson	County Commissioners	
Jason Little	Public Interest	
Cody Kirkpatrick	Township Trustee	
Brian King	Health Department	
Allen Dawson	Municipal	
Sue Smith	RPHF County Citizens	
Brian Longberry	Industrial/Commercial/ Institutional	

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

Name	Judi White
Street Address	1822 Norman Hill Road
City, State, Zip Code	Frankfort, OH, 45628
Phone	740-851-9898
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Table i-3. Chairperson of the Policy Committee or Board of Trustees

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

Commissioner Name	County
Dwight Garrett	Ross
Jack Everson	Ross
James Lowe	Ross
Harold Henson	Pickaway
Gary Scherer	Pickaway
Jay Wippel	Pickaway
Terry Britton	Highland
Brad Roades	Highland
David Daniels	Highland
Tony Anderson	Fayette
Daniel Dean	Fayette
James Garland	Fayette

Technical Advisory Committee

The District did not establish a technical advisory committee (TAC) for the preparation of this *Plan Update*.

Chapter 1. Introduction

A. Brief Introduction to Solid Waste Planning in Ohio

In 1988, Ohio faced a combination of solid waste management problems, including rapidly 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 dramatically 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 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

Because 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. 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 the county commissioners from all 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

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

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.

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 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.

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.

C. District Overview

The Ross, Pickaway, Highland, Fayette (RPHF) Joint Solid Waste Management District was formed in March 1989 as a result of House Bill 592. The District operates in all four counties but convenes at one centralized location. District offices are located in Circleville, Ohio in Pickaway County. The District's first solid waste management plan (locally written) was approved by the Director of Ohio EPA on July 6, 1992. The District has since had five updates; the first was approved in 1996, the second in 1999, the third in 2006, the fourth in 2012, and fifth in 2018.

It is a joint four county district that relies heavily on neighboring districts for landfill and recycling processing infrastructure. The District operates in an open market system, which means customers have a choice of any waste hauler because the system is open to competition. The District's planning of materials management relies on private sector opportunities to continue recycling programs.

The District's role serves to provide opportunities for residents to recycle and to learn best practices for waste reduction. All four counties are largely rural with lower population density. About 94% of the District is rural, while developed land comprises the remaining 6%. The rural setting influences diversion opportunities and waste and recycling programs. In 2021, the largest population body was Chillicothe City, with a population of 22,000. The total population of the District in 2021 was 208,484.

The District's role is to administer the programs in the solid waste management plan. These programs reduce reliance on landfills through diversion. Equally important is ensuring the landfills used will have adequate capacity for the waste that does not get diverted. The landscape of landfills has not changed; there is competition in the region with waste directed to multiple landfills within neighboring Ohio counties, as well as landfills in Kentucky. The District has a generation fee of \$3 per ton. A majority of the District's waste is disposed at the Pike Sanitation Landfill in neighboring Pike County to the south.

The District offers numerous recycling programs designed to assist and educate the residential, commercial, and industrial sectors in diverting solid waste from the landfill. The District continues to work towards being a key resource for disposal and recycling information for its residents and commercial businesses.

One of the District's most pressing issues in recent years is the cost of the dropoff program. In 2021, the District spent 55% of all expenses on this program alone. High contamination rates, illegal dumping, rising fuel costs, and inflation are expected to continue to keep this program's costs high. Explored in detail in Appendix J, the District does not meet Goal 1, 80% recycling access across the District. The District would need to add more drop-offs in order to do this, further increasing the costs. In order to provide the best services for residents and to remain economically sustainable, the District's priority for this plan period is achieving Goal 2, a 25% residential/commercial diversion rate. Doing so will allow the District to reduce the costs to service the drop-off program and transition into having centralized "mega-sites" in each county.

The District will continue its education and outreach programs throughout the planning period. In alignment with the transition to achieving Goal 2, increased emphasis will be placed on education and outreach for the commercial sector. Gathering diversion data from commercial businesses and establishing rapport with local businesses is key to reaching the 25% diversion rate.

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 *2020 Solid Waste Management Plan* (2020 State Plan), adopted November 2, 2019. The 2020 State Plan established ten goals as follows:

- 1. The SWMD shall provide its residents and commercial businesses with access to opportunities to recycle solid waste. At a minimum, the SWMD must provide access to recycling opportunities to 80% of its residential population in each county and ensure that commercial generators have access to adequate recycling opportunities.
- 2. The SWMD shall reduce and recycle at least 25% of the solid waste generated by the residential/commercial sector.
- 3. The SWMD shall provide the following required elements: a website; 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 incorporate a strategic initiative for the industrial sector into its solid waste management plan.
- The SWMD shall provide strategies for managing scrap tires, yard waste, leadacid batteries, household hazardous waste and obsolete/end-of-life electronic devices.
- 7. The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.

- 8. 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.
- 9. The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.
- 10. The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

SWMDs are encouraged but not required to demonstrate it will achieve both Goal 1 and Goal 2. Instead, SWMDs have the option of meeting 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 9 (market development) is an optional goal. Goal 10 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 District will use to achieve the ten goals.

CHAPTER 2. District Profile

Purpose of Chapter 2 (Content in this box is authored by Ohio EPA)

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

The District is a four-county joint District encompassing Ross, Pickaway, Highland, and Fayette Counties. Geographically, the District is located near central to southern Ohio and does not share borders with other states. The District encompasses over 2,100 square miles with Ross County being the largest. The Office of Research generally defines the District as predominantly rural ¹. The average land use/ cover for the four counties is broken down into the following categories:

- Developed, Low Intensity: 5.5%
- Developed, High Intensity: 0.8%
- Barren: 0.1%
- Forrest: 23.1%
- Shrub/ Grassland: 0.7%
- Pasture/ Hay: 13.1%
- Cropland: 55.0%
- Wetlands: 0.3%
- Open Water: 0.8%

2. County Overview

Figure 2-1: Map of Ross, Pickaway, Highland, Fayette Counties



¹ Ohio County Profiles, Ross, Pickaway, Highland, Fayette Counties. Office of Research, 2021.

A majority (60%) of the District's population live in townships with low population density. The largest cities are Chillicothe, Washington Court House, Circleville, and Hillsboro. The western half of the county is predominately rural and less densely populated. Union Township in Ross County and Scioto Township in Pickaway County are the largest townships. The largest employment sectors of the District are Trade, Transportation and Utilities, Manufacturing, and education and health services.

B. Population

1. Reference Year Population

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 that is located in more than one county. This is New Holland Village and is located in Pickaway and Fayette Counties, both of which are located in the District. A majority of the population is in Pickaway County and therefore is credited with this county.

Table 2-1 presents the adjusted population, the largest city, and the population of the largest city in the SWMD during the 2021 reference year:

District		Largest Political Jurisdiction		diction
Name	Population	Community Name	Population	Percent of County Population
RPHF	208,484	Chillicothe City	22,009	11%

Table 2-1. Population of the District in 2021

Source(s) of information: Ohio Development Services Agency, "2021 Population Estimates by County, City, Village, and Township.".

2. **Population Distribution**

The District has 58 townships, four municipalities, and 28 villages. The largest city is Chillicothe in Ross County. The largest township is Union Township in Ross County. **Table 2-2** below presents the District's population of its largest communities.

Largest Communities	County	Population	Percent of County Population
Chillicothe City	Ross	22,009	11%
Washington Court House City	Fayette	14,496	7%
Circleville city	Pickaway	14,106	7%
Union township	Ross	12,504	6%
Scioto township	Pickaway	8,722	4%

Table 2-2: Population of Largest Communities

Largest Communities	County	Population	Percent of County Population
Hillsboro city	Highland	6,483	3%
Paint township	Highland	4,844	2%

The District's population is predominantly rural, with 60% living in rural townships. The only County in the District that does not have a majority of its population living in townships is Fayette County, only 42% of residents here live in townships. The District has many small villages spread throughout, though these population's make up 13% of the District's total population,

County	Percent of Population in Cities	Percent of Population in Villages	Percent of Population in Unincorporated Township
Ross	29%	5%	66%
Pickaway	24%	20%	56%
Highland	15%	18%	67%
Fayette	50%	8%	42%

Table 2-3: Population Distribution

3. Population Change

All of Ohio is expected to experience economic growth. From 2018 through 2028, the Department of Jobs and Family Services³ expects Ohio to grow by 1.5%. The southeastern region of Ohio, where Ross, Highland, and Fayette Counties are located, is expected to grow slower than the state average with a 0.3% projected growth through 2028. This is the third slowest in Ohio. The Central Ohio region, where Pickaway County is located, is projected to grow by 2.4% from 2020 to 2040 based on Ohio Department Strategic Analysis (ODSA). The Planning Research and Strategic Planning Office projected estimates for 2020, 2025, 2030, 2035, and 2040. To determine population estimates between these years, straight-line interpolation was used.

Population projections can gauge future demand for services, but in projection calculations there is room for errors because of the difficulty associated with forecasting. As projected by ODSA, population is expected to increase. This is mainly fueled by Pickaway County's expected increase of 7.3%. Ross, Highland, and Fayette Counties are expected to increase by 0.75%, -0.30%, and 0.03% respectively by 2040.

4. Implications for Solid Waste Management

³ Department of Jobs and Family Services, <u>https://ohiolmi.com/Home/Projections/ProjectionsHome#C1</u>

The District's population is projected to increase through the planning period. The District's per capita waste generation is also projected to increase slightly. In 2021, per capita waste generation was 5.34 pounds per person per day. This is projected to rise to 6.08 pounds per person per day in 2039. Population affects waste generation rates but factors of population growth such as income, people per family, and economic activity also contribute. Higher incomes typically produce more waste; however, they also tend to participate in recycling activities more often than lower income households. These factors are all simultaneously involved and affect each other, creating a dynamic system that varies over time.

The District has generated between 186,000 and 221,000 tons of waste historically over the last five years. Only one year, 2017, did the District produce less than 200,000 tons of waste. Population increases are not expected to cause significant increases in waste generation; however, the population will continue to have growing recycling needs.

C. Profile of Commercial and Institutional Sector

In 2021, District research identified 2,762 total commercial and institutional entities. The total number of establishments within each primary category in the North American Industry Classification System (NAICS) is shown in **Table 2-4**. As indicated in the table, retail trade comprises the largest category, with healthcare and social assistance, other services, and food service also having a large number of businesses. "Other services" is essentially a catch-all category for types of businesses, etc. not included elsewhere.

NAICS Code	NAICS Description	Number of Commercial/Institutional Establishments
42	Wholesale Trade	130
44-45	Retail Trade	642
48-49	Transportation and Warehousing	160
51	Information	42
52	Finance and Insurance	191
53	Real Estate and Rental/Leasing	117
54	Professional, Scientific, and Technical	161
55	Management of Companies and Enterprises	21
56	Administrative and Support and Waste Management and Remediation Services	152
61	Educational Services	15
62	Health Care and Social Assistance	402

 Table 2-4 Major Commercial/Institutional Sector Employers in District

NAICS Code	NAICS Description	Number of Commercial/Institutional Establishments	
71	Arts, Entertainment, and Recreation	59	
72	Accommodation /Food Service	320	
81	Other Services (Except Public Administration)	350	
	Total	2,762	

Source: U.S. Business Database

The most prominent areas for commercial businesses are the major cities and towns like Chillicothe, Washington Court House, and Circleville though there are other clusters of concentrated commercial businesses, amusement attractions, entertainment, etc. throughout the county.

D. Profile of Industrial Sector

The following table presents the major industrial sector employers in the District.

Table 2.5-Top Industrial Sector Employers

Company	Employee Size
Kenworth Truck Co	2,000
Sugar Creek Packing Co	500
Dupont Circleville	450
Yusa Corp	350
YSK Corp	280

Source: U.S. Business Database

E. Other Characteristics

The District has a population of roughly 208,000 residents, of which roughly 60% live in rural townships. As explored earlier, the District only has about 7% of developed land by land cover/usage. This combination presents challenges for the District in terms of servicing the rural parts of the District as well as with contamination.

The District faces its largest challenge with contamination at drop-off locations. The District attempts to accommodate all recycling demand throughout the District, even in hard to reach rural areas. However, the drop-off locations in these rural areas especially face high levels of contamination from residents. The District is considering alternative solutions to these issues. See Appendix H and Appendix J for further details.

CHAPTER 3. Waste Generation

Purpose of Chapter 3 (The language in this box is authored by Ohio EPA)

This chapter of the Solid Waste Management Plan provides a summary of the SWMD's historical and projected solid waste generation. The District's Policy Committee needs to understand the amounts and types of waste the SWMD will generate before it can make decisions regarding how to manage the waste. Thus, the District 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 District'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. In order to calculate how much waste was generated, the District added the quantities of waste disposed of in landfills and reduced/recycled.

Reduction and recycling data was obtained 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 District relies upon an entity's ability and willingness to provide data. When entities do not respond to surveys, only a partial picture of recycling activity can be developed. How much data the District 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 District also obtains disposal information from facilities that are under contract, authorizing them to receive waste generated within Ross, Pickaway, Highland, and Fayette Counties.

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

Table 3-1 and **Figure 3-1** below presents the District's waste generated in the reference year. The amount generated is defined by the tons disposed of in landfills plus the tons recycled, composted, and otherwise diverted from landfill disposal.

Type of Waste	Quantity Generated (tons)
Residential/ Commercial	203,005
Industrial	348,939
Excluded	0
Total	551,944

 Table 3-1 Solid Waste Generated in the Reference Year



Figure 3-1 Solid Waste Generated in the Reference Year

1. Residential/Commercial Waste Generated in Reference Year

The District generated 203,005 tons of residential/commercial waste in the reference year, and diverted 17% of this waste. In the reference year roughly 83% of the total generated waste was sent to a landfill. This sector generated roughly 37% of all the waste in 2021. With a population of 208,484, the per capita waste generation rate is 5.34 pounds per person per day (PPD).



Figure 3-2 Residential/Commercial Per Capita Generation Rate Comparison to Similar Sized SWMDs

The statewide residential/commercial generation rate for 2021 was approximately 7.09 pounds/person/day. The District's 5.34 per capita generation rate is the lowest among the benchmarked Districts with similar population sizes.

Roughly 59% of waste disposed for the residential/commercial sector is direct hauled, meaning it gets picked up and hauled straight to a landfill. The District sends most (60%) of this direct hauled waste to Pike Sanitation Landfill in Pike County, south of Ross County. Other landfills that received a large share of the District's waste were Rumpke's Brown County (14%), Beech Hollow (8%), and Noble Road Landfills (4%). About 1% of the waste was directly hauled out of state to the Marysville Mason Co Landfill in Kentucky. The remaining 13% was sent to various other facilities in Ohio.

The District sent 41% of waste to a transfer facility before being disposed of. This means the waste traveled to a transfer facility, then to a landfill as opposed to being taken directly to a landfill. Four transfer stations were heavily used by the District. Waste Management Chillicothe, Fayette County Transfer Station, Rumpke's Circleville Transfer Station, and Rumpke's Chillicothe Transfer station accounted for 28%, 18%, 29%, and 20% of all waste transferred in 2021 respectively.

About 17% of waste generated in the District was diverted in the reference year, which is about 34,000 tons. The District sourced diversion data from recycling facilities (40%), Ohio EPA bis box store retail data (26%),

commercial survey (12%), Ohio EPA scrap tire data (8%), and food and yard waste activities (8%).

2. Industrial Waste Generated in Reference Year

The industrial sector waste generation accounted for 348,939 tons in the reference year. The equates to roughly 63% of the total waste generated. In 2021, 245,744 or 42% of industrial waste was diverted from landfills.

3. Excluded Waste Generated in Reference Year

According to Ohio EPA Format 4.1, 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 the District, excluded waste accounts for 5% of the total disposal in 2021 and therefore will not be included in the solid waste management plan.

B. Historical Waste Generated

1. Historical Residential/Commercial Waste Generated

Over the past five years the residential/commercial sector has disposed of on average about 160,900 tons of material while recycling about 44,255 tons. Over this time period, the District's diversion rate was between 17% and 25%. The District is predicting increases in both waste disposal and recycling as the County's population continues to grow. The per capita generation in 2021 was 5.43 pounds/person/day and is expected to fall to 5.80 pounds/person/day at the end of the planning period.



Figure 3-3. Historical Residential/Commercial Generation: 2017 – 2021

The District generated between 186,000 and 220,000 tons of waste from 2017 to 2021. Two major increases occurred during this time. One was from 2017 to 2018 where the District's waste generated jumped roughly 20,000 tons, almost entirely of which was from disposed waste. The second largest increase was from 2019 to 2020 where the District increased its waste generation by 13,000 tons. In this case, recycling numbers dropped 7,000 tons while disposal increased 20,000 tons.

When compared to other solid waste management Districts in Ohio, the District has the lowest residential/commercial waste generation per capita and the lowest amount of total waste. The Districts compared below in **Figure 3-4** are all of similar sized populations to the combined total of the District's four counties.



Figure 3-4 Total Waste Generated Comparison to Other Districts

Note: CFLP is the Coshocton-Fairfield-Licking-Perry Joint Solid Waste Management District

2. Historical Industrial Waste Generated

Historically, industrial waste generation has increased. Following a threeyear run of increases from 2017 to 2019, the District then saw a large decrease in 2020. The following year in 2021 the District's industrial sector's generation increased to a five year high of 349,000. The District reported 35,000 tons more disposal in 2021 and 110,000 tons more recycling than it did the previous year. The COVID-19 pandemic and its associated national restrictions likely had a large impact on the amount of waste generated as many businesses were closed or had reduced hours in 2020. In 2020, the industrial sector recycled 60,000 less tons than it did in the previous year.



Figure 3-5 Historical Industrial Generation: 2017 – 2021

3. Historical Excluded Waste Generated

According to Ohio EPA Format 4.1, 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 the District, excluded waste accounts for 5% of the total disposal in 2021 and therefore will not be included in the solid waste management plan.

C. Waste Generation Projections

Table 3-2 shown below demonstrates that waste generation within the District is expected to remain at or near the same levels of the reference during the first six years of the planning period.

	Residential Commercial Waste	Industrial Waste	Excluded Waste	Total			
Year	Waste (tons)	Waste (tons)	Waste (tons)	Waste (tons)			
2025	223,558	344,805	0	568,363			
2026	225,985	343,791	0	569,775			
2027	228,433	342,783	0	571,217			
2028	230,872	341,783	0	572,655			
2029	231,823	340,791	0	572,614			
2030	232,767	341,054	0	573,821			

Table 3-2. Waste Generation Projections

Residential/Commercial Waste Projections

Residential/commercial waste is projected to increase steadily throughout the planning period. This is based on historical trends and analysis as well as accounting for the projected population growth found in Appendix C. The District applied an average per capita approach to projections. Diversion is also projected to steadily increase as the population grows and existing programs remain stable. Waste disposed is expected to outpace waste diversion growth.

Industrial Waste Projections

Waste generation projections were estimated using historical trends for waste generation, disposal, and recycling. The District also considered the Ohio manufacturing employment projections in the region from the Ohio Jobs Outlook, Southwest Ohio report by the Department of Jobs and Family Services. As indicated in the report, southeast Ohio manufacturing is projected to decrease 5.3% from 2018 to 2028, or 0.53% annually. This was applied to the disposal projections for industrial waste and recycling.

Excluded Waste Projections

Excluded waste was not projected.

CHAPTER 4. Waste Management

Purpose of Chapter 4

Chapter 4 summarizes policy committee's strategy for how the SWMD will manage its 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.

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 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 plan needs to show that the SWMD will have access to all types of needed facilities, Ohio law emphasizes access to disposal capacity. The policy committee must demonstrate that the SWMD will have access to enough landfill capacity for all 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.

Finally, the SWMD can 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 designate facilities is explained in more detail later in this chapter

A. Waste Management Overview

The District manages waste through a combination of landfills, recycling programs and facilities, transfer stations, and composting facilities. **Figure 4-1** below depicts total waste generation management in the reference year. The majority of the total waste generated by the District is managed through landfill disposal. The District recycled 49% of its overall waste generation, though a large majority of this was from the industrial sector. The District recycled about 17% from the residential/commercial sector as opposed to 70% of the industrial sector's waste.

The residential/commercial sector comprises 37% of waste generation while industrial 63%.



Figure 4-1. Percent of Generation Managed by Each Method

Based on historical analysis the future waste projections, shown for the first five years of the planning period in **Table 4-1** below, demonstrate an initial decrease in overall tonnages and minor increases through 2029. The overall waste generation is projected to minimally increase through the first five years of the planning period primarily as a result of projected increased disposal tonnages.

Year	Total Waste	Recycle	Compost	Transfer Landfill	Direct Haul Landfill
2021	561,737	276,397	3,351	122,358	159,631
2025	568,363	287,338	5,942	113,773	161,310
2026	569,775	288,030	5,942	114,071	161,732
2027	571,217	288,749	5,942	114,370	162,156
2028	572,655	289,463	5,942	114,669	162,580
2029	572,614	288,696	5,942	114,970	163,006
2030	573,821	289,175	5,942	115,271	163,433

Table 4-1	Methods	for Mar	naging	Waste
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Source:

Generate: Appendix G-1 and G-2 Recycle: Appendix G-1 and G-2 Compost: Appendix E-7 and E-8 Transfer: Appendix: D-2 and D-6 Landfill: Appendix D-1 And D-6 Landfill capacity, demonstrated in Appendix M, remains abundant and exceeds the available volume of waste generated locally. Consequently, tipping fees are low, and landfills continue to be the most economically feasible disposal option available. The District is not expecting changes in the structure of the waste management system throughout the planning period. Following historical trends, it is expected waste will be similarly managed with minor changes in tonnages throughout the planning period.

B. Profile of Waste Management Infrastructure

1) Solid Waste Management Facilities

Landfills

There are no active permitted solid waste landfill facilities in the District. Fortunately, affordable disposal capacity is available within close proximity to the District. 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.

As discussed in Appendix D, the District used 14 out-of-district landfills and two out-of-state landfills. The out-of-state landfills were both in Kentucky. A majority of waste sent to these landfills was from the Industrial sector. There were no captive landfills used and most landfills are owned and operated by the private sector.

Transfer Facilities

There are 12 transfer facilities that accepted waste from the District in the reference year. Four facilities are located in the District and the remaining three are located out-of-district. Roughly 94% of waste transferred was sent to one of the four facilities in the District.

Compost Facilities

There are four compost facilities that accepted compostable waste from the District in the reference year. All of these facilities were Class IV facilities, accepting yard waste and plant materials. Of the four facilities, three are located in the District.

The City of Chillicothe has a yard waste drop-off site that is open on Wednesdays and Saturdays from 8:00 a.m. until 12:00 p.m. In Highland County, there is a yard waste site that accepts waste every other Friday and on the first Saturday of every month. Pickaway & Fayette Counties both have leaf collection pick-ups in the Fall in their largest municipalities.

2) Waste Collection

Municipal solid waste is collected from residents, businesses or institutions and transported to landfills by a number of private waste operators. Collection of municipal solid waste is handled by a large number of smaller haulers as well as large regional haulers such as Rumpke, Local Waste Services, and Waste

Management. These companies are also the main competitors for residential and commercial recycling collection. Waste haulers contract directly with individual homeowners and commercial establishments. However, municipalities secure these services for their residents through a competitive bidding process. Service is available, though the District faces challenges in servicing many of the most rural areas throughout the District, Highland County especially.

C. Solid Waste Facilities Used in the Reference Year

1) Landfill Facilities

Table 4-2 contains the information concerning waste that was landfilled.

Table 4-2 Landfill Facilities Used by the District in the Reference Year

Facility Name	Locat	Location		Percent of all SWMD	Remaining Capacity	
	County	State	SWMD (tons)	Waste Disposed	(years)	
In-District						
NA						
Out-of-District						
SWACO Franklin County						
Sanitary Landfill	Franklin	Ohio	385	0%	46	
Pine Grove Regional Facility	Fairfield	Ohio	9,656	6%	88	
American Landfill, Inc	Stark	Ohio	8	0%	74	
Wilmington Sanitary Landfill	Clinton	Ohio	6,556	4%	34	
Suburban Landfill	Perry	Ohio	359	0%	77	
Rumpke Waste Inc Beech						
Hollow Landfill	Jackson	Ohio	12,771	8%	76	
Rumpke Waste Inc Brown						
County Landfill	Brown	Ohio	23,602	14%	64	
Rumpke of Northern Ohio						
Noble Road Landfill	Richland	Ohio	6,631	4%	16	
Pike Sanitation Landfill	Pike	Ohio	98,787	60%	36	
Stoney Hollow Landfill	Montgomery	Ohio	699	0%	4	
Rumpke Sanitary Landfill	Hamilton	Ohio	84	0%	37	
Carbon Limestone Landfill LLC	Mahoning	Ohio	14	0%	47	
Athens-Hocking Landfill	Hocking	Ohio	1,909	1%	48	
Hancock County Landfill	Hancock	Ohio	0	0%	24	
Out-of-State						
Marysville-Mason County					Data not	
Landfill	Mason	Kentucky	1,894	1%	Available	
					Data not	
Boyd County Landfill	Boyd	Kentucky	175	0%	Available	
Total			163,528	100%	671	

2) Transfer Facilities

 Table 4-3 contains the information concerning waste that was transferred.

Table 1-3 Transfer Facilities I	llead by th	o District in the	Poforonco Voar
Table 4-5 Transler Facilities	useu by in	ie District in the	Reference fear

Facility Name	Location		Waste Accepted from	Percent of all District Waste	Landfill Where Waste was Taken to be	
	County	State	(tons)	Transferred	Disposed	
In-District						
Waste Management of Ohio - Chillicothe	Ross	Ohio	34,106.18	28%	Suburban Landfill	
Rumpke Waste Inc Chillicothe Recycling and Transfer Facility	Ross	Ohio	24,049.99	20%	Pike Sanitation Landfill	
Fayette County Transfer Station	Fayette	Ohio	21,911.94	18%	Beech Hollow Landfill	
Rumpke Waste Inc Circleville Transfer	Pickaway	Ohio	34,877.26	29%	Pike Sanitation Landfill	
Out-of-District						
Waste Management of Ohio Transfer and Recycling	NA	Ohio	845.19	1%	Suburban Landfill	
Delaware County Transfer Station	Delaware	Ohio	1.71	0%	Crawford County Landfill	
Rumpke Waste Inc Columbus Transfer and Recycling Facility	Franklin	Ohio	28.62	0%	Franklin County Landfill	
Rumpke Waste Inc Lawrence County Transfer Facility	Lawrence	Ohio	10.90	0%	Pike County Sanitation Landfill	
Local Waste Services Inc	Franklin	Ohio	6,226.78	5%	Pike and Franklin Landfill	
Montgomery County South Transfer	Montgomery	Ohio	289.34	0%	Franklin Iron and metal	
Republic Services Inc Reynolds Ave Transfer Facility	Franklin	Ohio	4.59	0%	Pine Grove Landfill	
Rumpke Allen County Transfer Station	Allen	Ohio	5.27	0%	Crawford County Landfill	
Out-of-State						
NA				0%		
	122,358	100%	0			

3) Composting Facilities

Table 4-4 contains the information concerning waste that was composted.

Facility Name	Location (County)	Material Composted (tons)	Percent of all Material Composted
In District			
Pine Grove Regional Facility	Hocking	22	4%
City of Hillsboro Yard Waste Facility	Highland	19	4%
Out-of-District			
Washington Composting Facility	Fayette	128	25%
Fayette County SW Compost	Fayette	353	68%
	Total	521	100%

Table 4-4 Composting Facilities Used by the District in the Reference Year

4) Processing Facilities

Table 4-5 Processing Facilities Used by the District in the Reference Year

	Location			Recyclables Accepted
Name of Facility	County	State	Facility Type	from District (tons)
In-District				
Rumpke - Chillicothe	Ross	ОН	MRF	8,065.24
Out-of-District				
Rumpke Center City Recycling - Hamilton County	Hamilton	ОН	MRF	4,081.71
Rumpke Waste Recycling – Columbus	Franklin	ОН	MRF	1,193.89
Rumpke Recycling - Dayton	Montgomery	ОН	MRF	211.53
Out-of-State				
NA				
			Total	13,552

D. Use of Solid Waste Facilities During the Planning Period

An estimated 563,200 tons of solid waste (not including excluded waste) from the residential/commercial and industrial sectors will be generated per year from 2022 through the end of the planning period. An estimated net disposal of about 10 million tons is needed in landfill capacity for the duration of the planning period.

E. Siting Strategy

The solid waste management plan must demonstrate that the District will have access to enough capacity at landfill facilities to accept all of the waste the District 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 could conclude that it is in the District's best interest to construct a new solid waste landfill facility to secure disposal capacity. In that situation, Ohio law (ORC Section 3734.53(A)(8)) requires the policy committee to develop a strategy for identifying a suitable location for the facility. The policy committee must include its siting strategy in the solid waste management plan. The solid waste management plan includes a siting strategy, presented in full in Appendix S.

F. Designation

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

Even though a District 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 District 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 facilities 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 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 receive the District's waste. That means, no one can legally take waste from the District to undesignated facilities and undesignated facilities cannot legally accept waste from the District. The only exception is in a situation where the board of directors grants a waiver to allow an undesignated facility to take the District'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 decide 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 District's Designation Process

The Board is authorized to establish facility designations in accordance with Sections 343.013 and 343.014 of the Ohio Revised Code. In addition, facility designation will be established and governed by applicable District rules.

2) List of Designated Facilities

The District is not designating any facilities in this Plan Update.

Table 4-6 Facilities Currently Designated

Escility Nome	Location			
	County	State	гасшту туре	
In-District				
NA				
Out-of-District				
NA				
Out-of-State				
NA				

Chapter 5. Waste Reduction Recycling.

Purpose of Chapter 5 (contents in this box authored by Ohio EPA)

As was explained in Chapter 1, a SWMD 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 ensures 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 upon the programs and services that are necessary and will be provided, the policy committee performed a strategic, in-depth review of the SWMD's existing programs and services, recycling infrastructure, recovery efforts, finances, and overall operations. This review consisted of a series of 12 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. Program Evaluation and Priorities

1) Strategic Analysis

During these analyses, 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 13 analyses described in Format 4.1. This strategic program evaluation was performed on the following analyses:

- Residential Recycling Infrastructure Analysis
- Commercial/Institutional 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
- Data Collection Analysis
- Education/Outreach Analysis
- Processing Capacity Analysis

Appendix H contains the full strategic evaluation, which uses historical comparisons, performance, weaknesses, participation, impacts, costs, etc. where applicable. For the full evaluation turn to Appendix H, where the full analysis is captured.

2) Priorities

After evaluating the list of conclusions, programs and strategies were developed as presented in this Section and in Appendix I. The District's priority for this planning period is to move away from achieving Goal 1, recycling access, towards achieving Goal 2, residential/commercial diversion rate of 25%. The District's drop-off program is very expensive to operate and will not be economically sustainable to continue at the level required to meet an 80% access rate. As such, the District will place increased emphasis this planning period on data collection and will survey the commercial sector annually.

Priority Program	Priority Area
Environmental Education	Teaching residents the importance of recycling, how to recycle right, and where to recycle so they share their knowledge with others in their community.

Priority Program	Priority Area
Promote Curbside Recycling	Meeting with elected officials to discuss curbside recycling. Both Washington Courthouse and Circleville are targets.
Drop-off Program	 Work with the service provider to obtain better diversion tonnage metrics. Add two more mega-sites in two other counties. This will require siting and capital improvements for developing the site. Education will also be needed for the households and elected officials. Add commercial service opportunity for the mega-sites.
Survey	Annual recycling surveys to all commercial
Commercial/Institutional	businesses with increased time and effort in
Businesses	collecting the data from this sector.

B. Program Descriptions

This section briefly describes major programs and services available during the planning period.

Curbside Recycling Services

Table 5-1	Curbside	Recycling	Services
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ID	Name of Curbside Service/Community Served	Service Provider	When Service Was/Will be Available
Non-Subscription	Chillicothe	Chillicothe City	Ongoing
Non-Subscription	Ashville	Rumpke	Ongoing
Non-Subscription	South Bloomfield	Rumpke	Ongoing
Non-Subscription	Commercial Point	Rumpke	Ongoing

Four communities have curbside recycling achieved through contracts between the municipality and the hauler. Municipalities 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. Public-private contracts determine collection frequency, materials collected, size of containers, and type of collection.

One community, Ashville, participates in a consortium organized by neighboring solid waste district SWACO. The Consortium is a contracting mechanism that increases negotiating power when contracting for solid waste, recycling, and yard waste collection services. SWACO contracts with a law firm that has a specialized background in solid waste and recycling to assist in the development and implementation of consortiums. The

City of Chillicothe's sanitation department services its program internally and does not bid out services. The remaining communities contract services individually.

In 2021, all curbside materials were collected single stream (commingled) using a cart based system. The end market for recyclables drives the ability of processors to collect different materials. The recyclables collected in 2021 were Paper & Cardboard; Glass Bottles & Jars; Plastics Bottles, Jugs & Tubs, Metal Cans & Cups; and Cartons. The District maintains a list of acceptable materials on its website.

Drop-off Recycling Locations

ID	Name	Start Date	End Date	Goal(s)
Full-Time Urban Drop-Offs				
	Ross County			
FTU11	Chillicothe, Rumpke Recycling	Ongoing	Ongoing	1 and 2
FTU12	Chillicothe, Yoctangee Park	Ongoing	Ongoing	1 and 2
FTU13	Huntington Township, Huntington Schools softball field	Ongoing	Ongoing	1 and 2
	Pickaway County			
FTU14	Scioto Township, Teays Valley West Middle School	Ongoing	Ongoing	1 and 2
FTU7	Circleville, PICCA	Ongoing	Ongoing	1 and 2
FTU8	Circleville, Pickaway Service Center	Ongoing	Ongoing	1 and 2
FTU9	Circleville, Rhoads Farm Market	Ongoing	Ongoing	1 and 2
FTU10	Circleville, SNAP Fitness	Ongoing	Ongoing	1 and 2
	Highland County			
FTU2	Hillsboro, BMV Office Parking Lot	Ongoing	Ongoing	1 and 2
FTU3	Hillsboro, Hillsboro Board of Education	Ongoing	Ongoing	1 and 2
FTU4	Hillsboro, Sunoco	Ongoing	Ongoing	1 and 2
FTU5	Second St. Greenfield, OH	Ongoing	Ongoing	1 and 2
FTU6	Greenfield-McClain Schools	Ongoing	Ongoing	1 and 2
	Fayette County			
FTU1	Washington Courthouse, Fayette County Transfer Station	Ongoing	Ongoing	1 and 2
Full-Time I	Rural Drop-Offs			
Ross County				
FTR9	Colerain Township, Adelphi, Village Office	Ongoing	Ongoing	1 and 2
FTR10	Deerfield Township, Clarksburg, Parking Lot	Ongoing	Ongoing	1 and 2
FTR11	Jefferson Township, Richmond Dale	Ongoing	Ongoing	1 and 2
FTR12	Paxton Township, Bainbridge Fire Department	Ongoing	Ongoing	1 and 2
FTR13	Twin Township, Bourneville, Fire Department	Ongoing	Ongoing	1 and 2
FTR14	Green Township, Zane Trace High School Bus Garage	Ongoing	Ongoing	1 and 2
FTR17	Scioto Township, Coppel Athletic Complex	Ongoing	Ongoing	1 and 2

Table 5-2 Drop-off Recycling Locations
ID	Name	Start Date	End Date	Goal(s)		
FTR18	Scioto Township, Adena Road	Ongoing	Ongoing	1 and 2		
	Pickaway County					
FTR6	Monroe Township, Mt. Sterling, Deercreek State Park	Ongoing	Ongoing	1 and 2		
FTR7	Perry Township, New Holland, Fire Station	Ongoing	Ongoing	1 and 2		
FTR8	Washington Township, Ohio Christian University	Ongoing	Ongoing	1 and 2		
FTR16	Walnut Township, Teays Valley East Middle School	Ongoing	Ongoing	1 and 2		
FTR19	Salt Creek Township, Kingston, Salt Creek Intermediate School	Ongoing	2022	1 and 2		
Highland County						
FTR2	Dodson Township, Lynchburg, Terry's Grocery	Ongoing	Ongoing	1 and 2		
FTR3	Leesburg	Ongoing	Ongoing	1 and 2		
FTR4	Paint Township, Paint Township Building	Ongoing	Ongoing	1 and 2		
FTR5	Village of Lynchburg, Main Street rt 134	Ongoing	Ongoing	1 and 2		
FTR15	Rocky Fork State Park, Hillsboro	Ongoing	Ongoing	1 and 2		
	Fayette County					
FTR1	Jasper Township, Milledgeville, Community Center	Ongoing	Ongoing	1 and 2		

All drop-offs are available to the public at least 40 hours per week. The end market for recyclables drives the ability of processors to collect different materials. The recyclables collected in 2021 were Paper & Cardboard; Glass Bottles & Jars; Plastics Bottles, Jugs & Tubs, Metal Cans & Cups; and Cartons. The District maintains a list of acceptable materials on its website.

The District directly contracts with a private hauler to provide and service drop-off locations in the townships. The municipalities contract with a private hauler to provide and service drop-off locations in the municipalities. The District contract costs include processing, transportation, and any other management-related costs of operating the drop-off locations. The District coordinates placement of drop-offs with hosting community or private sector entity.

Target for Next 5 Years: Work with the service provider to obtain better diversion tonnage metrics. Diversion tonnage data is needed for the District to demonstrate the 25% diversion goal in this 2024 Plan. Add two more mega-sites in two other counties. This will require siting and capital improvements for developing the site. Appendix O includes the cost estimate the District is budgeting for the construction. Education will also be needed for the households and elected officials. With the Fayette County drop-off performing well the District will explore opening this up to the commercial sector for use. This may require additional drop-off bins to be added or possibly a compactor for cardboard. Any equipment the District may need to invest in will be evaluated and partnerships explored, such as grant funding assistance.

Residential Sector Reduction and Recycling Programs

Other Drop-Off Recycling

Abibow LLC Fiber Collection - District staff has coordinated with Abibow LLC to place and service receptacles collecting various types of paper. Abibow seems to be dwindling more and more every year. The District has had several calls this year to have paper bins removed from properties as the property owners have been unable to contact Abibow.

Other Residential Recycling Programs

Partner with the private sector to provide recycling - District will maintain a list of recyclers and continue to work with private sector haulers.

Promote Curbside Recycling

The District provides technical assistance and assists interested parties with exploring curbside recycling options.

Target for Next 5 Years: The District will continue to offer communities technical assistance and aid with exploring options for curbside recycling. The District will target at least one community to meet with and discuss adding a curbside recycling program each year. In 2023, elected officials of Washington Courthouse and the District began exploring curbside for the City. Three meetings to date exploring costs and operations. With cost savings from the drop-off program (site consolidation and mega-site infrastructure) the District is able offer more financial assistance for curbside start-up. Considerations include a Mini-Grant that is advancing towards a cost per household for the year 1 and possibly year 2 of service.

Commercial/Institutional Sector Reduction and Recycling Programs

Public Venue and Special Event Recycling

The District partners with local organizations to provide recycling at special events and festivals. Includes receiving grant funding to purchase recycling containers, recycling containers, recycling container loan program, target community events, and technical assistance.

Survey Commercial/Institutional Businesses

The District office conducts an annual survey of commercial and industrial businesses for recycling data. A master database has been compiled over the years. Each year a list of generators is developed. The District verifies contact information, finds new and closed businesses, and helps secure a completed survey. The District followed up via phone solicitations and contacted commercial establishments from the District's database.

Target for Next 5 Years: The District sees two main challenges to increase the diversion data reporting from the commercial/institutional businesses. One is obtaining data from past responders that have fallen out of the timeframe to be able to include the data. The second is expanding the number of businesses reporting.

Appendix H evaluation documents the lack of inconsistent reporting from the commercial/institutional businesses. The evaluation shows if all the past responding businesses reported then additional diversion data could be captured. With the list in

hand, phone calls will be made to those individual businesses to obtain their data. Analysis shows the District needs to target the following businesses in each County:

County	Commercial Target List
Fayette County	Walmart, Home Depot, Dollar General, Kroger, USPS, Aldi, Advanced Auto Parts, CVS, Sams Club, and Walgreens
Highland County	Walmart, Dollar General, Kroger, USPS, Advanced Auto Parts, Walgreens
Ross County	Walmart, Home Depot, Dollar General, Kroger, USPS, Aldi, Advanced Auto Parts, CVS, Sam's Club, Walgreens, Kohls, Big Lots, Meijer, Lowe's
Pickaway County	Walmart, Dollar General, Kroger, USPS, Aldi, Advanced Auto Parts, CVS, Big Lots

Most of these reported or are still reporting to Ohio EPA. Obtaining diversion data from these businesses annually is a top priority.

Appendix H evaluation also shows over 2,700 commercial businesses in the District. A small fraction of those businesses reports their diversion data to the District. The District is committed to reaching out to 5 businesses a year that have not previously been a target. Amazon and Bath & Body Works warehouse distribution centers have recently opened which will contribute to diversion tonnages. The District realizes this may take one on one engagement to get these businesses in the habit of reporting. This program is expected to be labor intensive in the next year or two.

Event Recycling

The District partners with local organizations to provide recycling and technical assistance at special events and festivals. This includes the recycling container loan program, targeting community events, and technical assistance.

Industrial Sector Reduction and Recycling Programs

Survey Industrial Businesses

See commercial business survey above. The District uses the same methods to conduct the two surveys.

Waste Assessments and Audits

The District offers waste audits and assessments upon request to commercial and industrial businesses for no charge. Following an audit or assessment, the District identifies opportunities for maximizing waste diversion and discusses customized strategies for implementing or expanding recycling activities.

Restricted/Difficult to Manage Waste Programs

Electronics Collection

The District maintains a list of retailers take-back, secondhand retailers, and scrap yard outlets where residents may take electronics which is also posted on the District website. The District switched from offering collection events every other year to offering events every year since the last plan update. Events are held in each of the four counties annually. The District also has a resource guide to donating and educates residents about the benefits of utilizing these types of businesses.

Household Hazardous Waste Collection Program

The District hosts one day bi-annual District-wide household hazardous waste collection. The District is targeting to host a collection event annually through the planning period. The District also a utilizes semi-permanent voucher system with a private processor in a neighboring SWMD.

Scrap Tire Collection Program

Annual scrap tire collection events are held in all four counties. Accepted tires include passenger vehicle tires, truck tires, tractor tires, and O.T.R. loader tires.

Yard Waste Collection Program

The District provides yard waste & composting information on the District website and works with other local agencies such as OSU Extension and Soil and Water Conservation District (SWCD) to provide such information. The District has two facilities in Fayette County, the Fayette County Compost Facility at the Transfer Station, and the Washington Compost Facility. Other facilities in the District include Garrick Corp Pay grow Division, Duncan Farms, Pickaway Correctional Institution, Pleasant View Farms, and Ross Correctional Institution. These facilities do not report to the District, the data is derived from the Ohio EPA reports.

Organics Management Program

The District explores in-vessel composting options with institutions, though there has been no movement with composting in the District. The District hopes to see some opportunities for residential composting in the future. Both the Pickaway Correctional Facility and Ross Correctional Facility compost food waste using in-vessel composters.

Target for Next 5 Years: The District will work with institutions over the planning period to explore this type of on-site food waste management by conducting meetings, gathering technical data, seeking grant funds, etc. Another data gap is collecting diversion data from the correctional facilities programs. The District is adding these facilities to the commercial/institutional survey list of businesses to contact annually.

Grant Programs

Recycling Incentive Mini Grant

Community, business, and institutional grants will be available to businesses, government entities, non-profit organizations and education institutions interested in implementing a

new recycling program to support long-term recycling goals. The District gives priority for grant funding based on the following criteria:

- New curbside recycling programs.
- Demonstration of Need Applicant clearly defines funding need.
- Strength of Program Proposed activities are innovative and attempt to enlist new behavior.
- Evaluation Applicant has the means and mechanisms for tracking results and measuring success.
- Sustainability Applicant demonstrates a commitment to long-term recycling.

Grants will continue to be offered annually and awarded so long as funding permits.

Target for Next 5 Years: Target Washington Courthouse and Circleville to add curbside recycling programs.

County Revolving Fund

The District provides a set fund of money to each county to be used for HB 592 programming. Typical expenses include costs for monitoring drop-off recycling containers and cleaning contamination. This fund will also be used to implement the outreach/education specialist programs and implement the county office recycling programs. The District appropriates the money to each county, but each county must request the funds before it is expended. The District approves or disapproves before expending the funds.

Other Programs

Fayette County Sort Floor

The Fayette County Transfer facility, operated by the Fayette County Engineer is the only publicly owned transfer station in the District. As time allows, the facility staff manually removes recyclable materials from the delivered waste stream. The economics of this process do not justify a large-scale segregation of materials according to the Fayette County Engineer. The District has considered funding Fayette County Transfer to improve the facility in a manner that would improve material recovery.

Fayette County Recycling Center Study

In April 2021 the Fayette County Recycling Center opened. This facility is a drop-off site available to all residents with membership. The District requires residents to complete a contact information form to sign up. After signing up, residents are given access to the facility through a personal 4-digit code for free. The personalized codes allow the District to monitor who is using the facility and track any dumping or contamination to continue to educate residents.

Target for Next 5 Years: Analyze facility effectiveness, annual participation, and explore allowing commercial use of the facility.

Education, Outreach, Awareness, and Technical Assistance

District Website and Social Media

District staff and website consultants continually update website information and posts information on District Facebook page. Various information is added to the website as appropriate. The website is promoted through advertising, written material, presentations, displays and similar opportunities. The site provides methods of disposal, disposal options, trash haulers, recyclers, drop-off locations and links to other sites. The information briefly describes methods of source reduction and/or recycling for residential, commercial, and industrial waste with a toll-free number, e-mail and address of the District office, information about special collection events, and lists haulers and recyclers. The information contained at the website prompts telephone calls to the District office by people who wish for more information on specific topics.

Promote Product Stewardship and Retailer Takeback

The District identifies retailer take-bake programs, product stewardship, and producer responsibility and posts these on the District website and social media. As retailers and materials are identified the website will be updated. Identified materials with retailer take-back opportunities include tires, electronics, and appliances.

Outreach Education Specialist

Maintain outreach specialists for each county. Outreach Specialists coordinate best practices sharing, education tours, presentations, and programs. Outreach Specialist yearly responsibilities include the following list.

- Develop special collection event flyers yearly to hang up at a number of locations and businesses. It is also posted on the Districts social media and website.
- Develop "what to recycle" flyers. Material is distributed at community events and at the drop-off sites in person.
- Develop District E-newsletter. It is printed and also shared on the Districts website.
- Attending community events to increase one-on-one contact within the county.
- Assist community events in respective counties to develop recycling plans.
- Write at least one article a year for publication in local newspapers.
- Partner with cooperating agencies such as 4-H, OSU extension, SWC to expand messaging.
- Assist local businesses to be recognized by Ohio EPA's Encouraging Environmental Excellence (E3) Program.
- Develop contests for elementary schools such as calendar art, reuse, etc.
- Develop teacher workshops.

Organic Management Partnerships

The District maintains a Facebook page and keeps content up to date with seasonal and special event info. Inquiries occur periodically via Facebook messenger and the District responds directly to disposal and recycling queries.

Education and Awareness of HHW

The District is responsible for the education and public awareness of HHW to the residents of the four counties. Households produce hazardous waste containing chemicals that pose environmental problems. Informing the public of these dangers and providing outlets for proper disposal or recycling has been a priority item for the District. Efforts include the District webpage and social media, outreach specialists speaking at events, and flyers. The Website contains considerable information for using less toxic cleaning products. Each county Outreach/Education staff provides overviews of HHW identification and proper methods of use and disposal at presentations.

Reuse Network

The top management hierarchy of waste minimization is the most preferred method of reducing reliance on landfills since, unlike recycling, waste minimization eliminates the generation of waste material. Reuse centers give materials a second life through reuse thereby diverting the material from landfills. The target for the Ohio Materials Marketplace is on businesses. Residents have similar opportunities in the District through reuse centers and secondhand stores. Reuse infrastructure is scattered throughout the District and operates independently. Reuse infrastructure heavily falls on non-profits and their development of reuse centers.

The District develops a resource guide to donating and educating residents on benefits of using these types of businesses that get updated as needed. The District also uses social media platforms along with the website to provide other recycling uses and or give information about businesses accepting recycled material.

School Education and Outreach

The District targets at least one school a year to provide technical assistance to help implement a recycling program.

Industrial Sector Education and Outreach

The District will target four businesses a year to provide technical assistance (waste assessments, contract assistance, education, in-person meetings, etc.) The District provides education and outreach technical assistance to the industrial sector when requested.

Commercial/ Institutional Education and Outreach

The District tries to target one government entity to provide technical assistance to help implement a recycling program annually. Outreach specialists are encouraged to visit commercial businesses to assist them with waste audits and or finding an outlet for recycled material. The District distributes a list of Recycling Opportunities for Commercial Waste in the District.

Promote Curbside Recycling

The District continues to facilitate discussion and engagement with political jurisdiction stakeholders encouraging curbside recycling. A target of reaching two jurisdictions per year though in-person meetings is set.

C. Waste Reduction and Recycling Rate

1) Residential/Commercial Recycling in the District

Year	Projected Quantity Collected (tons)	Residential/ Commercial WRR ¹ (%)
2021	33,975	17%
2025	52,675	24%
2026	54,642	24%
2027	56,630	25%
2028	58,606	25%
2029	59,094	25%
2030	59,573	26%

The District intends to move away from Goal 1 of the 2020 State Plan in favor of achieving Goal 2. The District is committed to reaching the goal diversion rate of 25% by the third year of the planning period (2028). As such, the District invested significant time and resources to receiving survey responses from the residential and commercial sectors for the data year 2022. The District's aggressive survey efforts proved to be very successful, increasing data received from the commercial survey by 186% from 2021 to 2022. The District was able to attribute 4,183 tons of diverted material in 2021 to the commercial survey. In 2022, this number rose nearly 8,000 tons to 11,948.

The overall result from the District's aggressive effort was a 5% increase from 2021 (17% diversion) to 2022 (22% diversion) in residential/commercial diversion rate. The District expects to continue to see increases annually in the residential/commercial diversion rate. As shown above, it is projected the District will reach a 25% diversion rate in 2028.

See Appendix K for further details.

2) Industrial Recycling in the District

Table 5-4 Industrial Waste Reduction and Recycling Rate

Year	Projected Quantity Collected (tons)	Industrial WRR ¹ (%)
2021	245,774	70%
2025	240,605	70%
2026	239,329	70%
2027	238,061	69%
2028	236,799	69%
2029	235,544	69%
2030	235,544	69%

CHAPTER 6. Budget

Purpose of Chapter 6 (contents in this box authored by Ohio EPA)

This budget accounts for how the District will obtain money to pay for operating the District programs 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 District intends to fund during the planning period and estimates how much the District will spend on each program. The plan must also demonstrate that planned expenses will 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 District 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 District will not have enough money to pay for all planned expenses or if the District has reason to believe that uncertain circumstances could change its future financial position, then the plan must demonstrate how the District 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 District's budget. Detailed information about the budget is provided in Appendix O.

A. Overview of the District's Budget

The District's primary funding source is revenue earned through generation fees. Generation fees are collected on each ton of solid waste that is generated within the levying District and accepted at either a transfer facility or landfill located in Ohio. The fee is collected at the first facility that accepts the District's waste. The statute does not set minimum or maximum limits on the per ton amount for generation fees.

In 2012, the District adopted and ratified a \$3.00 per ton generation fee effective January 1, 2013. This fee amount has remained unchanged from \$3.00 per ton to date. Under the District's preferred budget scenario discussed in Appendix O, it is not anticipated that a further fee increase will be needed. However, under the contingent budget scenario developed by the District as a precautionary measure, a fee increases to \$4.25 per ton will be needed in 2029. The District is not levying a generation fee increase during this

plan update. Should the contingency budget need to be followed the District will separately ratify the generation fee increase when it is needed. The District historically relies on generation fees as its primary source of income but does receive minimal miscellaneous funds as well. **Figure 6-1** shows the District's revenue stream from 2017 to 2021.



Figure 6-1 Historic Revenues, Expenses, and Balance

The District's fund balance has held steady over the last five years. Although there have been minor fluctuations in the fund balance annually, it has ranged between \$970,000 and \$1.1 million. Figure 6-2 below presents the District's financial activity from 2017 to 2021.



Figure 6-2 Historic Revenue and Expenses

B. Revenue

Overview of How Solid Waste Management Districts Earn Revenue (contents in this box authored by Ohio EPA)

SWMDs have multiple options to raise the revenue to finance their solid waste management plans. A SWMD can use just one or as many of these options as needed. Two of the most used options 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.

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 within the levying SWMD. There are three components, or tiers, to the fee. The tiers correspond to where waste was generated – from within the SWMD (in-district), from other SWMDs (out-of-district), or from other states.

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. 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:

Other sources SWMDs use to earn revenue include:

- Revenue from 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
- Bonds

1. Generation Fees

The generation fee is the primary funding source for the District. The District's generation fee is \$3.00 per ton has not changed since 2013. This 2025 Plan contains a contingent budget. Should the District need to follow the contingent budget a fee increase would be needed to fund that budget. If the contingency budget is executed the District will separately ratify a fee increase when needed. As estimated in this 2025 Plan update the generation fee of \$4.25 would be needed in 2029.

2. Other Funding Mechanisms

The District may receive funding from other sources. Other sources as described below are typically roughly one percent or less of contributing funding.

Reimbursements:

Reimbursement revenues are miscellaneous monies resulting from refunds and reimbursements. Reimbursement revenue is not projected during the planning period.

Grants:

Funds received from Ohio EPA grants and other grants as applied for by the SWMD. Grant funds are not projected during the planning period.

Other:

Other revenue is not projected during the planning period.

Summary of Revenue

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

						Other Revenue				
Year	Disposal Fees	Generation Fees	Designation Fees	Recycling Revenue	User Fee	Reimbursements	Grants	Other	Total Revenue	
Refere	Reference Year									
2021	\$0	\$711,928	\$0	\$ -	\$0	\$7,583	\$0	\$0	\$719,512	
Planni	ng Period									
2025	\$0	\$759,229	\$0	\$0	\$0	\$0	\$0	\$0	\$759,229	
2026	\$0	\$761,218	\$0	\$0	\$0	\$0	\$0	\$0	\$761,218	
2027	\$0	\$763,211	\$0	\$0	\$0	\$0	\$0	\$0	\$763,211	
2028	\$0	\$765,210	\$0	\$0	\$0	\$0	\$0	\$0	\$765,210	
2029	\$0	\$767,214	\$0	\$0	\$0	\$0	\$0	\$0	\$767,214	
2030	\$0	\$769,223	\$0	\$0	\$0	\$ 0	\$0	\$0	\$769,223	

Table 6-1 Projected Revenues

C. Expenses

Overview of How Solid Waste Management Districts Spend Money (contents in the box was authored by Ohio EPA)

SWMDs can spend revenue on 10 purposes named in law. 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.

Typically, most of a SWMD's budget is used to implement the approved solid waste management plan (allowable use 2). Expenses a SWMD can incur 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 HHW and scrap tires);
- providing outreach and education;
- providing services (such as curbside recycling services);
- paying for community clean-up programs.

Table 6-2 below summarizes the expected expenses for this solid waste management

 plan update. Further information regarding expenses can be found in Appendix O.

Expense Category	Reference	Planning Period					
	2021	2025	2026	2027	2028	2029	2030
Plan Preparation/Monitoring	\$O	\$O	\$0	\$11,891	\$30,900	\$0	\$0
Personnel	\$146,381	\$185,950	\$191,529	\$197,274	\$203,193	\$209,288	\$215,567
Office Overhead	\$17,927	\$20,034	\$20,635	\$21,254	\$21,891	\$22,548	\$23,224
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Drop-Off Program	\$363,159	\$427,450	\$440,274	\$453,482	\$467,086	\$481,099	\$495,532
Curbside Pogram	\$0	\$50,000	\$50,000	\$0	\$0	\$0	\$0
"Mega-Site" Drop-Off Development	\$0	\$50,000	\$50,000	\$50,000	\$0	\$0	\$0
Savings from Drop-Off Removal	\$0	\$0	\$0	\$0	-\$152,247	-\$156,815	-\$161,519
Business/Institutional	\$11,011	\$0	\$0	\$0	\$0	\$0	\$0
Tire Collection	\$11,328	\$15,450	\$15,914	\$16,391	\$16,883	\$17,389	\$17,911
HHW Collection	\$15,197	\$7,725	\$7,957	\$8,195	\$8,441	\$8,695	\$8,955
Electronics Collection	\$120	\$7,725	\$7,957	\$8,195	\$8,441	\$8,695	\$8,955
Education/Awareness	\$98,849	\$88,755	\$89,018	\$89,288	\$89,567	\$89,854	\$90,149
Total Expenses	\$663,972	\$853,089	\$873,281	\$855,971	\$694,155	\$680,752	\$698,775

Table 6-2 Summary of Expenses

The District anticipates removing many existing drop-off locations in favor of centralized "mega-sites" like the Fayette County Recycling Center currently operating. The District will look to achieve Goal 2, a residential/commercial diversion rate of 25% instead of Goal 1 in this plan period. The financial estimations behind this goal are shown above as the highlighted values. The District anticipates spending \$150,000 over three years for site development of the mega-sites followed by an estimated \$152,000 from drop-off site removal.

D. Budget Summary

Table 6-3 Budget Summary

Year	Revenue	Expenses	Net Difference	Ending Balance
Reference	e Year			
2021	\$719,512	\$663,972	\$55,540	\$1,082,007
Planning	Period			
2025	\$759,229	\$853,089	(\$93,859)	\$929,110
2026	\$761,218	\$873,281	(\$112,064)	\$817,047
2027	\$763,211	\$855,971	(\$92,760)	\$724,287
2028	\$765,210	\$694,155	\$71,055	\$795,342
2029	\$767,214	\$680,752	\$86,462	\$881,804
2030	\$769,223	\$698,775	\$70,448	\$952,252

The District is projected to have a decreasing fund balance for the first three years of the planning period. However, due to the anticipated savings from the drop-off program, it is expected to begin increasing in 2028.

Note, in the event the District is unable to demonstrate compliance with Goal 2 by the third year of the planning period, a precautionary contingent budget was developed that is not explored in this demonstration. See Appendix O for more information on the contingent budget expense and revenue projections.

APPENDIX A

REFERENCE YEAR, PLANNING PERIOD, GOAL STATEMENT, MATERIAL CHANGE IN CIRCUMSTANCES, EXPLANATIONS OF DIFFERENCES IN DATA

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 2021.

B. Planning Period (First and Last Years)

The planning period for this solid waste management plan is: 2025 to 2039.

C. Goal Statement

The SWMD will achieve the following Goal(s): Goal 1

D. Explanations of Differences Between Data Previously Reported and Data Used in the Solid Waste Management Plan

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

Table A.1	Residential/Commercia	I Sector Data	Differences
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Material	Quantity (tons)	2021 ADR (tons)	Difference (tons)	Reason
Appliances/ "White Goods"	0	-	-	
Household Hazardous Waste	8	8	0	
Used Motor Oil	220	220	-	
Electronics	1	5	(4)	Per the worksheet sent by the District, only calculated 1 ton for 2021 which only had 2 collection events. The ADR says there were 5 collection events
Scrap Tires	2,678	2,678	0	
Dry Cell Batteries	0	-	-	
Lead-Acid Batteries	0	318	(318)	NAICS codes were reported as commercial responses instead of industrial. For accuracy, these respondents were switched from the commercial survey responses to the industrial survey responses and NAICS codes adjusted, correspondingly, to reflect the proper code.
Food	2,830	2,671	159	More food waste reported in Ohio EPA data than recorded in the ADR
Glass	910	216	694	More Glass on Ohio EPA MRF report than recorded in the ADR

Material	Quantity (tons)	2021 ADR (tons)	Difference (tons)	Reason
Ferrous Metals	1,600	18	1,582	More Ferrous Metals on Ohio EPA MRF report than recorded in the ADR
Non-Ferrous Metals	337	79	258	More Non-Ferrous Metals on Ohio EPA MRF report than recorded in the ADR
Corrugated Cardboard	9,778	5,149	4,629	More Cardboard on Ohio EPA MRF report than recorded in the ADR
All Other Paper	2,418	4	2,414	More Paper on Ohio EPA MRF report than recorded in the ADR
Plastics	594	106	488	More Plastic on Ohio EPA MRF report than recorded in the ADR
Textiles	0	-	-	
Wood	6,978	6,976	2	
Rubber	0	-	-	
Commingled Recyclables (Mixed)	4,467	28	4,619	Commingled from one processor on Ohio EPA MRF report was recorded as other but should have been recorded in commingled.
Yard Waste	523	1	522	More yard waste reported in Ohio EPA data than recorded in the ADR
Other (Aggregated)	426	426	0	
Total	33,950	18,903	15,046	

Table A.2 Industrial Sector Data Differences

Material	Quantity (tons)	2021 ADR (tons)	Difference (tons)	Reason
LAB	0	n/a		
Food	0	-	-	
Glass	0	-	0	
Ferrous Metals	11,720	11,720	(0)	
Non-Ferrous Metals	717	717	(0)	
Corrugated Cardboard	1,651	1,646	5	Ohio EPA MRF report identified one business reporting 5 tons of OCC recovery that was not captured when the ADR was submitted.
All Other Paper	14,311	14,311	(0)	
Plastics	158	158	0	
Textiles	1	1	-	
Wood	202,389	202,383	6	Ohio EPA MRF report identified one business reporting 3 tons of wood recovery that was not captured when the ADR was submitted. One commercial businesses reported 3 tons of wood recovery who's NAICS code fell into the industrial category. An adjustment was made to add that business and remove it from commercial.
Rubber	9,548	9,548	-	
Commingled Recyclables (Mixed)	134	134	0	
Ash	0	-	-	

Material	Quantity (tons)	2021 ADR (tons)	Difference (tons)	Reason
Non-Excluded Foundry Sand	0	-	-	
Flue Gas Desulfurization	0	-	-	
Other (Aggregated)	5,144	176,673	(171,528)	Hazardous and non-hazardous liquids from industrial sector do not meet the definition of a solid waste and are not creditable for diversion
Total	245,774	417,291	(171,517)	

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

See explanation provided in Appendix O.

E. Material Change in Circumstances/Contingencies

Ohio law [ORC Section 3734.56(D)] requires the District's *Solid Waste Management Plan* to be updated when the Ross, Pickaway, Highland, Fayette Joint Solid Waste Management District (District) Board of Directors (Board) determines that there has been a material change in circumstances from the circumstances addressed in the approved *Plan*. If a plan update is required due to a material change in circumstances, the plan update must address those portions of the plan that need to be modified due to the material change in circumstances.

In the event that a new or undesignated solid waste transfer, disposal, recycling or resource recovery facility is subsequently designated by the Board, or a new or undesignated facility is granted a waiver which permits the undesignated facility to accept solid waste generated within the District, and such designation or waiver is documented in a designation or waiver agreement, the Board may not determine that a material change in circumstances has occurred. The Board, as part of the consideration of its assessment of a new or undesignated facility on the Plan, may consider whether to change its tiered disposal fees, establish a generation fee or modify its contract fee.

In determining whether a material change in circumstances has occurred, the Board will consider the following:

- a. An assessment of changes in waste generation;
- b. Capacity availability for disposal, transfer, composting, and management of restricted waste streams;
- c. Strategies for waste reduction and/or recycling;
- d. Substantial changes in the availability of waste reduction and recycling opportunities available to District residents;
- e. The availability of revenues for plan implementation;

- f. Procedures to be followed for plan implementation;
- g. Timetable for implementation of programs and/or activities;
- Facility designations and the flow of waste (the addition or removal of a facility from the designated list is not a material change in circumstances); and
- i. Any other factor that the Board considers relevant.

The Determination Criteria will be evaluated on the basis of the District Policy Committee's annual review of the approved Plan, and/or information obtained through the District Staff's monitoring program. The staff monitoring program includes the following:

- a. Quarterly analysis of District revenues;
- b. Analysis of information acquired by District Staff for preparation of the Annual District Report;
- c. Information acquired by District Staff through follow-up investigations of citizen complaints which indicate the existence of deviations from or noncompliance with the District Plan; and
- d. Analysis of information voluntarily provided to the District Staff by state or local officials and employees, or owners and operators of solid waste collection, disposal, transfer, recycling activities, or resource recovery facilities, which indicate the existence of major deviations from and/or noncompliance with the District's Plan.

The Policy Committee or the District's Staff will immediately notify the Board of any reliable information that suggests that a change in circumstances has occurred that warrants the Board's consideration of whether a material change in circumstances has occurred.

Within 10 days from receipt of notification from the Policy Committee or the District Staff that there may be a material change in circumstances, the District's Board of Directors will request the District Staff to prepare a report which discusses the events or conditions that have changed as identified in the notice to the Board and apply the criteria listed in paragraph 1, above. The District Staff will prepare the report and submit it to the Board of Directors within 30 days of the Board's request. Within 10 days after the receipt of the District Staff's report, the Board will determine whether additional information is necessary for the Board to determine whether a material change has occurred. If the Board determines that additional information is required, the District Staff will revise its report to include such additional information and submit its revised report within 20 days from the Board's request for additional information.

Within 60 days after the Board's receipt of the District Staff's revised and final report, the Board will make a determination of whether the changed circumstances are material pursuant to the criteria listed in paragraph 1, above. The Board may obtain such additional information from sources other than the District Staff as the Board

deems necessary and appropriate to assist the Board in its determination of whether a material change in circumstances has occurred.

Upon the Board's determination that a material change in circumstances has occurred, the Board shall notify the District Policy Committee and the Director of the Ohio Environmental Protection Agency, in writing, within 10 days of the Board's determination. The Board's notice to the Policy Committee shall request the District Policy Committee to prepare a draft amended solid waste plan, pursuant to ORC 3734.56 (D), that addresses those portions of the District's Plan that the Board has determined may be affected, directly or indirectly, by the material change in circumstances.

APPENDIX B

RECYCLING INFRASTRUCTURE INVENTORY

APPENDIX B Recycling Infrastructure Inventory

This appendix provides a review of the recycling infrastructure available in the reference year (2021), which includes curbside recycling programs, recycling drop-off sites, collection service providers, and compost facilities/activities.

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 Availablein the Reference Year

ID #	Name of Curbside Service	Service Provider	County	How Service is Provided	Collectio n Frequenc y	Materials Collected	Type of Collection	PAY T (Y/N)	Weight of Material s Collecte d from SWMD (tons)	Service will Continu e Through -out Plannin g Period (Y/N)
NSC 1	Ashville	Ashville	Pickaway	Contract with Hauler Local, Waste Services	Weekly	AC, SC, MxP,PL, GL, AS	Single Stream, Automatic	Ν	557	Y
NSC 2	South Bloomfield	South Bloomfield	Pickaway	Contract with Hauler, Rumpke	Weekly	AC, SC, MxP,PL, GL, AS	Single Stream, Manual	N	NA	Y
NCS 3	Commercial Point	Commercial Point	Pickaway	Contract with Hauler, Rumpke	Weekly	AC, SC, MxP,PL, GL, AS	Single Stream, Manual	Ν	NA	Y
NCS 4	Chillicothe	City of Chillicothe	Ross	Contract with Hauler, Rumpke	Bi- weekly	AC, SC, MxP,PL, GL, OCC, AS	Single Stream	Ν	803	Y
				Total					1,360	

Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other, AS = cartons

Source: 2021 Annual District Report

Four non-subscription curbside recycling programs operated in the reference year. All Four-collect material in a single stream. Collection service varies with two using a manual method and the other automatic.

The city of Ashville's non-subscription curbside recycling program served the most households out of the three programs. It served a total of 1,371 households in the reference year, up 300% since 2015, and collected 557 tons of material. South Bloomfield

and Commercial Point's programs served 885 and 639 households respectively. There was no separate tonnage data available collected from these two programs. Commercial Point has seen consistent growth in their curbside program over the last few years. The Village has been actively assisting residents with their recycling initiatives.

The City of Chillicothe's program collected 803 tons of material from 8,023 households. The City has historically done great by assisting residents to recycle. However, budget constraints paired with increasing fuel costs and lack of employees poses a threat to the program's survival. If the current trend continues, the City may be forced to eliminate this program.

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	Type of Collection	PAYT (Y/N)	Weight of Materials Collected from SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
	NA								

Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other, AS = Cartons

Source: 2021 Annual District Report

2. Drop-off Recycling Locations

Table B-2a. Inventory of Full-Time, Urban Drop-Off Sites Available in Reference Year

ID#	Name of Drop-off Site	Address	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)
FTU1	Washington Courthouse, Fayette County Transfer Station	1600 Robinson Rd.	SWMD, Rumpke	Fayette	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU2	Hillsboro, BMV Office Parking Lot	1575 N. High St.	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU3	Hillsboro, Hillsboro Board of Education	39 Wilkesville Pike	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU4	Hillsboro, Sunoco	489 E. Main St.	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y

ID#	Name of Drop-off Site	Address	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)
FTU5	Second St. Greenfield, OH	520 S Second St. Greenfield	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU6	Greenfield- McClain Schools	439 Lafayette St. Greenfield, OH	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU7	Circleville, PICCA	722 Clinton St.	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU8	Circleville, Pickaway Service Center	110 Island Rd.	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU9	Circleville, Rhoads Farm Market	1051 SR 56	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU10	Circleville, SNAP Fitness	1186 N. Court St.	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU11	Chillicothe, Rumpke Recycling	990 Eastern Ave.	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU12	Chillicothe, Yoctangee Park	212 Riverside Drive	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU13	Huntington Township, Huntington Schools softball field	NA	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTU 14	Scioto Township, Teays Valley West Middle School	200 Grove Run Rd	SWMD, Rumpke	Pickaway	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
				Total					NA	

Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other, AS = Cartons

Source: 2021 Annual District Report Implementation Schedule

In the reference year, the District contracts provision and service of drop-off containers with a private service provider. Sites are open to the public 7 days a week (full-time) and collect aseptic packages/juice boxes (cartons), aluminum cans, paper, glass bottles and jars, cardboard/paperboard, steel cans, and plastic bottles and jars. Materials are

collected in a single stream. Container size and service frequency depends on container location. The total material collected is aggregated for all collection services and because of the service provider route efficiencies, the data is an estimate. Operationally routes cross county lines into other solid waste management districts.

 Table B-2b. Inventory of Part-Time, Urban Drop-Off Sites Available in 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								
				Total				0	

Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other Source: 2021 Annual District Report

There was no part-time urban-off sites used in the reference year.

Table B-2c. Inventory of Full-Time, Rural Drop-Off Sites Available in Reference Year

ID#	Name of Drop-off Site	Address	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)
FTR1	Jasper Township, Milledgeville, Community Center	850 Main St.	SWMD, Rumpke	Fayette	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Υ
FTR2	Dodson Township, Lynchburg, Terry's Grocery	1505 US 50 & RT 134	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR3	Leesburg	116 South Fairfield	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR4	Paint Township, Paint Township Building	12470 US 50	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR5	Village of Lynchburg, Main Street rt 134	Corner lot of Main St & Washin gton St	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y

ID#	Name of Drop-off Site	Address	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)
FTR6	Monroe Township, Mt. Sterling, Deercreek State Park	20635 Waterlo o Rd.	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR7	Perry Township, New Holland, Fire Station	17 N. Church St.	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR8	Washington Township, Ohio Christian University	1476 Lancast er Pike	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR9	Colerain Township, Aldephi, Village Office	11759 Market St.	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR10	Deerfield Township, Clarksburg, Parking Lot	10823 Main St.	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR11	Jefferson Township, Richmond Dale	757 Jackson St.	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR12	Paxton Township, Bainbridge Fire Department	103.5 W. Fifth St.	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR13	Twin Township, Bourneville, Fire Department	11521 US Route 50	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR14	Green Township, Zane Trace High School Bus Garage	946 SR 180	SWMD, Rumpke	Ross	Multi- Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	Y
FTR15	Rocky Fork State Park, Hillsboro	9800 N Shore Dr	SWMD, Rumpke	Highland	Single Stream	24/7	AC, SC, MxP,PL, GL, OCC, AS	Y	NA	Y

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ID#	Name of Drop-off Site	Address	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)
FTR16	Walnut Township, Teays Valley East Middle School	655 Viking Way	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP,PL, GL, OCC, AS	Y	NA	Y
FTR17	Scioto Township, Adena Road	Adena Rd, 45601	SWMD, Rumpke	Ross	Single Stream	24/7	AC, SC, MxP,PL, GL, OCC, AS	Y	NA	Y
FTR18	Scioto Township, Coppel Athletic Complex	134 Star Dr	SWMD, Rumpke	Ross	Single Stream	24/7	AC, SC, MxP,PL, GL, OCC, AS	Y	NA	Y
FTR19	Salt Ccreek Township, Kingston, Salt Creek Intermediate TSchool	13190 State Route 56	SWMD, Rumpke	Pickaway	Single Stream	24/7	AC, SC, MxP, PL, GL, AS	Y	NA	N
									0	

Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other Source: 2021 Annual District Report

In the reference year, the District contracts provision and service of drop-off containers with a private service provider. Sites are open to the public 7 days a week (full-time) and collect aseptic packages/juice boxes (cartons), aluminum cans, paper, glass bottles and jars, cardboard/paperboard, steel cans, and plastic bottles and jars. Materials are collected in a single stream. Container size and service frequency depends on container location. The total material collected is aggregated for all collection service and because of the service provider route efficiencies, the data is an estimate. Operationally routes cross county lines into other solid waste management districts.

Table	B-2d.	Inventory	of	Part-Time,	Rural	Drop-Off	Sites	Available	in	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								
				Total				0	

Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other Source: 2021 Annual District Report

There were no part-time rural drop-off sites available in the reference year.

3. Mixed Municipal Solid Waste Material Recovery Facility

		mannoipai	00114 1140			i aomity		
Name of Facility	Location	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%
Total				0	0	0	0	0%

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

Source: 2021 Annual District Report

A mixed solid waste materials recovery facility (MRF) gives residents access to recycling opportunities by removing recyclables from trash for residents. In 2021, there were no mixed solid waste material recovery facilities in the District.

B. Curbside Recycling and Trash Collection Service Providers

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

Name of	Counties	Counties Trash Collection Services				Curbside Recycling Services		
Provider	Served	PAYT (Y/N)	Residential	Commercial	Industrial	Residential	Commercial	Industrial
Chillicothe City Service	Ross		Х	Х		Х		
Rumpke	RPHF	N	Х	Х	Х	Х	Х	Х
Waste Management Inc	RPHF	N	Х	Х	Х	Х	Х	Х
Local Waste Services	Pickaway		Х	Х	Х	Х	Х	Х
R&W Hauling	Pickaway	N	Х					
JK Garbage Removal	Pickaway	N	Х					
Brown Sanitation	Pickaway	N	Х	Х				
Roundtown Refuse	Pickaway	N	Х					
D&D Refuse	Pickaway	N	Х					
Pro Waste Services	Highland, Fayette	N	Х					
Industrial Container	Highland	N	Х					
Cartwright Salvage	Fayette	N	Х					
Graham Hauling	Fayette	N	Х					
M&M Recovery Services	Fayette	N	X					
Munro Trash Service	Fayette	N	Х					

Source(s): 2021 Annual District Report and RPHF Solid Waste District Website Notes: PAYT = Pay-As-You-Throw

There are a total of 14 haulers available in the District that give residential, commercial, and industrial sectors the opportunity to haul trash and recycling. The list of haulers was obtained through District records and survey responses to the Annual District Report (ADR).

C. Composting Facilities

Table B-5. Inventory of Composting/Yard	Trimmings	Management	Activities
Available in the Reference Year	_	-	

Facility Name	Compost Facility Classification	Publicly Accessible (Y/N)	Location	Food Waste (tons)	Yard Waste (tons)	Total
Pine Grove Regional Facility	IV	Y	5131 Drinkle Road		22	22
City of Hillsboro Yard Waste Facility	IV	Ν	1520 North High Street		19	19
Washington Composting Facility	IV	N	1110 South Elm St		128	128
Fayette County SW Compost	IV	Y	1580 Robinson Road Southeast		353	353
Hauler/Grocer Food Waste	NA	NA	NA	2,830		2,830
Total					521	3,351

Source(s): 2021 Ohio EPA Compost Facility Report

Organic waste is a valuable organic material that has beneficial uses such as soil conditioners, erosion control, improved soil nutrient retention, etc. Table B-5 identifies the yard waste management facilities and activities which received yard waste and other organic waste during the reference year. This table includes the facilities and programs that managed food waste and yard waste. The District managed a total of 3,351 tons of organic waste. A majority of this waste (85%) was food waste.

One of the publicly available facilities is located in neighboring Fairfield County.

D. Other Food Waste and Yard Waste Management Programs

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

Facility or Activity Name	Activity Type	Location	Food Waste (tons)	Yard Waste (tons)
None				0
			0	

There were no "other" food waste or yard waste programs reported in the District for the reference year.

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

Table B-7. Inventory of Material Handling Facilities Used by the D	istrict in the
Reference Year	

Facility Name	County	State	Type of Facility	Weight of Material Accepted from SWMD (tons)
Rumpke Center City Recycling - Hamilton County	Hamilton	ОН	MRF	4082
Rumpke - Chillicothe	Ross	ОН	MRF	8065
Rumpke Waste Recycling - Columbus	Franklin	ОН	MRF	1194
Rumpke Recycling - Dayton	Montgomery	ОН	MRF	212
	13,552			

Source(s): Ohio EPA 2021 Material Recovery Facility Report

As indicated in Table B-7 above, four material handling facilities reported receiving recyclable materials from the District in the reference year. These four facilities are privately owned and the type of processing ranges from consolidation and transport to full processing into bales for marketing. There is one facility within the District and three facilities in other Districts.

APPENDIX C

POPULATION DATA

APPENDIX C Population Data

A. Reference Year Population

Table C-1a. Reference Year Population Adjustments

	Ross
Before Adjustment	76,891
Additions	
Subtractions	
Greenfield Village	0
After Adjustment	76,891

Source(s):

Ohio Development Services Agency Office of Statistical Research (ODSA, OSR). "2021 Population Estimates: Cities, Villages and Township by County. June 2022.

	Pickaway
Before Adjustment	59,333
Additions	
New Holland Village	134
Tarlton Village	0
Subtractions	
Harrisburg Village	0
Lockbourne Village	0
After Adjustment	59,467

Source(s):

Ohio Development Services Agency Office of Statistical Research (ODSA, OSR). "2021 Population Estimates: Cities, Villages and Township by County. June 2022.

	Highland
Before Adjustment	43,354
Additions	
Subtractions	
After Adjustment	43,354

Source(s): Ohio Development Services Agency Office of Statistical Research (ODSA, OSR). "2021 Population Estimates: Cities, Villages and Township by County. June 2022.

	Fayette
Before Adjustment	28,906
Additions	
Subtractions	
New Holland Village	134
After Adjustment	28,772

Source(s):

Ohio Development Services Agency Office of Statistical Research (ODSA, OSR). "2021 Population Estimates: Cities, Villages and Township by County. June 2022.

Table C-1b: Total Reference Year Population

Unadjusted Population	Adjusted Population
208,484	208,484

Reference year population is taken from Ohio Development Services Agency Office of Statistical Research (ODSA, OSR). OSR provided population numbers for 2021 based on the 2021 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. One community, New Holland Village straddles two Counties with most of the population residing in Pickaway County. The portion of population of New Holland Village living in Fayette County was subtracted from Fayette County and added to Pickaway County.

B. Population Projections

Year	Ross	Pickaway	Highland	Fayette	Total District
2021	76,891	59,467	43,354	28,772	208,484
2022	76,842	59,717	43,292	28,767	208,618
2023	76,793	59,968	43,231	28,762	208,754
2024	76,744	60,220	43,169	28,757	208,890
2025	76,695	60,473	43,107	28,752	209,028
2026	76,646	60,727	43,046	28,747	209,167
2027	76,598	60,983	42,985	28,742	209,307
2028	76,549	61,239	42,923	28,737	209,448
2029	76,500	61,496	42,862	28,733	209,591
2030	76,451	61,755	42,801	28,728	209,735
2031	76,403	62,014	42,740	28,723	209,880
2032	76,354	62,275	42,679	28,718	210,026
2033	76,305	62,537	42,618	28,713	210,173
2034	76,257	62,800	42,558	28,708	210,322

Table C-2: Population Projections

Year	Ross	Pickaway	Highland	Fayette	Total District
2035	76,208	63,064	42,497	28,703	210,471
2036	76,159	63,329	42,436	28,698	210,623
2037	76,111	63,595	42,376	28,693	210,775
2038	76,062	63,862	42,315	28,688	210,928
2039	76,014	64,131	42,255	28,683	211,083

Source: Ohio Development Services Agency, "2010 to 2040 Projected Population for Ohio Counties - Summary 2010 to 2040 Projected,".

Population projections for the entire planning period are shown above in Table C-2. The reference year 2021 population represents the projected 2021 population from the Ohio Development Services Agency. The District populations calculated for 2025, 2030, 2035, and 2040 have been determined using projection estimates for those years from the Ohio Development Services Agency. Straight-line projections have been used to develop the population estimates for years between the five-year intervals listed above.

Population projections gauge future demand for services, but in projection calculations there is room for errors given the difficulty associated with forecasting. Population projections flatline in the seventh year of the planning period (2031). Table C-2 projects an increase in the total District population of 0.60% through 2031, a 0.04% increase annually.

All counties are expected to decrease in population throughout the planning period except for Pickaway County, which is expected to grow with a 3.70% increase in population through the first seven years of the planning period. The growth expected in Pickaway County outweighs the declining population expected in the remaining three counties, thus leading to a slightly growing population.
APPENDIX D

DISPOSAL DATA

APPENDIX D Disposal Data

A. Reference Year Waste Disposed

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

	Location		Was	Waste Accepted from the SWMD		
Facility Name	County	State	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
SWACO Franklin County Sanitary Landfill	Franklin	Ohio	357	28	0	384
Pine Grove Regional Facility	Fairfield	Ohio	5,143	3,079	1,434	9,656
American Landfill, Inc	Stark	Ohio	8	0	0	8
Wilmington Sanitary Landfill	Clinton	Ohio	6,542	0	13	6,556
Suburban Landfill	Perry	Ohio	3	356	0	359
Rumpke Waste Inc Beech Hollow Landfill	Jackson	Ohio	36	12,672	63	12,771
Rumpke Waste Inc Brown County Landfill	Brown	Ohio	22,356	47	1,198	23,602
Rumpke of Northern Ohio Noble Road Landfill	Richland	Ohio	0	6,631	0	6,631
Pike Sanitation Landfill	Pike	Ohio	36,914	60,715	1,158	98,787
Stoney Hollow Landfill	Montgomery	Ohio	655	20	24	699
Rumpke Sanitary Landfill	Hamilton	Ohio	36	41	7	84
Carbon Limestone Landfill LLC	Mahoning	Ohio	0	14	0	14
Athens-Hocking Landfill	Hocking	Ohio	150	1,759	0	1,909
Marysville Mason Co Landfill	Mason	Kentucky	1,894	0	0	1,894
Boyd County Landfill	Boyd	Kentucky	0	175	0	175
Total			74,093	85,538	3,897	163,529

Source(s): Ohio Environmental Protection Agency, "2021 Ohio EPA Waste Flow Report"

Note: 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.

A wide variety of waste is disposed in municipal solid waste landfills and includes waste from households, businesses, institutions, and industrial activities. If permitted, asbestos construction and demolition debris, dewatered sludge, soil, and incinerated ash may also be disposed in landfills. Industrial waste includes excluded wastes.

The majority (60%) of the District's waste that was direct hauled for disposal in the reference year was sent to the Pike Sanitation Landfill in Pike County. The Rumpke owned Brown County Landfill, Pine Grove Regional Facility, the Wilmington Sanitary Landfill, and the Rumpke Owned Noble Road Landfill also received a fair amount of waste at 14%, 6%, 4% and 4% respectively.

The District used two out of state landfills, both in Kentucky. The District sent over 1,800 tons of material to the Marysville Mason County Landfill and 175 tons to the Boyd County Landfill. This made up roughly 1% of the total waste disposed.

There was a total of 16 publicly available landfills the District used to dispose waste. Waste flows to landfills either by direct haul or through a transfer facility. Direct hauled waste is disposed of in-state facilities. Figure D-1 presents the landfills used by percentage below.



Figure D-1 Publicly Available Landfills

Source(s): Ohio EPA 2021 Waste Flow Report

Table D-1b. Reference Year Waste Disposed – Captive Landfills

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

Source(s): Ohio Environmental Protection Agency, "2021 Ohio EPA Waste Flow Report"

There were no captive landfills located within the District during the reference year. In addition, no captive landfills located outside the District were used to manage waste generated by the District.

Residential/Commercial	Industrial	Excluded	Total
(tons)	(tons)	(tons)	
74,093	85,538	3,897	163,529

Table D-1c. Total Waste Disposal in Landfills (Direct Haul)

Source(s): Ohio Environmental Protection Agency, "2021 Ohio EPA Waste Flow Report"

Note: 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.

In the reference year, a total of 163,529 tons of waste were direct hauled from the District. 45% of the direct hauled waste was from the residential/commercial sector, 53% was from the industrial sector and 2% waste excluded waste.

Table D-2. Reference Year Waste Transferred

	Location		Wa	Waste Received from the SWMD		
Facility Name	County	State	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
Waste Management of Ohio - Chillicothe	Ross	Ohio	22,454.33	11,325.99	325.86	34,106.18
Fayette County Transfer Station	Fayette	Ohio	8,905.54	6,301.49	6,704.91	21,911.94
Rumpke Waste Inc Circleville Transfer	Pickaway	Ohio	34,449.33	-	427.93	34,877.26
Rumpke Waste Inc Chillicothe Recycling and transfer facility	Ross	Ohio	21,770.03	-	2,279.96	24,049.99
Waste Management of Ohio Transfer and Recycling	NA	Ohio	831.20	-	13.99	845.19
Delaware County Transfer Station	Delaware	Ohio	1.71	-	-	1.71
Rumpke Waste Inc Columbus Transfer and Recycling Facility	Franklin	Ohio	28.62	-	-	28.62
Rumpke Waste Inc Lawrence County Transfer Facility	Lawrence	Ohio	10.90	-	-	10.90
Local Waste Services Inc	Franklin	Ohio	6,211.92		14.86	6,226.78
Montgomery County South Transfer	Montgomery	Ohio	289.34	-	-	289.34
Republic Services Inc Reynolds Ave Transfer Facility	Franklin	Ohio	3.54		1.05	4.59
Rumpke Allen County Transfer Station	Allen	Ohio	5.27	-	-	5.27
Total			94,962	17,627	9,769	122,358

Source(s):

Ohio EPÁ "2021 Analytics Waste Flow Report"

Ohio EPA "2021 Facility Data Report"

Note: 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.

Transfer facilities are located where solid waste deliveries from collection companies and residents are consolidated, temporarily stored, and loaded for transport. The waste is then delivered to a processing facility or disposal site. In instances where waste is 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 from other counties. As a result, it is difficult to track and record which landfill received a county's waste.

Twelve transfer facilities processed 42% of the Districts waste sent for disposal in the reference year. The in-District facilities of Waste Management of Ohio - Chillicothe, Fayette County Transfer Station, Rumpke Waste Inc Circleville Transfer Station, and Rumpke Waste Inc Chillicothe Recycling and Transfer Facility collectively handle 94% of all waste transferred by the District. Local Waste Services located in Franklin County transfers 5%. Overall, 122,358 tons of material was transferred by the District in the reference year with almost 95,000 tons coming from the residential/commercial sector.

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

		Location		Waste	Waste Accepted from the SWMD		
Facility Name	Facility Type	County	State	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
None				0	0	0	0
Total				0	0	0	0

Source(s):

Ohio EPÁ "2021 Analytics Waste Flow Report"

Ohio EPA "2021 Facility Data Report"

Waste was not managed at incinerators during the reference year.

	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)		% of Total Waste Disposed	
Direct Hauled	74,093	85,538	0	163,529		59%	
Transferred	94,962	17,627	0	112,589		41%	
Incinerated	0	0	0	0		0%	
Total	169,055	103,165	0	272,220		100%	
Percent of Total	62%	38%	0%	100%			

Table D-4, Reference Year Total Waste Disposed

Source(s):

Ohio EPÁ "2021 Analytics Waste Flow Report"

Ohio EPA "2021 Facility Data Report"

Note: 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.

According to Ohio EPA Format 4.1, 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 the District, excluded waste accounts for 5% of the total disposal in 2021 and therefore will not be included in the solid waste management plan.

Approximately 59% of the total waste was direct hauled, meaning a disposal truck picked up waste from clients and directly hauled that waste to a landfill for disposal. The remaining 41% of waste was sent to a transfer facility before reaching the landfill for disposal.

Roughly 62% of the District's waste was from the residential/commercial sector and 38% was from the industrial sector.

Β. **Historical Waste Analysis**

Year	Population	Residentia Solic	I/ Commercial d Waste	Industrial Solid Waste	Excluded Waste	Total Waste
rour	1 opulation	Rate (ppd)	Weight	Weight	Weight	Weight
		Kale (ppu)	(tons)	(tons)	(tons)	(tons)
2017	206,866	3.70	139,502	33,496		172,998
2018	206,741	4.22	159,107	51,876		210,983
2019	206,809	4.20	158,448	58,133		216,581
2020	206,809	4.73	178,389	68,334		246,723
2021	208,484	4.44	169,055	103,165		272,220

Table D-5. Historical Disposal Data

Source(s): Ohio EPA ADR Review Forms for 2017, 2018, 2019, 2020, and 2021 for population and waste disposal data. Sample Calculation: Residential/Commercial + Industrial + Excluded = Total Waste ((Residential/Commercial tons * 2,000 pounds per ton) / 365 days) / Population = Residential/Commercial disposal rate

Table D-5a Annual Percentage Change

	Residential / Commercial	Industrial Solid Waste	Excluded Waste	Total Waste
2017				
2018	14%	55%	0%	22%
2019	0%	12%	0%	3%
2020	13%	18%	0%	14%
2021	-5%	51%	0%	10%

Table D-5b Annual Change in Tons Disposed

	Residential / Commercial	Industrial Solid Waste	Excluded Waste	Total Waste
2017				
2018	19,605	18,380	0	37,985
2019	-659	6,257	0	5,598
2020	19,941	10,201	0	30,142
2021	-9,334	34,831	0	25,497

Table D-5c Average Annual Percentage Change

Average Annual Percentage Change				
Residential/Commercial	5%			
Industrial Waste	34%			
Excluded Waste	0%			

Table D-5d Average Annual Change in Tons Disposed

Average Annual Change in Tons Disposed				
Residential/Commercial	7,388			
Industrial	17,417			
Excluded	0			

Table D-5e Average Per Capita Disposal Over Time

Average Per Capita Disposal Over Time				
(5 Years)				
Residential/Commercial	4.26			

Figure D-2 Historical Waste Disposal



Source(s): Ohio EPA Waste Flow 2017-2021

The disposal tonnages for the residential/commercial sector, industrial sector, excluded waste, and total disposal are shown graphically above. As seen in Figure D-2, total waste disposed in 2017 was approximately 173,000 tons, the low point over the last five years. After 2017 a large increase was observed in 2018 of about 40,000 tons. This came from two sources, an increase of roughly 20,000 tons in the residential/commercial sector and of 18,000 tons in the industrial sector for that year.

Years 2018 through 2021 also document annual increases. In 2020 and 2021 large increases can be seen. The total waste disposed increased about 30,000 in 2021 due to

an unusually high industrial sector disposal of 102,990 tons, up 51% from the previous year. It is unclear as to why this occurred.

Residential/commercial waste accounts for most of the total waste disposed of in the District historically. Figure D-2 shows an increase in residential/commercial waste disposed each year. During the five-year span, residential/commercial waste increased on average 5% each year. However, the residential/commercial waste annually fluctuates.

Totals for the last five years saw increases each year. While the residential/commercial sector saw modest increases up to 2021, when the residential/commercial totals decreased, the industrial totals have continued to increase. Industrial waste disposed increased on average 34% annually over the last five years, never experiencing a decrease. The following analyzes these sectors further.



1. Residential/Commercial Disposal

Figure D-3 Historical Residential/Commercial Disposal and Disposal Rate

Figure D-3 shows the total amount of waste disposed and the rate of disposal in pounds/person/day. The population of the District increased by 1,618 residents during this period. Although a relatively small increase in population, the amount of residential/commercial waste disposed has risen more drastically. The biggest tonnage increases are documented in 2018 and 2020. The amount of waste disposed increased by roughly 20,000 tons for both years.

In 2020 workplace waste production fell but household waste rose and as seen in Figure D-3, more than offset the decrease in commercial waste. In 2021, both the amount of waste disposed, and the disposal rate decreased by about 13% (approximately 11,000 tons) and the disposal rate dropped 0.33 pounds/person/day. In Ohio's Montgomery County, public waste was up 5.7%

while commercial waste was down 0.6%, but the county still collected more waste in total than it did in 2019 or 2018¹.

The previous 2018 Plan projected a higher disposal rate of 5.06 pounds/person/day in 2021. The actual value recorded in 2021 was 4.39, 15% lower than previously projected. The past plan used the previous reference year of 2015's calculated disposal rate of 4.91 and assumed this would rise by 0.5% annually. While the disposal rate rose, the rate at which it rose and the point at which it started did not rise at the projected levels.



Figure D-4 Benchmark Per Capita Disposal

Figure D-4 compares the District's residential and commercial disposal rate to other districts in Ohio with similar populations. On average, the District's benchmarked show a disposal rate of 4.69 pounds/person/day. The District's disposal rate falls below that at 4.44 pounds/person/day, sitting right in the middle of the Districts above. Both Warren and Adams-Clermont had lower per capita disposal rates.

Compared to other Districts with similar population sizes, the District performed better than average.

2. Industrial Sector Disposal

Source(s): Ohio EPA 2020 SWMD Disposal, Recycling and Generation Report Note: SE Ohio includes Guernsey, Monroe, Morgan, Muskingum, Noble, Washington Counties

¹ "Garbage Freaking Everywhere as Americans Venture Outdoors After a Year of Lockdowns." Time. Alana Semuels. March 26, 2021. https://time.com/5949983/trash-pandemic/





Source(s): Ohio EPA Annual District Reports 2017 – 2021

Industrial waste accounts for just over 36% of the waste disposed in the reference year. Figure D-5 above shows industrial waste has increased every year over the last five years. Industrial waste has increased by an average of 34% each year, which is than historical averages.. In 2018 the industrial waste surged by roughly 18,000 tons (55%). Similarly, the industrial waste shot up again in 2021, this time by roughly 34,000 tons (51%).

Figure D-6 below presents the 10-year historical industrial disposal tonnages.



Figure D-5. Historical Industrial Sector Disposal

As shown, prior to 2019 the historical disposal tonnages fluctuated between 30,000 and 52,000 tons. A low was documented in 2017 which was immediately followed by roughly an 18,000-ton increase in 2018. In recent years, industrial employment has grown in Ross and Pickaway counties. Both Pickaway and Highland counties gross domestic product is trending up. Google research points to a strong economic growth with these news headlines:

- Riffle Machine Works in Chillicothe expanded in 2016,
- Glatfelter in Chillicothe began a conversion of two of its boilers to natural gas in 2016, and
- Murphy Hoffman Company (aka Chillicothe Kenworth) in Chillicothe announced expansion and growth in jobs in 2022².

The District reached a 10-year historical high point in 2021 of 102,989 tons of industrial material disposed, up almost 70,000 tons from the low in 2017. This is a 207% increase over five years. As investments from JobsOhio and Ohio Southeast Economic Development continue, increased disposal is expected, More recently the Honda Electric Battery plant announced a new plant to be developed in Fayette County which will create 2,200 jobs³.

The District's industrial sector has experienced growth over the last five years which has also fueled industrial disposal totals. Industrial disposal has increased 14% on average annually. The two years demonstrating the most growth were 2017 and 2020 with 51% and 55% annual change respectively.

3. Excluded Waste Disposal

According to Ohio EPA Format 4.1, 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 the District, excluded waste accounts for 5% of the total disposal in 2021 and therefore will not be included in the solid waste management plan.

C. Disposal Projections

There are several methods that can be used for projecting waste disposal through the planning period. These include historical per capita, historical averages, and historical trends. After conducting the historical analysis and considering factors that could change historical trends, waste disposal is projected in Table D-6 below. For residential/commercial projections this analysis analyzed the 10-year historical average using data from the EPA Annual District Reviews. After finding the average, that number

² Ohio Southeast Economic Development. https://ohiose.com/regional-news/

³ https://spectrumnews1.com/oh/columbus/news/2022/10/11/honda-to-invest-billions-in-electric-batteryplant-in-ohio-and-retool-ohio-plants

was divided by 10 to get the annual percent change and applied this number to the reference year residential/commercial disposal tonnage.

For the industrial sector, the District reviewed the Ohio Job Outlook Projections of Southeast Ohio data. The projected average annual percent change of employment for Ohio's Southeast industrial sector projected to decrease 0.53% annually. However, disposal tonnages at the landfill for the industrial sector document annual increases which contradicts a declining employment population. Sources for employment updates are not as current and are lacking reference material for guidance. The District is projecting based on 2019, 2020, and 2021 values.

The average manufacturing employment from 2013 to 2020 is 13,865 people. Assuming a 0.50% increase in employment through the end of the planning period will occur, in 2039 the waste disposal tonnages is projected to be 107,908 tons. The 2021 disposal of tonnage of 103,000 is roughly 7.4 tons per employee. With the increase in employment anticipated, this calculates a higher tons per employee of 7.74 at the end of the planning period. The increase in manufacturing employment and the increase in tons per employee results in a 0.25% annual increase in waste disposal for the industrial sector throughout the planning period.

According to Ohio EPA Format 4.1, 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 the District, excluded waste accounts for 5% of the total disposal in 2021 and therefore will not be included in the solid waste management plan.

Waste transferred annually was determined by first calculating the percentage of waste that was transferred in the reference year, see Table D-4 above. That percentage, 41%, is the percentage of total waste in the reference year that was taken to a transfer facility prior to being disposed of at a landfill. Based on analysis of available capacity, the District does not identify any reasons the amount of transferred waste will change. Therefore, annual transferred waste projections are calculated as a percentage of total waste disposed.

Year	Residential/ Commercial Solid Waste	Industrial Solid Waste	Excluded Waste	Total Waste
	Weight	Weight	Weight	Weight
	(tons)	(tons)	(tons)	(tons)
2021	169,055	103,165	0	272,220
2022	169,510	103,423	0	272,933
2023	169,966	103,682	0	273,648
2024	170,424	103,941	0	274,365

Table D-6. Waste Disposal Projections

Waste Transferred (as part of Total Disposal)	Waste Transferred (as part of Total Disposal)
Weight (tons)	Percent
112,589	41%
112,884	41%
113,180	41%
113,476	41%

Year	Residential/ Commercial Solid Waste	Industrial Solid Waste	Excluded Waste	Total Waste
	Weight	Weight	Weight	Weight
	(tons)	(tons)	(tons)	(tons)
2025	170,882	104,201	0	275,083
2026	171,342	104,461	0	275,803
2027	171,803	104,722	0	276,526
2028	172,266	104,984	0	277,250
2029	172,729	105,247	0	277,976
2030	173,194	105,510	0	278,704
2031	173,194	105,510	0	278,704
2032	173,194	105,510	0	278,704
2033	173,194	105,510	0	278,704
2034	173,194	105,510	0	278,704
2035	173,194	105,510	0	278,704
2036	173,194	105,510	0	278,704
2037	173,194	105,510	0	278,704
2038	173,194	105,510	0	278,704
2039	173,194	105,510	0	278,704

Waste Transferred (as part of Total Disposal)	Waste Transferred (as part of Total Disposal)
Weight (tons)	Percent
113,773	41%
114,071	41%
114,370	41%
114,669	41%
114,970	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%
115,271	41%

Source(s):

2021 Ohio EPA ADR Review Form

Ohio JFS 2028 Ohio Job Outlook Northeast Ohio Projections.

Note: Projections flatline in the seventh year of the planning period (2031).

4. Residential/Commercial Sector

Based on a 10-year historical analysis, the average residential/commercial waste disposed increased by 2.6% total. This was divided by 10 to get an average annual increase of 0.26%. This annual increase was applied through the planning period.

Sample Calculation:

Residential/Commercial Disposal 2025: = (2024 value * 0.26%) + 2024 value 2025 value = (170,351 * 0.26%) + 170,351 = 170,809 tons

5. Industrial Sector

Ohio Department of Jobs and Family Resources projected industry decreases of 5.3% in manufacturing over the next ten years. Annualizing this over ten years calculates to a 0.53% annual decrease. However, this trend does not align with what has been recorded historically from 2017-2021. Therefore, assuming a 0.50% increase in employment through the end of the planning period will occur, in 2039 the waste disposal tonnages is projected to be 107,908 tons. The 2021 disposal of tonnage of 103,000 is roughly 7.4 tons per employee. With the

increase in employment anticipated, this calculates a higher tons per employee of 7.74 at the end of the planning period. The increase in manufacturing employment and the increase in tons per employee results in a 0.25% annual increase in waste disposal for the industrial sector throughout the planning period.

Sample Calculation:

Industrial Disposal 2025: = (2024 value * 0.25%) + 2024 value 2025 value = (103,941* -0.25%) + 103,941= 104,201 tons

6. Excluded Waste

According to Ohio EPA Format 4.1, 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 the District, excluded waste accounts for 5% of the total disposal in 2021 and therefore will not be included in the solid waste management plan.

D. Waste Imports

The District does not have an active open landfill located inside its county, therefore there is no data on waste imports. Furthermore, there are no plans currently to create a landfill in the District boundaries. There are no projections for waste imports because of this.

Table D-7. Waste Im	ports
---------------------	-------

											Year												
Facility Name	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038
None																							
Total Imported	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	_	_	-

APPENDIX E

RESIDENTIAL/COMMERCIAL REDUCTION AND RECYCLING DATA

APPENDIX E Residential/Commercial Reduction and Recycling Data

This Appendix presents the reduction and recycling data for the residential and commercial sectors in the 2021 reference year. To avoid double-counting tonnages, adjustments were made to tonnages reported by different types of entities, such as programs, brokers, and scrap yards. An item is "double counted" if the quantities from both respondents are calculated in the total recovery. A historic analysis of the residential/commercial sector's recycling is included in this Appendix. Information in this section as well as information from other sources was used to calculate the recycling projections from 2025 to 2040 which are included at the end of this Appendix.

A. Reference Year Recovery Data

NAICS	Appliances/ "White Goods"	Electronics	Lead-Acid Batteries	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	Mood	Rubber	Commingled Recyclables (Mixed)	Yard Waste	Dry-Cell Batteries	Used Motor Oil	Other	Totals
42			0			14	21	218				3,115			1				
44						0	13	22		1				28			220		
45							0	425	1	9		100						22	
Unadjuste d Total	0	0	0	0	0	14	34	665	1	10	0	3,215	0	28	1	0	220	22	4,183
Adjustmen ts																			
Adjusted Total	0	0	0	0	0	14	34	665	1	10	0	3,215	0	28	1	0	220	22	4,183

Table E-1. Commercial Survey Results

NAICS stands for The North American Industry Classification System and is used by the United States, Canada, and Mexico to classify businesses by industry.

Source(s) of Information: District surveys conducted to gather 2021 recycling data.

NAICS = North American Industrial Classification System

Note: Numbers are rounded to the nearest whole number.

Table E-1 shows commercial data obtained from the District's survey efforts. The District conducted a survey to capture 2021 diversion data for the commercial sector. No adjustments were needed to avoid double counted data that was reported by other sources such as processors and transporters.

Table E-2. Data from Other Recycling Facilities

Source of Materials	LAB	GL	FM	NFM	осс	MxP	PL	Wood	YW	Other	Total
Buybacks											
None											
Scrap Yards											

Source of Materials	LAB	GL	FM	NFM	осс	MxP	PL	Wood	YW	Other	Total
None											
Brokers											
None											
Processor/ MRF's									-		
PR 1		694	109	93	957	1,848	381				4,082
PR 2		216	27	22	307	516	106				1,194
PR 3		0	0	0	191	11	1				204
PR 4			1446	143	3.174	39		6		3,257	8,065
Total	0	910	1,582	258	4,629	2,414	488	6		3,257	13,545
Adj.											
Adj.Total	0	910	1,582	258	4,629	2,414	488	6		3,257	13,545

Source(s) of Information: 2021 Ohio EPA Material Recovery Facility and Commercial Recycling Data.

Note: Numbers are rounded to the nearest whole number

WG = Appliances/ "White Goods", EW = Electronics, LAB = lead-acid batteries, FS = Food Scraps, GL = Glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = Corrugated Cardboard, MxP = mixed paper, PL = plastics, Tx = Textiles, W = wood, R = Rubber, W = Wood, YT = Yard Trimmings, UO = used motor oil, DCB= Dry-cell Batteries, Adj. = Adjusted or Adjustments

Table E-2 contains tonnage information collected from the buyback surveys and Ohio EPA reports. Processors, buybacks, and MRFs capture recyclables and process them to prepare them for recycling. Adjustments to remove double counting were not needed.

Ohio EPA Data Source	PL	осс	МхР	FM	NFM	Wood	Commingled	Other	Total
Walmart	40	2,470	2		45	3,519		163	6,239
Home Depot		26				239		12	278
Dollar General	3	663	1						668
Kroger	49	1,250						23	1,323
Advanced Auto Parts		9		4				205	218
Kohls	3	65							68
CVS							31		31
Unadjusted Total	96	4,484	3	4	45	3,757	31	404	8,824
Adjustments									
Adjusted Total	96	4,484	3	4	45	3,757	31	404	8,842

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

Source(s) of Information: 2021 Ohio EPA Material Recovery Facility and Commercial Recycling Data

PL = Plastics, FM = Ferrous Metals, NFM = Non-Ferrous Metals, OCC = Corrugated Cardboard, MxP = Mixed Paper,

Assumptions: No adjustments were made to data reported to Ohio EPA.

Note: Numbers are rounded to the nearest whole number.

Quantities reported in Table E-3 were obtained from the Ohio EPA Material Recovery Facility and Commercial Recycling Data Report. Adjustments to remove double counting were not needed.

Other Sources of Data	ннw	EWaste	ST	FS	СоМ	YW	Other	Totals	Adj.	Adj. Totals
South Bloomfield Curbside Recycling									0	0
Ashville Curbside Recycling					557			557	0	557
Chillicothe Curbside Recycling					803			803	0	803
Commercial Point Curbside Recycling								0	0	0
Drop Off Recycling									0	0
Ohio EPA Yard Waste Data						522		522	0	522
Other Food and Yard Waste Management Activities				2,830				2,830	0	2,830
OEPA Scrap Tire Data			2,678					2,678	30	2,648
Scrap Tire Collection Events			30					30	0	30
Electronics Collection		1						1	0	1
HHW Collection	8							8	0	8
Abibow LLC Fiber Collection									0	0
Unadjusted Total	8	1	2,708	2,830	1,360	522	0	7,428	30	7,398
Adjustments	0		30	0	0	0	0	30		
Adjusted Total	8	1	2,678	2,830	1,360	522	0	7,398		

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

Source(s) of Information: 2021 Ohio EPA Scrap Tire Report, 2021 Ohio EPA Compost Report, Survey Data

HHW = Household Hazardous Waste, EWaste = Electronics, ST = Scrap Tires, FS = Food Scraps, GL = Glass, FM = Ferrous Metals, NFM = Non-Ferrous Metals, OCC = Corrugated Cardboard, MxP = Mixed Paper, PL = Plastics, CoM = Commingled Recyclables (Mixed), YT = Yard Trimmings, Adj. = Adjusted or Adjustments

Note: Numbers are rounded to the nearest whole number.

Table E-4 presents tonnages diverted through programs and services in the reference year. This table includes all residential and commercial programs/services through which materials being credited to total diversion were recovered. To remove double counting, an adjustment subtracts tires collected through the District's scrap tire collection program since those tonnages are also captured in the Ohio EPA Scrap Tire reports.

The District has four curbside programs with only two reporting tonnages in 2021. One of the District's priorities in this planning period is to receive annual tonnages from all four curbside recycling programs and to work with additional municipalities such as Circleville and Washington Courthouse on establishing new curbside recycling programs. Non-subscription curbside recycling programs are an effective way to increase the number of materials being diverted from landfills and working towards a 25% diversion rate. If Circleville and Washington Courthouse were to establish programs, an estimated 1,500 tons of material could be collected. However, these are not included in the projections below, see Appendix I for more information on how this will be accomplished.

Material	Tons
Appliances/ "White Goods"	0
Household Hazardous Waste	8
Used Motor Oil	220
Electronics	1
Scrap Tires	2,678
Dry Cell Batteries	0
Lead-Acid Batteries	0
Food	2,830
Glass	910
Ferrous Metals	1,600
Non-Ferrous Metals	337
Corrugated Cardboard	9,778
All Other Paper	2,418
Plastics	594
Textiles	0
Wood	6,978
Rubber	0
Commingled Recyclables (Mixed)	4,647
Yard Waste	523

Table E-5. Residential/Commercial Material Recovered in Reference Year

Source(s) of Information: 2021 ADR, 2021 Ohio EPA MRF Reports, 2021 Ohio EPA Scrap Tire Report, 2021 District program and survey data, 2021 Ohio EPA Compost Report, 2021 ADR Review Forms Note: All numbers are rounded to the nearest whole number.

426

33,950

The District diverted 33,950 tons of material from the residential/commercial sector. A majority of the material diverted is corrugated cardboard, wood, commingled, scrap tires, and food.

 Table E-6. Quantities Recovered by Program/Source

Other (Aggregated)

Total

Program/Source of R/C Recycling Data	Quantities (Tons)
Commercial Survey	4,183
Data from Other Recycling Facilities	13,545
Ohio EPA Commercial Retail Data	8,824
South Bloomfield Curbside Recycling Services	0
Ashville Curbside Recycling Services	557

Program/Source of R/C Recycling Data	Quantities (Tons)
Chillicothe Curbside Recycling Services	803
Commercial Point	0
Drop-off Recycling Locations	0
Yard Waste Programs	522
Other Food and Yard Waste Management Activities	2,830
Ohio EPA Scrap Tire Data	2,648
Scrap Tire Collection	30
Electronics Collection	1
HHW Collection	8
AbiBow LLC Fiber Collection	0
Total	33,950

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

Table E-6 reports tonnages diverted for each program/source in the reference year using information from the Tables E-1 to E-4 above. The majority of collected data comes from three sources. The commercial survey (12%), data from other recycling facilities (40%), and the Ohio EPA commercial retail data (26%) collectively account for 94% of the data collected. The remaining data came from a few other sources that can be seen below.



Figure E-1. Recycling by Source

B. Historical Recovery

The tables below present the District's historical residential and commercial recovery by source/program.

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Retail Data	South Bloomfield Curbside Recycling	Ashville Curbside Recycling	Chillicothe Curbside Recycling	Commercial Point Curbside Recycling	Drop-off Recycling	Ohio EPA Yard Waste Data	Other Food and Yard Waste Management Activities	Ohio EPA Scrap Tire Data	Scrap Tire Collection	Electronics Collection	HHW Collection	Abibow LLC Fiber Collection	Totals
2017	23,759	8,985	6,058	99	131	0	0	0	1,081	3,765	2,408	207	9	9	375	46,887
2018	18,240	15,444	5,758	102	208	275	0	0	756	4,340	4,214	89	21	22	0	49,469
2019	11,344	16,352	10,704	0	248	841	0	0	726	4,524	3,307	683	2	0	0	48,731
2020	10,717	14,677	6,567	0	259	832	0	0	2,319	4,769	2,035	36	0	0	0	42,211
2021	4,183	13,545	8,824	0	557	803	0	0	522	2,830	2,648	30	1	8	0	33,950
					Та	ble E-7a1	Annual	Percent	Change in	Tons Recove	ered					
2017																
2018	-23%	72%	-5%	3%	59%	-	-	-	-30%	15%	75%	-57%	122%	139%	-	6%
2019	-38%	6%	86%	-100%	19%	206%	-	-	-4%	4%	-22%	664%	-92%	-100%	-	-1%
2020	-6%	-10%	-39%	#DIV/0!	4%	-1%	-	-	219%	5%	-38%	-95%	- 100%	#DIV/0!	-	-13%
2021	-61%	-8%	34%	#DIV/0!	115%	-4%	-	-	-77%	-41%	30%	-17%	-	-	-	-20%
					Table E	-7a2 Av	erage Per	centage	Change in	Tons Recov	ered					
	-32%	15%	19%	#DIV/0!	49%	67%	0	0	27%	-4%	11%	124%	-	-	-	-7%
						Table E	-7a3 Ann	ual Char	ige in Tons	Recovered						
2017																
2018	-5,519	6,459	-300	3	77	275	0	0	-325	575	1,806	-118	11	13	-	2,582
2019	-6,896	908	4,946	-102	40	566	0	0	-30	184	-907	594	-19	-22	-	-738
2020	-627	-1,675	-4,137	0	11	-9	0	0	1,593	245	-1,272	-647	-2	0	-	-6,520
2021	-6,534	-1,133	2,256	0	298	-29	0	0	-1,796	-1,939	613	-6	1	8	-	-8,262
					Table E	-7a4 Annu	ial Per Ca	pita Rec	overy Rate	(pounds/pe	rson/day)					
2017	0.63	0.24	0.16	0.00	0.00	0.00	0.00	0.00	0.03	0.10	0.06	0.01	0.00	0.00	-	1.24
2018	0.48	0.41	0.15	0.00	0.01	0.01	0.00	0.00	0.02	0.12	0.11	0.00	0.00	0.00	-	1.31
2019	0.30	0.43	0.28	0.00	0.01	0.02	0.00	0.00	0.02	0.12	0.09	0.02	0.00	0.00	-	1.29
2020	0.28	0.39	0.17	0.00	0.01	0.02	0.00	0.00	0.06	0.13	0.05	0.00	0.00	0.00	-	1.12
2021	0.11	0.36	0.23	0.00	0.01	0.02	0.00	0.00	0.01	0.07	0.07	0.00	0.00	0.00	0.00	0.89
I						Ta	ble E-7a5	Average	Per Capita	a Recovery R	ate			· · · · · · · · · · · · · · · · · · ·		
	0.36	0.37	0.20	0.00	0.01	0.01	0.00	0.00	0.03	0.11	0.08	0.01	0.00	0.00	-	1.17

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

	Table E-7a6 Average Tons of Material Recovered														
13 649	13 801	7 582	40	281	550	0	0	1 081	4 045	2 022	200	7	8	75	44 250
15,045	10,001	7,502	40	201	550	0	0	1,001	4,040	2,322	203	1	0	15	44,200

Sources: 2017, 2018, 2019, 2020, 2021 Annual District Report Commercial Survey Results Ohio EPA Material Recovery Facility Report Ohio EPA Scrap Tire Report

Tables E-7 through E-7a6 show historical data collected from the District. The challenge with analyzing historical programmatic data is that each year there may be minor differences in how the data was recorded. For instance, many of the collection services, such as South Bloomfield Recycling Curbside Services, have gaps in the historical record where they did not report any data despite the programs being active these years. Some gaps are a lack of collection events for that year. Both the reported tonnages and response rates from commercial surveys also impact the data each year. Tonnages recorded and response rates, may fluctuate annually. These differences make it challenging to determine trends.

As seen in Table E-7, data for South Bloomfield's curbside recycling program was not reported in 2019, 2020, and 2021. Chillicothe's curbside recycling program was not established until 2018. Therefore, there is no prior historical information. Lastly, Abibow LLC Fiber Collection stopped collecting in 2018, after reporting a diversion total of 375 tons the previous year. These changes year over year can result in fluctuations between recording years and can cause the data analyzation to be difficult. Survey responses such as these impact the overall data and cause differences between years. The data is only as accurate as those who responded to it. The District will take steps to ensure that data is received from these programs throughout the planning period.

As shown in tables E-7 through E-7a6, except for year 2021, the District's residential/commercial diversion held within the 40,000 to 50,000 range of total materials recovered. The District observed its highest recovery year in 2018 with just over 49,000 tons of material. The lowest recovery year is the reference year (2021) with roughly 34,000 tons of material. The average material recovered from 2017 through 2021 is 44,250 tons and observed an overall decrease of 7% on average change in tons recovered.

Commercial survey data collected through District survey efforts show the largest decline in tonnages over the same period. Starting at almost 24,000 tons of reported recovery and falling to about 4,000 tons, is an 82% decline in recovery. Commercial survey responses over the last five years and has fallen off each year from 2017 to 2021 (see Table E-7b). The most impactful reason is employee turnover, COVID 19 and the "Great Resignation" are contributing factors. The District maintains a list of contacts for the commercial survey, but unfortunately, many of these contacts no longer work at that business. It's been challenging to establish a new contact person. When a contact is established, in most cases, the person who replaced the prior contact person has no experience with the survey and is entirely unaware of the process.

Lack of data from large generators is impactful to the District's ability to reach diversion goals. Previously survey responses from a large commercial distribution center helped but this commercial business stopped reporting. The tonnage impact is seen in Table E-7b beginning in year 2019, less diverted tonnages.

Year	2017	2018	2019	2020	2021
Businesses surveyed	56	59	66	66	61
Responses	34	50	10	8	7
Response Rate	61%	85%	15%	12%	11%
Tons	23,759	18,240	11,344	10,685	4,183

Table	E-7b	Historic	Commercial	Survey	Results
IUNIC		111010110	00111101010101	O di 10 j	1.000110

As can be seen above, the District's commercial survey resulted in substantial diversion tonnages in 2017 and 2018. However, less responses result in lower diversion tonnages, despite a generally increasing number of businesses surveyed. Figure E-2 below presents the District's total historical recovery in this sector.

Figure E-2: Historical Residential/Commercial Total Recovery



The District saw a modest increase in material recovered from 2017 to 2018, increasing 6% year over year. However, the District has not seen an increase since and has continued to fall each year. The District is committed to returning to the level of diversion achieved historically. In 2022 and throughout the planning period, the District will place increased focus on the commercial survey and generating responses from local businesses. See Appendix I for more information on how this is expected to be accomplished.

C. Residential/Commercial Recovery Projections

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

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Retail Data	South Bloomfield Curbside Recycling	Ashville Curbside Recycling	Chillicothe Curbside Recycling	Commercial Point Curbside	Drop-off Recycling	Ohio EPA Yard Waste Data	Other Food and Yard Waste Management Activities	Ohio EPA Scrap Tire Data	Scrap Tire Collection	Electronics Collection	HHW Collection	Abibow LLC Fiber Collection	Yard Waste Collection	Totals
2021	4,183	13.545	8.824	0	557	803	0	0	522	2.830	2.648	30	1	8	0	0	33.950
2022	13.622	10.582	11.177	1.044	221	794	175	-	3.864	2.078	2.849	52	1	-		236	46.695
2023	15 372	10 794	11 177	1 044	557	804	175	-	3 864	2 078	2 849	52	1	8	-	236	48 738
2024	17 122	11 010	11 177	1 044	558	804	175	_	3 864	2 078	2 849	52	1	-	_	236	50 697
2025	18 872	11,010	11 177	1 044	558	804	175	_	3 864	2 078	2 849	52	1	8	_	236	52 675
2020	20,622	11,250	11 177	1.044	558	804	175		3 864	2,070	2,043	52	1	0		236	54 642
2020	20,022	11,404	44 477	1,044	550	004	475	-	3,004	2,070	2,049	52	1	-	-	230	54,042
2027	22,372	11,083	11,177	1,044	558	805	175	-	3,864	2,078	2,849	52	1	8	-	230	56,630
2028	24,122	11,917	11,177	1,044	559	805	175	-	3,864	2,078	2,849	52	1	-	-	236	58,606
2029	24,363	12,155	11,177	1,044	559	805	175	-	3,864	2,078	2,849	52	1	8	-	236	59,094
2030	24,607	12,398	11,177	1,044	559	806	175	-	3,864	2,078	2,849	52	1	-	-	236	59,573
2031	24,607	12,398	11,177	1,044	559	806	175	-	3,864	2,078	2,849	52	1	8	-	236	59,581
2032	24,607	12,398	11,177	1,044	559	806	175	-	3,864	2,078	2,849	52	1	-	-	236	59,573
2033	24,607	12,398	11,177	1,044	559	806	175	-	3,864	2,078	2,849	52	1	8	-	236	59,581
2034	24,607	12,398	11,177	1,044	559	806	175	-	3,864	2,078	2,849	52	1	-	-	236	59,573
2035	24,607	12,398	11,177	1,044	559	806	175	-	3,864	2,078	2,849	52	1	8	-	236	59,581
2036	24.607	12.398	11.177	1.044	559	806	175	-	3.864	2.078	2.849	52	1	-	-	236	59.573
2037	24 607	12,398	11 177	1 044	559	806	175	_	3 864	2 078	2 849	52	1	8	_	236	59 581
2007	24,007	12,000	11 177	1.044	550	000	175		2 964	2,070	2,040	50	1	0		200	50,572
2030	24,007	12,390	44 477	1.044	550	000	175		0,004	2,070	2,049	52		-	-	200	59,013

Sources: Year 2021 Data Sources: Commercial Survey from District survey efforts, Data from other recycling facilities from Ohio EPA MRF report, Ohio EPA compost data from Ohio EPA Compost report (includes food waste), Ohio EPA scrap tire data from Ohio EPA reports, Specific program data from historical Annual District Reports

Note: The District completed the Annual District Report for 2022 during this plan update. The 2022 numbers are not projections and are actual data recorded during the 2022 Annual District Report.

As discussed above, there are a few challenges in assessing the historical recovery data for the District. These challenges also affect the projections listed above as the historical data is analyzed and used to make projections. One challenge in projecting future generation, disposal, and recovery is the COVID-19 pandemic. The pandemic had numerous impacts on solid waste systems such as consumption / disposal rates and patterns, altered procedures to proper disposal of waste, and the shut-down of existing programs, businesses, and partnerships. These challenges make it difficult to assess the historic data used to project future quantities for the District as two of the five years of historical data (2020, 2021) recorded were while the pandemic was active.

During this plan update process, the District completed its 2022 Annual District Report. The District placed increased focus on the Survey Commercial/Institutional Businesses program throughout the 2022 Annual District Report process, heavily increasing its outreach efforts to garner responses to its commercial survey. While time-intensive the District was able to establish new contacts with businesses as well as reconnect with previous responders. The District tracked roughly 9,500 tons increase in tonnage. The primary reason for the success was the time spent establishing connections. The District sent emails, conducted phone calls, and in some cases had in person interactions to gather data from local businesses. The District also worked in partnership with Ohio EPA to gather previously un-reported data from correctional facilities, providing an additional 1,700 tons of uncaptured material. See Appendix I for more information on the planned actions the District will take to continue to obtain more data from commercial businesses.

The projections below are based on historical analysis from 2017 to 2021 as well as the success observed in 2022 from the commercial survey numbers. Projections are flatlined in the seventh year (2031) of the planning period.

Commercial Survey Projections:

In 2017, the commercial business survey reported more than 23,000 tons. Each year the responses and recovery declined showing an average annual percent decline of 32%. However, during the 2022 Annual District Report preparation, the District devoted extensive time and resources into data gathering and commercial business outreach. The District was very successful and was able to document a 9,500 ton increase in one year. Known activity that will increase diversion tonnage in the District include:

- 1) Commercial growth. Amazon Distribution Center is set to open in 2024 and the Bath & Body Works Distribution Center is set to open in 2023. Assuming the Amazon Distribution Center diverts similar tonnages as the Walmart Distribution Center located in Washington Court House, the District estimates an additional 5,200 tons could be reported annually. The Walmart Distribution Center reported over 5,200 tons diverted in 2022. It is reasonable to assume the Amazon location will output roughly the same amount of material. Assuming Bath & Body Works Distribution Center is like the Kohl's Distribution Center in Middletown, the District estimates over 2,000 tons could be reported annually. Capturing surveys from these two commercial businesses will be a priority for the District in this planning period.
- 2) Non-responding businesses. There are a number of businesses not responding to the surveys. Tracking down those businesses and finding new contacts will help to get responses. The District is assigning the District Assistant to the role of Business Diversion Specialist (a new role) to target commercial businesses and assist with their diversion efforts.
- 3) Private investment in recycling infrastructure. PTT Global Chemical Public Company Limited announced plans to build an Ohio Plastic Recycling Plant in Fayette County. The addition of this type of infrastructure is expected to drive market demand for plastic diversion both locally and regionally. See Appendix K for further details.

It's not unreasonable with new commercial growth and previous responders responding to capture an additional 9,000 tons over the next 5-years (2023 to 2028). The District projects the commercial survey will result in an additional 1,750 tons per year from 2023 to 2028, then in 2029, the District anticipates a 1% annual increase before holding projections flat. Projecting these tonnages are conservative. As discussed earlier, the tonnage diverted in 2017 was more than 23,000 tons without the new commercial growth.

Sample Calculation 2025: 17,122 + 1,750 = 18,872 tons Sample Calculation 2029: (24,122 *1.01) = 24,363 tons

Data From Other Recycling Facilities Projections:

Based on historical data and planned development within the District, it is estimated that data from other recycling facilities will increase 2% annually. Note, the District credited the material from curbside recycling programs to their respective program and removed the totals from this data source to prevent double counting. The material collected from curbside programs is processed at facilities included in this data source.

Sample Calculation 2025: (11,010 * 1.02) = 11,230 tons

Ohio EPA Commercial Retail Data Projections:

These projections were held constant throughout the planning period as this data is independently acquired by the Ohio EPA and is out of the District's control. These values are reflective of the 2022 reported values.

South Bloomfield Curbside Recycling Projections:

The District reported collecting 1,044 tons of material from this program. This value is held constant throughout the planning period as there are no historical values to analyze.

Ashville Curbside Recycling Projections:

These projections used the average tons per capita recovery rate from 2017 to 2022 from Ashville's curbside program and applied it to Ashville's population data.

Sample Calculation 2025: 0.06 * 4,288 = 271 tons

Chillicothe Curbside Recycling Projections:

These projections used the average tons per capita recovery rate from 2019 to 2022 from Chillicothe's curbside program and applied it to its population data. This program began in late 2018, the first full year operational was in 2019, therefore the values from 2018 are not included in the average tons per capita recovery rate.

Sample Calculation 2025: 0.04 * 21,702 = 819 tons

Commercial Point Recycling Projections:

The District reported collecting 175 tons of material from this program in 2022. This program began in 2021 and is held constant throughout the planning period as there are no historical values to analyze.

Drop-Off Recycling Projections:

No projections are estimated. The drop-off recycling numbers are included in Rumpke's total numbers as they are the hauler of the drop-off sites.

Ohio EPA Compost and Yard Waste Projections:

The District saw a very large increase in 2022 from Ohio EPA compost data. Klasmulch reported for the first time, adding nearly 2,800 tons. Due to the volatility experienced for this category, the District held the most recent data year (2022) values constant.

Other Food and Yard Waste Projections:

Based on historical analysis, these projections were held constant at the 2022 reported tonnage of 2,078 tons.

Ohio EPA Scrap Tire Data Projections:

Based on historical analysis, these projections were held constant at the 2022 reported tonnage of 2,849 tons.

Scrap Tire Collection Projections:

Based on historical analysis, these projections were held constant at the 2022 tonnage of 52 tons.

Electronics Collection Projections:

The District has difficulties receiving accurate numbers from vendors. Due to a lack of data, these projections were held at 1 ton throughout the planning period.

Household Hazardous Waste Projections:

The District hosts a bi-annual household hazardous waste collection event in odd numbered years. There was 8 tons collected in 2021 and the District held this tonnage constant every other year throughout the planning period.

Abibow LLC Fiber Collection Projections:

This recovery source last reported in 2017 and has stopped reporting. Therefore, no projections are estimated.

Yard Waste Collection Projections:

Previously not captured is the yard waste and leaf collections operated by Hillsboro, Fayette County, and Circleville. Through outreach efforts made in 2022, the District captured over 200 tons diverted. This tonnage is held constant through the planning period.

Not Projected but will add to diversion:

This 2024 Plan sets an outreach priority to engage with Washington Courthouse and Circleville to implement curbside recycling programs. If the outreach priority is successful, the District could see additional diversion from both programs. The table below projects a low diversion estimate of approximately 0.05 tons per person.

Year	Washington Courthouse	Circleville	Total
2025	731	724	1,455
2026	731	727	1,458
2027	731	730	1,461
2028	731	733	1,464
2029	731	736	1,467
2030	731	739	1,470
2031	730	743	1,473
2032	730	746	1,476
2033	730	749	1,479
2034	730	752	1,482
2035	730	755	1,485
2036	730	758	1,488
2037	730	761	1,491
2038	730	765	1,494
2039	729	768	1,497

APPENDIX F

INDUSTRIAL SECTOR REFERENCE YEAR RECYCLING

APPENDIX F Industrial Sector Reference Year Recycling

Appendix F contains an inventory of materials recovered from the industrial sector in the reference year. The following tables show adjusted quantities to prevent double counting, calculate the total adjusted quantities of materials recovered, and analyze industrial material recovery using historical data.

A. Reference Year Recovery Data

Tables F-1 through F-4 account for all material being credited to the waste reduction and recycling rate for the industrial sector.

NAICS	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	pooM	Rubber	Commingled Recyclables (Mixed)	ЧSА	Non-Excluded Foundry Sand	Other: Sludge	Other: Lime	Total
32		646	29	1,257	14,309	146		202,114	9,379				1,438	3,653	
33	0	11,057	688	390	1	13	1	272	169	134					
49															
53		16											53		
Unadjusted Total	0	11,720	717	1,646	14,310	159	1	202,386	9,548	134	0	0	1,491	3,653	245,766
Adjustments															
Adjusted Total	0	11,720	717	1,646	14,310	159	1	202,386	9,548	134	0	0	1,491	3,653	245,766

Table F-1. Industrial Survey Results

NAICS stands for The North American Industry Classification System and is used by the United States, Canada, and Mexico to classify businesses by industry

Source(s) of Information: Calendar year 2021 survey data as reported by industrial businesses.

Note: Numbers are rounded to the nearest whole number.

Table F-1 accounts for material recovered as reported by industrial businesses from the 2021 surveys. In some cases, businesses chose not to respond to the reference year but did respond to a prior year's survey. In these cases, the analysis used data from up to two previous years. Lead acid batteries are not creditable in the industrial sector and were adjusted in the above Table F-1.

The data presented in Table F-1 is organized by the North American Industry Classification System (NAICS). Manufacturing industries are classified under sectors 31-33. Table F-1 sums all the quantities of reported material for each NAICS codes.

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 (Mixed)	ЧSh	Non-Excluded Foundry Sand	Flue-Gas Desulfurization Waste	Totals
Buybacks															
None															
Scrap Yards															
None															
Brokers															
None															
Processors/MRF's															
PR 1					5				3						8
Unadjusted Totals	0	0	0	0	5	0	0	0	3	0	0	0	0	0	8
Adjustments															0
Adjusted Totals	0	0	0	0	5	0	0	0	3	0	0	0	0	0	8

Table F-2. Data from Other Recycling Facilities

Source(s) of Information: Calendar year 2021 survey data as reported by industrial businesses. Ohio EPA Material Recovery Facility data 2021.

Note: Numbers are rounded to the nearest whole number.

Table F-2 data is obtained from the district's industrial surveys and Ohio EPA's reports on processors/MRFs, scrap yards, and brokers. There was one processor who reported industrial waste diversion from district sources in the reference year. No adjustments were needed to remove double counting.

	Table F-3.	Other Rec	cling Prog	rams/Other	Sources of Data
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Other Recycling Programs or Other Sources of Data	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Textiles	рооМ	Rubber	Commingled Recyclables (Mixed)	Ash	Non-Excluded Foundry Sand	Flue Gas Desulfurization Waste	Totals
None															
Unadjusted Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adjustments															
Adjusted Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

There was no data reported for other sources of recycling in Table F-3.

Material	Quantity (tons)
LAB	0
Food	0
Glass	0
Ferrous Metals	11,720
Non-Ferrous Metals	717
Corrugated Cardboard	1,651
All Other Paper	14,311
Plastics	158
Textiles	1
Wood	202,389
Rubber	9,548
Commingled Recyclables (Mixed)	134
Ash	0
Non-Excluded Foundry Sand	0
Flue Gas Desulfurization	0
Other (Aggregated)	5,144
Total	245,774

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

Source(s) of Information: 2021 surveys, 2021 Ohio EPA MRF Reports, 2021 Ohio EPA Compost Report, 2021 ADR Review Forms

Note: Numbers are rounded to the nearest whole number.

Table F-4 reports total diverted quantities for each material diverted in the District. Other (Aggregated) combines sludge and lime diverted. There was a total of 1,419 tons and 3,653 tons diverted respectively. The District diverted a total of 245,774 tons of waste from the industrial sector, with around 80% of waste diverted is wood.

 Table F-5. Quantities Recovered by Program/Source

Program/Source of Industrial Recycling Data	Quantity (Tons)
Industrial survey	245,766
Data from other recycling facilities	8
Total	245,774

Source(s) of Information: Tables F-1 and F-2

Table F-5 details the total quantiles diverted by program/source.

B. Historical Recovery

Year	Industrial survey	Data from other recycling facilities	Totals
2017	235,217	0	235,217
2018	197,222	0	197,222
2019	209,812	80	209,892
2020	138,263	47	138,310
2021	245,766	8	245,774

Table F-6. Historical and Industrial Recovery by Program/ Source

Table F-6a1. Annual Percentage Change in Tons Recovered

2017	NA	NA	NA
2018	-16%	NA	-16%
2019	6%	NA	6%
2020	-34%	-41%	-34%
2021	78%	-84%	78%

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

-8%	-62%	8%

Table F-6a3. Annual Change in Tons Recovered

2017			
2018	-37,995	0	-37,995
2019	12,590	80	12,670
2020	-71,549	-33	-71,582
2021	107,503	-39	107,464

Table F-6a4. Average Annual Change in Tons Recovered

2,637 2 2,639

Table F-6a5. Average Tons of Material Recovered

205 256 27 205 283			
200,200	205,256	27	205,283

Source(s):

District Industrial Surveys for 2017 – 2021

"Material Recovery Facility and Commercial Recycling Data" for 2017-2021

Note: Table F-6a2 Data From Other Facilities Average Annual Percent Change does not include 2016 through 2018.

Data from the industrial sector is gathered from surveys and the Ohio EPA Material Recovery Facility data. As seen from Table F-6. Average industrial recovery from 2017 to 2021 was 205,256 tons and has increased 8% on average annually. There is a consistent peak and valley pattern throughout the historical period where one year will

increase and the following will decrease. There were two unusually large changes in total industrial recovery. The first came from 2019 to 2020 where the total industrial recovery decreased by 34% to a low of around 138,000 tons. This was immediately followed by a drastic increase of 78% from 2020 to 2021 where the recovery reached a high over the five-year span to about 246,000 tons.

Most of the industrial material recovered is wood, followed by paper, ferrous metals, and rubber. Below is a breakdown of the tons of industrial material recovered in the reference year.





Note: Figure F-1 does not include ash, non-excluded foundry sand, flue gas desulfurization, food, and glass. All values for these materials are zero.

C. Industrial Recovery Projections

Table F-7. Industrial Recovery	Projec	tions
--------------------------------	--------	-------

Year	Industrial survey	Data from other recycling facilities	Totals
2021	245,766	8	245,774
2022	244,463	8	244,471
2023	243,168	8	243,175
2024	241,879	7	241,886
2025	240,597	7	240,604
2026	239,322	7	239,329
2027	238,053	7	238,061
2028	236,792	7	236,799
2029	235,537	7	235,544
2030	235,537	7	235,544
2031	235,537	7	235,544
2032	235,537	7	235,544
2033	235,537	7	235,544
2034	235,537	7	235,544
2035	235,537	7	235,544
2036	235,537	7	235,544
2037	235,537	7	235,544
2038	235,537	7	235,544
2039	235,537	7	235,544

Source(s) of information: Table F-6

The Ohio Department of Development estimates that the southeastern region of Ohio will experience a 5.3% decline in manufacturing from 2018 through 2028. Using this information, the table above projects the total tonnages of industrial recovery for the District during the planning period. The District estimates that the decline in manufacturing will also result in a decline of industrial recovery by the same amount, 5.3% through 2028. In other words, the District estimates the amount of industrial recovery will decrease by 0.053% annually until 2028. Values after 2029 were flatlined as there was not enough information to project further into the planning period.

APPENDIX G

WASTE GENERATION
APPENDIX G Waste Generation

A. Historical Year Waste Generated

			Residential	Commercial			Industrial			
Year	Population	Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)	Excluded	Total (tons)
2017	206,866	139,502	46,887	186,389	4.94	33,496	235,217	268,713	0	455,102
2018	206,741	159,107	49,469	208,576	5.53	51,876	197,222	249,098	0	457,674
2019	206,809	158,448	48,731	207,179	5.49	58,133	209,892	268,025	0	475,204
2020	206,809	178,389	42,211	220,600	5.84	68,334	138,310	206,644	0	427,244
2021	208,484	169,055	33,950	203,005	5.34	103,165	245,774	348,939	0	551,944

Table G-1 Reference Year and Historical Waste Generated

Source(s):

Disposal Data from Appendix D,

Recycle Data from Appendix E and F,

2017 – 2021 Annual District Reports

Sample Calculation:

Waste generation = disposed + recycled = generated

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

Residential/Commercial Industrial O

Figure G-1. Historical Waste Generated

Total waste generated by the District was calculated by adding the quantities of waste disposed from Appendix D and quantities of recycled materials from Appendix E and F. Quantities resulting from the disposal and recycling of the District from 2017 to 2021 are shown above in Table G-1. The District saw its highest waste generation in the reference year (2021) at approximately 552,000

tons. This was a 29% increase over 2020 and was primarily driven by increasing industrial waste generated.



Figure G-2. Residential/ Commercial Per Capita Generation

Source(s) of Information:

National Average Per Capita Data: EPA National Overview: Facts and Figures on Materials, Wastes, and Recycling. Ohio Per Capita Data: Ohio EPA Solid Waste Generated in Ohio – 2021

Note: National average per capita generation from 2019 to 2021 was not published as of this report.

The District's historical residential/commercial generation per capita data was compared to the EPA's national average and the Ohio EPA's statewide average data. As seen in Figure G-2, the District's per capita generation has remained close to the national average through 2018, sitting just above it from 2016 to 2018. In 2018 the national average rose to 4.9 PPD and the District followed a similar increase to 5.49 PPD. The District has remained fairly flat throughout the remainder of the historical period, reaching a high of 5.84 PPD in 2020 and decreasing to 5.48 PPD in 2021. It is likely 2020 had higher generation rates due to the COVID-19 pandemic where it has been observed that online shopping and increased and an increase in packaging led to more waste being generated.

Despite the District's PPD being above the National average, it was well below the Statewide average through 2020. Note, the National average per capita data from 2019 through 2021 was not available as of this report.



Figure G-3. 2020 Benchmark Residential/Commercial Per Capita Rates

Source(s) of Information: Ohio EPA SWMD Disposal, Recycling, and Generation Report – 2020 Note: The 2021 data was not available at the time of this report.

Comparing the District to four other Districts of similar population size, Figure G-3 above details the comparison between the four and averages all five districts in 2020. Comparing the benchmarked Districts, the District does well compared to its peers in waste generation. The District is below the average of all the Districts and is well below the top two Districts in pounds per person per day generated.

Overall, the District is doing well relative to its peers and the State in terms of waste generation. The District should continue to be proactive in finding ways to reduce their generation and/or reduce waste disposed at landfills.



Figure G-4. Historic Industrial Waste Generated

Industrial waste generation remained mostly flat from 2017 to 2019, ranging from 250,000 to 275,000 tons of waste generated throughout the period. In 2020, the District saw a low of just over 200,000 tons. It is likely that this results from the COVID-19 pandemic and its effects on the industrial sector. The District notes there were many challenges faced this year due to COVID-19.



Figure G-5 Industrial Generation Versus GDP (2017 to 2020)

Source(s) of Information:

U.S. Bureau of Economic Analysis. https://www.bea.gov/data/gdp/gdp-county-metro-and-other-areas

Employment by Industry <u>https://datausa.io/profile/geo/ross-county-oh#economy</u>; <u>https://datausa.io/profile/geo/highland-county-oh#economy</u>; <u>https://datausa.io/profile/geo/pickaway-county-oh#economy</u>; thttps://datausa.io/profile/geo/fayette-county-oh#economy

Industrial waste disposal and recycling both increased significantly over historical trends. The District recycled almost 70% and disposed 50% more in 2021 than in 2020. The

G-4

District explored the correlation between industrial generation and gross domestic product (GDP). Figure G-5 doesn't show a correlation. As GPD increases the industrial generation doesn't appear to be influenced.

The District's industrial recycling rate ranged from a high of 87% in 2017 to a low of 67% in 2020.

Excluded Waste

According to the EPA, if a District's excluded waste is less than 10% of the total waste for the District, it does not need to be included in analysis. The District's excluded waste did not reach 10% and therefore has been excluded from the analysis.

B. Generation Projections

			Residenti	al/ Commerci	al		Industria	d			
Year	Population	Disposal (tons)	Recycle (tons)	Generation (tons)	Per Capita Generation (ppd)	Disposal (tons)	Recycle (tons)	Generation (tons)	Excluded Waste (tons)	Tota l (tons))
2021	208,484	169,055	33,950	203,005	5.34	103,165	245,774	348,939	0	551,94	44
2022	208,618	169,510	46,695	216,205	5.68	103,423	244,471	347,894	0	564,09	9 9
2023	208,754	169,966	48,738	218,705	5.74	103,682	243,175	346,857	0	565,56	52
2024	208,890	170,424	50,697	221,120	5.80	103,941	241,887	345,827	0	566,94	48
2025	209,028	170,882	52,675	223,558	5.86	104,201	240,605	344,805	0	568,36	53
2026	209,167	171,342	54,642	225,985	5.92	104,461	239,329	343,791	0	569,77	75
2027	209,307	171,803	56,630	228,433	5.98	104,722	238,061	342,783	0	571,21	17
2028	209,448	172,266	58,606	230,872	6.04	104,984	236,799	341,783	0	572,65	55
2029	209,591	172,729	59,094	231,823	6.06	105,247	235,544	340,791	0	572,61	14
2030	209,735	173,194	59,573	232,767	6.08	105,510	235,544	341,054	0	573,82	21
2031	209,735	173,194	59,581	232,775	6.08	105,510	235,544	341,054	0	573,82	29
2032	209,735	173,194	59,573	232,767	6.08	105,510	235,544	341,054	0	573,82	21
2033	209,735	173,194	59,581	232,775	6.08	105,510	235,544	341,054	0	573,82	29
2034	209,735	173,194	59,573	232,767	6.08	105,510	235,544	341,054	0	573,82	21
2035	209,735	173,194	59,581	232,775	6.08	105,510	235,544	341,054	0	573,82	29
2036	209,735	173,194	59,573	232,767	6.08	105,510	235,544	341,054	0	573,82	21
2037	209,735	173,194	59,581	232,775	6.08	105,510	235,544	341,054	0	573,82	29
2038	209,735	173,194	59,573	232,767	6.08	105,510	235,544	341,054	0	573,82	21
2039	209,735	173,194	59,581	232,775	6.08	105,510	235,544	341,054	0	573,82	29

Table G-2: Generation Projections

Source(s) of Information:

Disposal from Appendix D

Recycled from Appendices E and F

Populations: Ohio Development Services Agency, "2010 to 2040 Projected Population for Ohio Counties - Summary 2010 to 2040 Projected

G-5

Note: 2022 recycling values are accurate to the 2022 ADR

Residential/commercial waste is projected to increase steadily throughout the planning period. This is based on historical trends and analysis as well as accounting for the projected population growth from Appendix C. Diversion is also projected to steadily increase as the population grows and existing programs remain stable. PTT Global Chemical Public Company Limited released confirmation to build a plastic Ohio Recycling Plant in Fayette County. It is expected this will increase regional diversion and drive the recycling market in the coming years.

Industrial waste is projected to decrease steadily throughout the planning period. This is based on the Ohio Labor Statistics that projects a 5.3% decrease in manufacturing throughout 2029.

C. Waste Composition

Material	Percent of Total Generation ¹	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Paper and Paperboar d	23.10%	46,894	49,943	50,521	51,079	51,642	52,202	52,768	53,331	53,551	53,769	53,771	53,769	53,771	53,769	53,771	53,769	53,771	53,769	53,771
Glass	4.20%	8,526	9,081	9,186	9,287	9,389	9,491	9,594	9,697	9,737	9,776	9,777	9,776	9,777	9,776	9,777	9,776	9,777	9,776	9,777
Ferrous	6.60%	13,398	14,270	14,435	14,594	14,755	14,915	15,077	15,238	15,300	15,363	15,363	15,363	15,363	15,363	15,363	15,363	15,363	15,363	15,363
Aluminum	1.30%	2,639	2,811	2,843	2,875	2,906	2,938	2,970	3,001	3,014	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026	3,026
Other Nonferrous	0.90%	1,827	1,946	1,968	1,990	2,012	2,034	2,056	2,078	2,086	2,095	2,095	2,095	2,095	2,095	2,095	2,095	2,095	2,095	2,095
Plastics	12.20%	24,767	26,377	26,682	26,977	27,274	27,570	27,869	28,166	28,282	28,398	28,399	28,398	28,399	28,398	28,399	28,398	28,399	28,398	28,399
Rubber and Leather	3.10%	6,293	6,702	6,780	6,855	6,930	7,006	7,081	7,157	7,187	7,216	7,216	7,216	7,216	7,216	7,216	7,216	7,216	7,216	7,216
Textiles	5.80%	11,774	12,540	12,685	12,825	12,966	13,107	13,249	13,391	13,446	13,501	13,501	13,501	13,501	13,501	13,501	13,501	13,501	13,501	13,501
Wood	6.20%	12,586	13,405	13,560	13,709	13,861	14,011	14,163	14,314	14,373	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432	14,432
Other	1.50%	3,045	3,243	3,281	3,317	3,353	3,390	3,426	3,463	3,477	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492	3,492
Food	21.60%	43.849	46.700	47.240	47.762	48.288	48.813	49.342	49.868	50.074	50.278	50.279	50.278	50.279	50.278	50.279	50.278	50.279	50.278	50.279
Yard Trimmings	12.10%	24,564	26,161	26,463	26,756	27,050	27,344	27,640	27,935	28,051	28,165	28,166	28,165	28,166	28,165	28,166	28,165	28,166	28,165	28,166
Misc. inorganic wastes	1 40%	2 842	3 027	3.062	3 096	3 130	3 164	3 198	3 232	3 246	3 259	3 259	3 259	3 259	3 259	3 259	3 259	3 259	3 259	3 259
R/C waste o	enerated	203.005	216.205	218,705	221.120	223.558	225.985	228,433	230.872	231.823	232.767	232.775	232.767	232.775	232.767	232.775	232.767	232.775	232.767	232.775

Table G-3. Composition of Residential/Commercial Waste

Source(s):

Percent of Total Generation: Advancing Sustainable Materials Management: 2018 Tables and Figures Waste Generated: Table G-2

Table G-3 presents the residential/commercial waste generated totals from Table G-2 and the estimated percent of total generation by material. Using the quantities of waste generated and the estimated percent of total generation, each material is projected during the planning period. It is estimated that the total waste generated will decrease slightly throughout the planning period. Residential/commercial waste generated is expected to increase both its disposal and its diversion while the industrial sector is expected to decrease both its disposal and diversion tonnages.

APPENDIX H

STRATEGIC EVALUATION

APPENDIX H Strategic Analysis

The state solid waste management plan establishes recycling and reduction goals for solid waste management districts. At the time of the District's 2019 Plan Update, the 2009 State Plan was in effect. Ohio EPA adopted the 2020 State Plan in November 2019, making several changes to the goals that guide programming. The programs and strategies evaluated in Appendix H consider the State Plan changes and analyze gaps in service or programs and strategy offerings. The evaluation results in a list of opportunities that may come from a gap or bolster a management or education/outreach area. These opportunities present a strategy or direction to consider.

Appendix H divides the analysis of the District's programs, initiatives, and policies into 13 separate sections as directed in Format 4.1. The District evaluated the status of the reduction and recycling efforts in the context of factors presented in the 13 analyses described in Format 4.1.

The following table provides a directory for the analyses within Appendix H.

SECTION H-1 (page H-2)
RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS
•Curbside
• Drop-off • Other Drop-off
SECTION H-2 (page H-12)
•COMMERCIAL SECTOR ANALYSIS
SECTION H-3 (page H-22)
INDUSTRIAL SECTOR ANALYSIS
SECTION H-4 (page H-26)
•RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS
SECTION H-5 (page H-34)
•ECONOMIC INCENTIVE ANALYSIS
SECTION H-6 (page H-36)
RESTRICTED AND DIFFICULT TO MANAGE WASTE ANALYSIS
SECTION H-7 (page H-40)
•DIVERSION ANALYSIS
SECTION H-8 (page H-45)
SPECIAL PROGRAM NEEDS ANALYSIS
SECTION H-9 (page H-6)
•FINANCIAL ANALYSIS
SECTION H-10 (page H-52)
•REGIONAL ANALYSIS
SECTION H-11 (page H-55)
•DATA COLLECTION ANALYSIS
SECTION H-12 (page H-59)
•EDUCATION AND OUTREACH ANALYSIS
SECTION H-13 (page H-63)
•PROCESSING CAPACITY ANALYSIS

1. Residential Recycling Infrastructure Analysis

This evaluation of the District's existing residential recycling infrastructure determines whether the existing recycling infrastructure meets the needs of the residential sector, recovering viable materials, and if the infrastructure is adequately performing. The District's waste management system relies on various collection systems and programs to divert materials from the landfill to be recycled. The residential recycling infrastructure includes curbside programs, drop-off recycling programs, reuse centers, and thrift stores. The District is not a service provider; rather, it coordinates and optimizes this network of available opportunities.

A. Curbside Evaluation

This evaluation analyzes the residential infrastructure to identify service gaps, improve performance, and possibly reduce service costs.

Regarding the curbside infrastructure, the District relies on private and public sector haulers to offer and operate curbside recycling. In the four counties, one private and one public hauler collects recyclables curbside. In Pickaway County, Rumpke provides subscription curbside service in Ashville, South Bloomfield, and Commercial Point municipalities. In Ross County, the City of Chillicothe provides non-subscription curbside recycling services to its residential customers.

All curbside recycling programs in the District are single-stream, which means residents mix all accepted recyclable materials into one container. Currently, Rumpke and the City of Chillicothe use wheeled carts. Rumpke processes the District's recyclables at various material recovery facilities (MRFs) throughout the region. Due to just one processor, the list of accepted materials remains consistent across all four counties and their political jurisdictions. The materials accepted include aluminum cans, steel cans, mixed paper, #1 and # 2 plastic bottles and jugs, glass, cartons, cardboard, and cups¹.

Households in the three Pickaway County municipalities subscribe directly with Rumpke for household waste and recycling collection. In all of these jurisdictions, the hauler picks up recycling weekly. In 2021, curbside programs diverted 557 tons of recyclables from a collective count of 2,895 households, or an average of 0.19 tons/household/year.

The City of Chillicothe collects recyclables biweekly. In 2021, the curbside program diverted 803 tons of material recycled from 8,023 households, or an average of 0.10 tons/household/year.

¹ Rumpke does not accept red, Solo cups.

Year	2017	2018	2019	2020	2021	Percent Change
Non- Subscription	230	585	1,089	1,091	1,360	491%
Subscription	None	None	None	None	None	None
Total	230	585	1,089	1,091	1,360	491%

Table H-1.1 Historical Curbside Recycling Recovery

Source of information: RPHF Annual District Reports (2017-2021)

Table H-1.1 shows the recovery trends of curbside recycling in the District. Over the 2017 to 2021 timeframe, the District continued to improve curbside recovery tonnages because the District focused on developing curbside programs, especially in the City of Chillicothe, which experienced the largest change in tonnages recovered. The District provided a Mini-Grant that helped the city establish a non-subscription curbside program in 2018, and then the District provided on-going support to increase participation and tonnages.

Figure H-1.1 Historical Curbside Recovery



Figure H-1.1 shows the historical curbside recycling recovery throughout the District.

Programs	Households	2021 Tons	Pounds / Household / Day	Pounds / Household / Year
Ashville (NS)	1,371	557	2.23	812
South Bloomfield (NS)	885	Data Not Available	Data Not Available	Data Not Available
Commercial Point (NS)	639	Data Not Available	Data Not Available	Data Not Available
Chillicothe (NS)	8,023	803	0.55	200

Table H-1.2 Curbside Recycling Per Household

Source of information: RPHF Annual District Reports (2017-2021) Note: NS is a non-subscription curbside service.

Evaluating the curbside recycling services per community is an important step in understanding how well the program performs. **Table H-1.2** below shows the breakdown of the daily and annual per capita recycling recovery rate per household.

In a study conducted by The Recycling Partnership, the surveyed communities averaged 440 pounds per household collected annually² between subscription and non-subscription services. Comparatively, one of the District's communities is collecting below the surveyed communities' average, and one is collecting more than the average. The City of Ashville collected nearly 813 pounds per household in 2021, almost double the average found by The Recycling Partnership. The Cities of South Bloomfield and Commercial Point did not report the tons collected in 2021.

Despite the City of Chillicothe collecting more tons of material than Ashville, Chillicothe has over 6,000 more residents participating. As a result, the City collected a significantly lower number of materials per household in 2021 at 200 pounds.

² "2020 State of Curbside Recycling Report", The Recycling Partnership. https://recyclingpartnership.org/wp-content/uploads/dlm_uploads/2020/02/2020-State-of-Curbside-Recycling.pdf



Figure H-1.2 Map of Curbside Services Available

Figure H-1.2 above shows the locations of curbside services available in the District. Four municipalities offer curbside services which area all non-subscription services. These four locations make up only 15% of the total District population. The District could look into additional curbside services in areas that express demand. The District could develop a survey and send it out to residents to gauge interest in a non-subscription or subscription-based curbside service. Typically, non-subscription curbside services yield higher recovery totals. Adding more curbside services could help to improve the District's residential diversion rate. **Table H-1.3** below identifies cities and towns with a higher population that do not currently have access to curbside recycling.

City	Population
Circleville	14,106
Greenfield	4,335
Hillsboro	6,483
Washington Court House	14,496

Table H-1.3 Opportunities for Curbside Services

Source(s): Ohio Department of Development, 2021 Population Estimates for Cities, Villages, and Townships

If the District adds one curbside service in every four counties, approximately 40,000 additional residents would have access to curbside recycling services. This would mean 34% of the total population would have curbside access. For many Districts, curbside recycling programs have economic challenges associated with providing service costs effectively. The four communities listed above have higher population totals than other communities, that could yield an economy of scale for curbside services.

B. Drop-Off Evaluation

The District had 32 full-time drop-off locations in 2021, of which 18 were in urban areas, and 14 were in rural areas. Ohio EPA defines rural and urban from decennial census criteria related to population thresholds, density, distance, and land use. Rural areas are typically sparsely populated, have low housing density, and are far from urban centers. **Figure H-1.3** shows that most land use (55%) is cultivated cropland. The District took the combined numbers of all four counties' land use to populate the figure below.



Source(s): Ohio Department of Development, 2021 County Profiles

The District is a predominantly rural area. Only about 6.3% of the land area is developed, such as cities and towns. Most of the land is rural, with 55% being cultivated cropland, 23% being forested areas, and 14% being pasture/hay. The District does not have a large amount of open water, with only 0.03% being lakes, ponds, or rivers.

All locations have single-stream containers that are unstaffed and available 24/7. Container size and service frequency depend on container location. The drop-off sites accept aluminum cans, steel cans, mixed paper, cardboard, #1 and #2 plastic bottles, jugs, glass, and cartons. The District contracts with Rumpke to service all community drop-off sites and process collected recyclables.





	Table H-1.	4 Recycli	ng Drop-(Off Sites
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Drop- offs	2017	2018	2019	2020	2021
Urban	22	21	18	15	14
Rural	25	27	21	21	19
Total	47	48	39	36	33

Since 2017, the District removed 14 drop-off locations. Factors contributing to this change reflect drop-off site contamination, private property ownership arrangements, and program changes such as additional curbside programs added in the District that removed the need for some drop-off sites.

Rumpke aggregates the total material collected from all drop-off sites for route efficiency. As such, the District cannot quantify the tons annually received per site.

A large concentration of the District's drop-off locations are in Chillicothe, with five drop-off sites. This city also has a non-subscription curbside service available. Drop-off locations in the city do provide access to multi-family housing units and commercial businesses. The District notes Ross County, especially Chillicothe, as an area with high dumping and contamination issues at drop-off sites.

Because non-subscription curbside recycling service is available to all residents, the District could explore opportunities to reduce the number of drop-off sites in Chillicothe. The District's access goal would be unaffected by the changes as the curbside program already obtains maximum credit. However, many businesses and multi-family housing would likely have limited recycling options if the District removed all sites. Reducing the number of sites could save the District money while still providing a site or two for businesses and multi-family units to recycle. **Table H-1.5** below presents potential cost savings by removing certain drop-off sites in Chillicothe.

Estimated Cost Savings	No change	Remove 1 Location	Remove 2 Locations	Remove 3 Locations
Total Cost to Service Drop-off Program	\$363,159	\$351,810	\$340,461	\$329,113
Cost per Site	\$11,349	\$11,349	\$11,349	\$11,349
Total Estimated Savings	\$0	\$11,349	\$22,697	\$34,046

Table H-1.5 Estimated Cost Savings

Source: District Fee Reports 2021

The District has spent nearly \$363,000 in 2021 on the drop-off program. The number of drop-off sites has fluctuated over the last five years as discussed above. The primary factor being the price the District pays to have the sites serviced. Contamination and misuse have driven the cost of service up dramatically.

Despite the drop-off sites providing additional recycling opportunities for businesses and institutions, it is likely that a majority of Chillicothe residents who recycle do so through the non-subscription curbside service. As such, the District could explore opportunities to reduce the number of drop-off sites in Chillicothe and either move them to an area with fewer recycling opportunities or entirely remove them from the program. Estimates indicates that each drop-off site removed could save the District approximately \$11,349 in expenses. If the District removes drop-off sites, the money saved could be reallocated to reduce contamination at remaining drop-offs and continued education for recycling.

If the District opts to pursue Goal 1, access demonstration, it must provide additional access for 31% of its residents. Being a rural District, curbside programs are challenging to develop and may not yield adequate results for the investment. The District will likely have to add drop-off recycling locations to underserved areas. The District analyzed the largest areas not receiving any recycling access credits to understand how to optimize the number of residents reached.

Table H.1-6 presents the estimated number of locations that the District would need to add, and the estimated cost associated.

Township	2021 Population	Current Opportunity to Recycle	Additional Drop-offs needed to reach maximum credit FT Drop-offs	Population Credit with additional FT Drop- offs	Cost to provide additional drop-offs (based on District's 2021 costs)	Cost to provide additional drop-offs (Rumpke Contract)		
		F	Ross County					
Union Township	12,504	NA	3	15,000	\$34,046	\$29,030		
Huntington Township	6,130	NA	2	10,000	\$22,697	\$19,354		
Scioto Township	5,803	2,500	2	10,000	\$22,697	\$19,354		
Pickaway County								
Scioto Township	8,722	NA	1	5,000	\$11,349	\$9,677		
		Hiç	ghland County					
Paint Township	4,844	2,500	1	5,000	\$11,349	\$9,677		
Maddison Township	2,112	NA	1	5,000	\$11,349	\$9,677		
Liberty Township	3,703	NA	1	5,000	\$11,349	\$9,677		
		Fa	ayette County					
Washington Court House	14,496	5,000	1	5,000	\$11,349	\$9,677		
Union Township	3,605	NA	1	5,000	\$11,349	\$9,677		
Total	61,919	10,000	13	65,000	\$147,533	\$125,798		

Table II. 1-0 FUSSIBLE AUDITIONAL DIOP-ON LOCATIONS	Table H.1-6	Possible	Additional	Drop	-off I	Locations
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Sample Calculations:

Scenario 1: Average cost per drop-off 2021 * number of drop-offs required to reach maximum population credit Scenario 1 Union Township: \$11,349 * 3 drop-off sites = \$34,046

Scenario 2: Rumpke Contract monthly cost to service drop-off site 2x per week per bin * number of bins * number of dropoffs required to reach maximum population credit * 12 months Scenario 2 Union Township: ((\$269 * 3 bins) * 3 drop-off sites) *12 = \$29,030

Note: This scenario does not include fuel or contamination costs charged by Rumpke

Table H.1-6 identifies areas that present opportunities to provide access for recycling. These areas use population estimates from the Ohio Department of Development. The District identified the most populous areas without infrastructure or with room for more recycling access credits.

The demonstration above has two different cost estimates. Cost scenario 1 uses the process described above in **Table H-1.5** to estimate. In this scenario, the District analyzed the average cost spent on the drop-off program in 2021. The per site costs for 2021 were averaged at \$11,349. This is the estimated cost per drop-off site the District incurs annually.

In cost Scenario 2, the actual charges from the District's contract with Rumpke are used. The District is charged on a per container per collection frequency scale. Typically, Rumpke services sites between one and three times per week. The District averages 2.8 bins per site at its 32 locations. Using these numbers, the Scenario 2 assumes that all potential new sites will have three bins that haulers service twice a week at a rate of \$269 per bin. This equates to \$3,228 a year for each bin or \$9,677 per site (assuming there are three bins at each site).

If the District pursues Goal 1, access demonstration, an additional 13 drop-offs would be needed to reach the 80% access goal. The additional 65,000 population credits would give the District an 84% access rate. The District could service as little as 11 sites and be at 80% exactly. Though having extra room to work with for unexpected changes in service is a best practice to follow. It would cost an estimated \$125,000 to \$150,000 to service these sites depending on the cost estimate used. With the maximum population credit awarded to all sites, the District would receive an additional 65,000 population credits.

As previously described the District services five drop-off sites in the City of Chillicothe. However, it does not receive credit for any due to receiving the maximum credits for the non-subscription curbside services. The District could explore removing some or all of these sites to save money in order to help finance the additional proposed drop-offs. According to Rumpke's contract detailing the number of bins and frequency of service, these are among the District's most expensive sites. Removing all five sites would save an estimated \$83,866.

Another option is to maintain all sites but reduce the number of bins serviced since Rumpke charges on a per bin bases. Three of the five locations have six bins serviced between two and three times per week. If the District reduced the number of bins to three per site, the District could save nearly \$39,000 while still providing the same number of drop-off sites. This could allow multi-family housing, businesses, and residents the opportunity to recycle while also decreasing costs that the District can use to implement recycling programs in areas that do not currently have one. Though, with the amount these sites are used, reducing the number of bins per site would likely result in overflowing bins and could present more complications.

C. Other Drop-offs

Buybacks, take-back retailers, reuse centers, and thrift stores are other outlets for diversion. The District surveys these businesses; however, the survey does not fully capture the recovery of materials if these businesses do not return a survey. As a best practice, the District maintains a list of scrap yards, buybacks and take-back retailers, and other collection points for materials such as batteries, used oil, etc., on its website

D. Conclusions/Findings

The District is averaging about a 17% residential/commercial diversion rate. One area to for the District to focus on is improving curbside recycling collection. Curbside recycling is the most convenient and typically demonstrates a higher return of per capita recovery. The District will evaluate setting a goal of achieving at least one curbside program in the four counties. The drop-off program provides access to generators; however, contamination/illegal dumping at drop-offs is causing difficulties. The District will evaluate measures needed to combat contamination/illegal dumping and analyze the current quantity of drop-off sites that align with the needs of counties. Education/outreach initiatives are a significant part of any program's success and need an evaluation for best practices.

Opportunities to explore as programs for this Plan Update:

- Curbside Recycling Initiative Set a goal to achieve at least one curbside program in one of the four counties with a focus on areas of high population density. Steps to explore are as follows.
 - Engage communities and stakeholders to gauge interest/ demand for curbside services. A District developed survey could be a good tool to use.
 - Communicate with available haulers on the level of service provided.
 - Determine barriers to effective curbside services like cost, transportation, etc.
 - Explore possible economic incentives the District can offer to support new programs.
 - Research grant opportunities through the Ohio EPA and organizations like the Recycling Partnership.
 - Offer technical assistance to design curbside recycling programs.
- Drop-off Program Reduce contamination rates present in drop-off sites through education, outreach, signage, and monitoring. Continue to educate residents on how to recycle properly through the following methods.
 - Targeted social media posts aimed at educating viewers about acceptable materials at drop-off sites.
 - $\circ~$ Advertising in local media such as TV, radio, or newspapers.
 - Utility bill mailing of brochures detailing acceptable materials.
 - Engage community stakeholders about proper recycling in areas with high contamination rates.
 - Periodically staff sites.
 - Explore additional large, centralized drop-off locations such as the Fayette County Recycling Center

2. Commercial /Institutional Sector Analysis

The District is evaluating existing commercial/institutional recycling programs and infrastructure to assess their strengths and weaknesses and if there is more the District can do to address the commercial/institutional sector.

The commercial/institutional sector within the District consists of the following (nonexhaustive list): non-manufacturing commercial businesses, schools and universities, government agencies, office buildings, stadiums, amusement parks, event venues (stadiums, concert halls), hospitals, and non-profit organizations.

A. Geographical

Much of the commercial/institutional base is located within urbanized areas such as Chillicothe and Circleville. Chillicothe is the seat of Ross County and is the largest municipality in the County, with 22,059 residents. It is also the largest city in the District. The seat of Pickaway County is Circleville, and it has a population of 13,927. Hillsboro is the seat of Highland County and has a population of 6,481. Lastly, Washington Court House is the seat of Fayette County with a population of 14,401. All four Counties comprising the District are predominantly rural, each containing 5.7% and 6.9% developed land. **Figure H.2-1** shows the most densely populated areas in the District are Chillicothe, Washington Court House, and Circleville.



Figure H-2.1 Population Density Map

The top commercial/institutional employment sectors in Ross County are trade, transportation, and utilities, with 362 establishments; education and health services with 204 establishments; and leisure and hospitality, with 150 establishments. Except for "other services," where employment decreased by about 19%, all employment sectors have experienced growth since 2013. Two sectors saw the most significant change since 2013, information services by 63% and education and health services by 27%.

The top commercial/institutional employment sectors for Pickaway County are trade, transportation, and utilities, with 223 establishments; construction with 113 establishments; and professional and business services, with 108 establishments. Information services are also growing rapidly in Pickaway County, increasing by 50% since 2013. Other notable changes include construction expanding by 15% and financial services increasing by 12%.

The top employment sectors for Highland County are trade, transportation, and utilities, with 185 establishments; education and health services with 107 establishments; and financial services, with 74 establishments. Education and health services have seen a large increase in the number of establishments since 2013, up nearly 18%. Other notable changes are an increase of 8% in natural resources and mining and decreases of 6% and 8% in leisure, hospitality, and

other services, respectively. These sizeable decreases in sectors kept the growth rate of the private sector in Highland County to 2% since 2013.

The top employment sectors for Fayette County are trade, transportation, and utilities with 200 establishments; leisure and hospitality with 71 establishments; and education and health services with 56 establishments. Natural resources and mining have seen a large increase in the number of establishments, up 29% since 2013. Professional and business services have increased 17% since 2013. Trade, transportation, and utilities decreased 10% while "other services", and leisure and hospitality both decreased 15%. Unlike the other three counties that make up the District, Fayette County has not seen growth in the private sector since 2013. The private sector experienced a 4% decrease.

B. Diversion

Figure H-2.3 graphs the commercial/institutional diversion in the 2021 reference year. The most notable materials diverted are cardboard, wood, and commingled recyclables.



Figure H-2.3 Commercial/Institutional Materials Diverted

Source: 2021 Annual District Report

Tracking and reporting residential and commercial/institutional recycling makes separating commercial/institutional data from residential data challenging. This

data collection is extremely important for the District's goal diversion rate of 25% in the residential/ commercial sector. Without this data, large amounts of recycling would go unaccounted for, and the diversion rate would be inaccurate.

The District collects data from three sources for commercial/institutional recycling quantities, shown in **Table H-2.1**. The District receives an estimated 33% of this data from the Ohio EPA commercial survey. These commercial businesses may choose to report to the Ohio EPA about their recycling methods and total diversion. The issue with this data source is that commercial businesses are not required to report to the Ohio EPA. Many commercial businesses operate with proprietary data that they do not want to disclose. Unfortunately, this means the District cannot include its diverted tons in its landfill diversion rate.

The District also collects data from annual recycling surveys done in conjunction with the annual district reports. These surveys are similar to the EPA commercial survey but focus more on local businesses rather than the big box stores the EPA surveys. These surveys are pivotal in the data collection and documentation of recycling activities in the District. However, they are time consuming to do annually and many of the same challenges described above for the Ohio EPA's surveys are experienced with the District surveys.

Lastly, the District collects data from Other Recycling Facilities such as MRFs. These facilities and the haulers of waste material are required to report to the Ohio EPA who publishes the data on their website.

Source of Commercial/Institutional Recycling Data	Quantities (Tons)
Ohio EPA Commercial Data	8,824
District Commercial/Institutional Survey	4,183
Other Recycling Facilities	13,545
Total	26,551

 Table H-2.1 Estimated Commercial/Institutional Stream Recycling (2021)

In total, the District diverted about 26,500 tons of material from the commercial/institutional sector in 2021. Over the last five years, the District reported an average of approximately 7,800 tons of diverted material stemming from the Ohio EPA commercial survey data. The Ohio EPA has placed increased emphasis on consistently receiving responses from big box stores in recent years. **Figure H-2.4** below presents the five-year historical data received by each County in the District from Ohio EPA.



Figure H-2.4 Ohio EPA Historical Commercial Recycling

According to the Ohio EPA reports, commercial recycling has remained fairly consistent in three counties. However, Fayette County has seen a volatile trend of highs and lows over the last five years. This is because certain businesses do not consistently report to the Ohio EPA. For example, in 2019, Sam's Club reported recovering over 3,000 tons of material, almost double what the other businesses combined reported that year. The following years, this business did not report. This is an example of how important it is to collect data from these large businesses on a consistent basis.

Inconsistent or lack of reporting from the commercial/institutional sector challenges the District and directly impacts its reported diversion rate to Ohio EPA's targeted establishments for increased landfill diversion. The diversion rate will likely rise above the Ohio EPA goal rate of 25% if the District can consistently receive and collect more data from the commercial/institutional sector. **Figure H-2.5** demonstrates the landfill diversion from the major businesses (by number of employees) operating in the District.

Source: Ohio EPA Commercial Recycling Data



Figure H-2.5 Historic Commercial/Institutional Large Employers Reported Diversion

Source: Ohio EPA Commercial Recycling Data

As can be seen above, many businesses do not report every year to Ohio EPA. Of the ones who do report annually, Walmart represents the largest share of data. It accounted for an average of 44% of commercial/institutional recycling data from 2017-2021. Kroger and Sam's Club also made up significant shares at 19% and 13% respectively. The District will see higher diversion rates if it can consistently from companies lt capture data vearly. is estimated that the commercial/institutional sector accounts for approximately 78% of all residential/commercial landfill diversion.

C. Commercial/institutional Establishments

There are approximately 2,762 commercial/institutional establishments in Ross, Pickaway, Highland, and Fayette counties. **Table H-2.2** shows the number of commercial/institutional establishments within each North American Industry Classification (NAICS) code.

NAICS Code	NAICS Description	Number of Commercial/Institutional Establishments
42	Wholesale Trade	130
44-45	Retail Trade	642
48-49	Transportation and Warehousing	160
51	Information	42
52	Finance and Insurance	191
53	Real Estate and Rental/Leasing	117
54	Professional, Scientific, and Technical	161
55	Management of Companies and Enterprises	21
56	Administrative and Support and Waste Management and Remediation Services	152
61	Educational Services	15
62	Health Care and Social Assistance	402
71	Arts, Entertainment, and Recreation	59
72	Accommodation /Food Service	320
81	Other Services (Except Public Administration)	350
	Total	2,762

Table H-2.2 Con	nmercial/Institutional	Establishments
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Source: 2020 County Business Patterns. U.S. Census Data.

Figure H-2.6 presents a heat map of the District's commercial/institutional establishments. The redder the area is, the more businesses/institutions it has, green represents the fewest establishments. The District's commercial/institutions are mostly in areas with dense populations and high commerce. The largest-density towns/ cities with commercial businesses are Chillicothe, Circleville, Washington Court House, and Hillsboro.



Figure H-2.6 Commercial/Institutional Heat Map

Source: U.S. Business Database. Rep. Reference USA

D. Functionality

All businesses/institutions in the District rely on private sector haulers for their recycling programs or they can request recycling services from local brokerage companies. The District does offer technical assistance to commercial businesses upon request.

Public Events/Venues and Parks

The District collaborates with local organizations to provide recycling at special events and festivals. This includes awarding grant funding to purchase recycling containers, recycling container loan program, target community events, and technical assistance. Events were slow to start back up after the effects of COVID-19. However, the District loaned out recycling containers for a few events in 2021, including the largest one held, the Circleville Pumpkin Show.

The District currently does not have any program focused on parks. This is a gap the District could explore to increase recycling.

Commercial Businesses

Commercial businesses have the opportunity to contract with a private hauler for recycling services. The District is lacking a dedicated program to assist these establishments implement or enhance recycling programs. The District does not offer

recycling audits to these establishments or provide technical assistance. This is a large gap in the District's goal to increase recycling rates.

Schools and Institutions

There are 66 total schools, including seven private schools, in the District. These schools had 31,511 students enrolled in the reference year. There is one regional campus, two 2-year public colleges/ satellites, and one private university, Ohio Christian University, in Pickaway County. Recycling activities at schools is the responsibility of the school to subscribe with a private sector service provider. However, the District has an education tab on their website that displays helpful information and links. The District does offer classroom visits and presentations on recycling. Due to COVID-19, the District slowly resumed normal activity in schools.

Not all schools are recycling, which is a great opportunity for pursuing programs and establishing partnerships with the District and schools. Education in schools with programs is an opportunity to educate the students on the correct materials to recycle. However, it goes beyond simple education. In order for tangible change to occur, the District must work with school administration to amend collection/custodial contracts, procure a recycling service provider, adopts a recycling budget, and designate an employee to oversee recycling activities and goals.

Government Agencies and Office Buildings

This is currently a gap for the District in terms of providing recycling bins and offering technical assistance to government agencies and office buildings. If these offices recycle, they must do so by contracting a private hauler. The District does offer technical assistance to implement recycling programs, though there was no activity in 2021.

E. Conclusions/Findings

The commercial/institutional sector participation in recycling programs is challenging mainly due to the cost of service and that recycling is voluntary. As of 2021, the District is minimally involved in commercial/institutional recycling, though many businesses do recycle, they do so through private contracts organized and facilitated by the business and a hauler.

The District is currently diverting about 17% of residential/commercial waste, of which an estimated 78% is from commercial recycling sources. Despite the District minimally assisting commercial/institutional sectors, this sector contributes the most to residential/commercial recycling rates. Thus, the District could see more recycling by assisting this sector.

Opportunities to explore as programs for this 2024 Plan Update:

- Increased data collection efforts from major commercial/institutional establishments
- Commercial/Institutional Technical Assistance

- Actively commit to reaching at least three commercial businesses a year to conduct waste audits, help set up recycling programs, etc.
- Target assisting two institutions a year to create recycling programs. Target audience is top-level management within the schools or districts.
- Need to develop business case analyses, comprehensive procurement and implementation assistance.
- Establish a commercial/institution resource page for the District webpage.
- School Education/Outreach and Technical Assistance (ongoing program)
 - Continue to target schools and offer technical assistance to assist with recycling programs.
 - Survey school districts to see which ones are interested or express the need to recycle to better target those in need of assistance.
 - Collaborate with schools and private haulers to establish drop-off recycling bins for only the schools to use.

3. Industrial Sector Analysis

The industrial sector analysis determines if existing programs offered through the District are adequate to serve that sector and determine if manufacturing entities require additional programs.

A. Evaluation

Approximately 308 industrial businesses operated in the District during the reference year. Most of the industrial establishments operate out of one location. Approximately 60% of the industrial businesses in the District have less than 10 employees. **Table H-3.1** lists the top employed industrial businesses in the District by employee size.

Company	Employee Size
Kenworth Truck Co	2,000
Sugar Creek Packing Co	500
DuPont Circleville	450
Yusa Corp	350
YSK Corp	280

Table H-3.1 Top Industrial Companies

Source: U.S. Business Database. Rep. Reference USA

The District's industrial sector businesses are largely concentrated in cities. The majority of businesses are located in Chillicothe, with 103 businesses or 33% of the total. **Table H-3.2** lists the top five communities with the largest presence of industrial businesses.

Community	Number of Industries
Chillicothe	103
Washington Court House	47
Circleville	43
Hillsboro	33
Greenfield	13

Table H-3.2 Largest Industrial Communities

Source: U.S. Business Database. Rep. Reference USA

The Ohio Department of Jobs and Family Services classifies the counties making up the District into three separate regions. Ross and Highland Counties are Southeast Ohio, Pickaway is Central Ohio, and Fayette is West Ohio. The reports for these regions project an average manufacturing change between the counties to decrease by 4.2% through 2028³.

Ross County has the largest manufacturing footprint of the total manufacturing employment within the District. According to DataUSA⁴, there are nearly 14,000 manufacturing sector employees. Of that, 39% work in Ross County. This is largely due to the high number of industrial companies located in Ross County. As shown in **Table H-3.2** above, The City of Chillicothe in Ross County is the District's largest industrial community, hosting 103 industrial businesses.



Table H-3.1 Average Percent Manufacturing by County 2013-2020

Source(s): DataUSA

³ Ohio Department of Jobs and Family Services. <u>https://ohiolmi.com/Home/Projections/ProjectionsHome#C1</u>

⁴ DataUSA. <u>https://datausa.io/profile/geo/ross-county-oh#economy</u>

Gross Domestic Product (GDP) by county is a measure of the market value of final goods and services produced within a county area in a particular period. While other measures of county economies rely mainly on labor market data, these statistics incorporate multiple data sources that capture trends in labor, revenue, and value of production. As a result, the GDP captures capital-intensive industries more fully than labor data.





Figure H-3.2 shows the GDP of industries producing private goods in the District. As **Figure H-3.2** presents, Fayette County has the largest GDP for private goods producing industries, sitting at approximately \$1,000,000 in 2019 and 2020. This County is home to the Fayette County Mega Site, a 1,500-acre manufacturing facility. This plant is a large reason why Fayette County is significantly higher than the remaining three counties. Though it is unclear why there was such a steep decline from 2017 to 2019, it appears Fayette County's good-producing GDP has stabilized. The District expects Fayette County's GDP to rise further in the coming years as Honda⁵ recently announced plans to build a \$3.5 billion-dollar electric vehicle site in Fayette County that should be operational by the end of 2024.

The remaining three counties have all remained relatively flat regarding their goods producing industrial GDP. Pickaway and Highland Counties saw slight increases from 2019 to 2020 while Ross County experienced a slight decline during that same time span.

B. Landfill Diversion

Source(s): U.S. Bureau of Economic Analysis

⁵ <u>https://www.dispatch.com/story/business/2022/10/11/honda-to-build-battery-plant-in-fayette-county-ohio-electric-vehicle-hub/69548391007/</u>

In 2021 industrial businesses recycled approximately 245,774 tons of waste. According to the 2021 annual district report, industrial businesses diverted 70% from the landfill. The *"Diversion Analysis"* section discusses the detail on the tons of industrial waste recycled, including the material types. **Figure H-3.3** provides the percentage of each type of recyclables recovered during the reference year. Wood comprises 82% of the materials recycled, followed by all other paper, and ferrous metals as the largest three categories.



Figure H-3.3 Industrial Sector Recyclables

The District gathers the information listed in **Figure H-3.3** almost entirely through voluntary disclosure by the industrial businesses in the District. The District sends out surveys to their industrial sector requesting information about internal diversion numbers.

There are some challenges faced when gathering information voluntarily. Mainly, as there is no requirement, many industries do not report recycling totals to the District.

Most industrial sectors implement recycling programs internally by the respective business without District guidance. However, should industries request support, the District does not have existing programs that would be able to help. Engagement with this sector is challenging because much of the waste generated is specialized and specific to the business. Many businesses operate with proprietary information that they do not wish to disclose to the District in the annual surveys.

C. Conclusions/Findings

The industrial businesses who chose to report their diversion information could divert 70% of the waste generated in the reference year with minimal assistance from the District. The District has not prioritized assisting the industrial sector in its efforts to boost recovery. The District must provide at least three programs targeted at the industrial sector to meet the Ohio 2020 State Plan requirements.

Opportunities to explore as programs for this 2024 Plan Update:

- Data Collection Efforts (ongoing program) Obtain and maintain updated contact information for staff managing the industrial recycling programs and build a rapport in hopes of attaining yearly responses. Continue to promote and advertise annual survey participation.
- Business and Industry Outreach Connect with local businesses and economic partners to determine the desire for materials management and reporting.
- The District can also promote materials marketplaces such as the Ohio EPA's Material Marketplace and the EPA's Sustainable Management of Construction and Demolition Materials.

4. Residential/Commercial Waste Composition Analysis

This evaluation of the District's waste composition analysis describes and evaluates the materials that make up the largest portions of the waste stream. It also describes what programs the District currently uses to address the waste streams and what initiatives it should consider to increase landfill diversion.

A. Residential/Commercial Sector

Waste Generation = Total Wastes Disposed + Total Wastes Diverted

The District generated 203,030 tons of residential/commercial waste in the reference year, with a 17% landfill diversion rate from reuse, recycling, and composting. The historic average landfill diversion for the four prior years to the reference year (2017-2020) was 23%. The District had seen decreases every year since 2017 when the landfill diversion rate was 25%. To understand the composition of the material not being landfilled, the District applied waste U.S. EPA's characterization data to the District's total tons disposed.

As discussed in Appendix G, the District conducted an analysis of the estimated composition of residential/commercial waste for the reference year using the US EPA's Advancing Sustainable Materials Management: 2018 Trends and Figures report. This report detailed the US EPA's estimates for the composition of waste in landfills. The District used this report and assumed the percentages

listed for its own estimations and projections. **Figure H-4.1** below lists the estimated waste composition for the District in the reference year.



Figure H-4.1 Reference Year Waste Composition Percentages

As seen above, the major contributors to waste disposal in the reference year are paper and paperboard (23%), food (22%), yard trimmings and plastics (12%). By assessing the composition of material landfilled, the District can evaluate which materials to target for increased diversion efforts. For example, as **Figure H-4.1** shows, the top categories paper, food, yard trimmings, and plastic potentially can be recycled or composted. Some plastics and food may be more difficult to recycle/compost without proper infrastructure. Note the "other" stream is typically comprised of hard-to-recycle materials such as electronics.

Source(s): U.S EPA, Advancing Sustainable Materials Management: 2018 Tables and Figures

Figure H-4.2 shows the breakdown of waste composition by weight.



Figure H-4.2 Reference Year Waste Composition by Weight

Using the waste estimates described above, 23% of paper and paperboard in the overall waste composition results in about 39,052 tons of landfilled paper. The District diverted 12,197 tons of paper and paperboard in the reference year, an estimated 31% diversion rate for this material category. According to the American Forest and Paper Association, the U.S. recovery rate for paper and paperboard was approximately 68% in 2018. The District could do better at diverting this waste stream from landfills.

Figure H-4.3 below shows the amount of paper and paperboard disposed of in landfills and diverted. The residents of the District have sufficient access to paper and paperboard recycling opportunities. The District operates 32 full-time drop-off sites available year-round for residents. These drop-off sites accept newspapers and inserts, magazines, catalogs, junk mail, envelopes, phone books, paper grocery bags, cereal, and snack boxes (paperboard), and cardboard. The major issues with these sites are getting residents to participate and educating residents on how to use them properly, and what is and is not accepted. The District has seen high levels of contamination, which required closure of some drop-off sites. Four curbside recycling programs operate in the District (one non-subscription and three subscription) and all accept paper and paperboard. However, these programs only are available to 15% of the population.


Figure H-4.3 Paper and Paperboard Disposed versus Diverted

U.S. EPÁ, Advancing Sustainable Materials Management: 2018 Tables and Figures Appendix E

Commercial businesses do have the opportunity to contract with local haulers for recycling dumpster service, but the District does not offer any technical assistance nor has a program dedicated to assisting this sector. The District does maintain a list of recyclers on their website. Typical challenges commercial businesses may face include the cost of recycling infrastructure, space for recycling containers, and time and effort available to collect recyclables. These challenges could be lessened with District assistance should the District explore a program for this.

Food and Yard Waste Stream

Using the waste composition estimates from **Figure H-4.2**, there is approximately 36,516 tons of food waste and 20,456 tons of yard waste annually landfilled from the District. One issue with yard waste disposal is that many residents manage their yard waste at the curb, and if this waste is mixed with household waste; both categories will be disposed of at a landfill.

District generators disposed approximately 56,972 tons of organic waste in the reference year. **Figure H-4.4** shows the breakdown of the total organic waste disposed and the total organic waste diverted. Approximately 10% of total organic waste was diverted, while 90% was landfilled. Of the diverted organic waste, 2,830 tons were from food diversion, and 523 tons were from yard waste diversion.

Approximately 7% of the total food waste was diverted in the reference year while approximately 2% of the total yard waste was diverted. These streams represent some of the largest opportunities for waste reduction. The District can help increase food waste recovery by encouraging and educating residents to compost their food waste. Residents with home composting systems for food waste do not

track or record composting quantities. As such, the District's data does not reflect home composting quantities.



Figure H-4.4 Organic Waste Disposed and Diverted

Appendix E

The District reported using four Class IV composting facilities in the reference year. These facilities, listed in Appendix B, diverted 3,351 tons of organics in the reference year.



Figure H-4.5 Historic Organic Waste Diverted

Source(s): Ohio EPA Compost Facility Planning Report for years 2017, 2018, 2019, 2020, and 2021

Figure H-4.5 shows that the historical organic waste diverted fluctuated over the last few years. Yard waste diversion saw a significant drop from 2020 to 2021. This was due to a company who typically used facilities in the District ceasing to do so in 2021. Apart from the two-outlier years, 2021 for yard waste and 2019 for food waste, the District has remained fairly consistent with the number of organics diverted.

Residential food waste represents a significant opportunity for reduction and food rescue, which are the U.S. EPA's most preferred methods of dealing with food waste. With the District only diverting an estimated 10% of organic waste, it could seek to increase food rescue and donation to reduce landfilling edible food while also supporting vulnerable populations.

Plastic Waste Steam

Residential/commercial estimated waste composition expects plastics to be one of the larger percentages of waste streams being landfilled. Based on the waste composition, an estimated 20,625 tons of plastics were landfilled in the reference year. The District diverted 594 tons of plastic materials from the residential/commercial sector, or about 3% of what was generated. It is likely that the contamination at drop-off sites played a role in the low percentage of material recovered because of the amount of non-targeted plastics (i.e., bags, films, and durables) delivered to the drop-off sites. There is a significant opportunity to increase the amount of plastic recovered through education and awareness on what the drop-off sites accepted and do not accept.

The District accepts polyethylene plastics with a resin code of #1 or #2 bottles at drop off recycling locations. These materials include plastic bottles, jugs, and containers for soda, water, milk, shampoo, conditioner, and other similar bottles. **Figure H-4.6** describes the various types of resin codes for plastics below.



Figure H-4.6 Plastic Resin Codes

Source(s): Polychem USA

Plastic resin codes may confuse residents, as they do not describe if something is recyclable and/or accepted in the area, which is significantly different from the resin grade used for material packaging. More recent packaging has #1 and #2 plastics in various shapes and the difference between non-bottle and rigid plastics. MRFs frequently do not always have end markets to sell all of the various resin grades. The District should monitor the materials delivered to the drop-off sites and determine the level of plastic contamination and the most common mistakenly recycled items.

B. Conclusions/Findings

The District's estimated waste composition data reveals opportunities to increase diversion rates for paper and paperboard, organic waste, and plastic waste. The District diverted about 17% of the total residential/commercial waste generated in the reference year, below the state goal of 25%. The District has adequate resources and infrastructure to reach the state goal, but this mainly derives from the various drop-off locations. Many of these sites experience regular contamination; thus, the District had to remove 15 sites over the past five years. Typically, curbside recycling is the most effective way to increase diversion rates. These programs offer an easy and convenient method to dispose of recyclable materials that are less of an effort than drop-off sites.

There are opportunities to increase the diversion of these materials described above. The District could seek grants from the EPA or other sources to fund additional programs. With low capture rates, the District could look at programs to divert additional material from landfills.

Opportunities to explore for this 2024 Plan Update:

- Drop-Off Program Setting a goal to reduce contamination and increase participation among residents.
 - Obtain baseline tonnages and contamination rates of materials that are often mistakenly recycled
 - Conduct a survey to understand the best method of reaching target audiences
 - Develop branded materials that the District distributes through mail, email, on social media, etc. to increase awareness.
 - Develop educational campaign targeting the reduction of top material contaminants.
- Curbside recycling initiative Set a goal to achieve at least one curbside program in any of the four counties with a focus on areas of high population density. Steps to explore are as follows.
 - Engage communities and stakeholders to gauge interest/ demand for curbside services. A District developed survey could be a good tool to use.
 - Determine barriers to effective curbside services like cost, transportation, etc.
 - Explore possible economic incentives the District can offer to support new programs.
 - Research grant opportunities through the Ohio EPA.
 - Offer technical assistance to design curbside recycling programs.
- Improved compost and food infrastructure The District does not have centralized, in-District infrastructure to divert food waste from landfills. Strategies to increase food recovery and diversion include:
 - Education/ outreach setting goals to change the behavior of residents and to reduce waste while also educating source reduction practices.
 - Consumer messaging The most significant change will come from behavior change. The District can do this by increasing consumer awareness and changing baseline behaviors related to purchasing, storage, and disposal.
 - Increase awareness of food waste and associated costs
 - Provide tips to reduce food waste.
 - Promote food donation.

5. Economic Incentive Analysis

Economic incentives encourage participation in recycling programs. In accordance with Goal 7 of the 2020 State Solid Waste Management Plan, the SWMD is required to explore how to incorporate economic incentives into source reduction and recycling programs.

A. Evaluation

Pay-as-you-throw:

Pay-as-you-throw (PAYT), also called volume-based programs are a type of economic incentive used by districts and local governments to encourage recycling efforts. These programs require residents to pay per set amount of municipal solid waste disposed of by each household. Residents are charged for the amount of waste, or the size of the bins used. This program incentivizes residents to decrease their waste generation and seek ways to recycle more material. This method is successful when it becomes cheaper to recycle material than it does to dispose of it. Data shows these programs do incentivize recycling from residents, increasing waste diversion. PAYT programs are economically viable and advantageous for residents, as they are only required to pay for what they dispose of.

No communities within the District operate a PAYT program. Two haulers in the District, Rumpke and the City of Chillicothe, provide curbside recycling. They may be interested in incentivizing recycling. However, since the 2018 China National Sword, there have been studies that show PAYT increases contamination in recyclables.

The District could explore establishing PAYT programs to communities that offer curbside recycling. These communities often charge a flat rate based on their waste generation. This method establishes waste as a commodity and requires residents to pay attention to how much waste is thrown out similar to how many people monitor their utility bills (water, electric and gas). A popular method for PAYT programs is to require residents to purchase custom trash bags at a cost of \$2-\$4. The District would need to figure out a way to have these bags designed, manufactured, and sold. The District could consider a pilot program at one location to measure the effectiveness of the program and develop solutions to any issues that may arise before expanding to multiple locations.

The District could also consider calling attention to recycling as a way to reduce resident costs through flyers, newsletters, and other advertising methods. These marketing materials should highlight that recycling is less expensive than throwing materials away. These information pieces could also highlight the free drop-off locations throughout the District.

The US EPA reports that communities who implement PAYT programs often see large increases in waste reductions. Typically, communities who participate see a 25%-35% reduction in waste generation and significant increases in recycling. The District could explore options to implement a similar program. It should be noted that implementing such a program in rural areas that have subscription based waste collection would most likely lead to significant open dumping. Thus, these programs work most effectively in urban areas, especially ones with curbside recycling collection.

Rebates:

Consumers often expect to receive points, rebates, or other rewards for purchases and behaviors desired by markets. In the waste industry, residents can receive rewards for correctly participating in recycling programs. A recent success with this tactic was accomplished through RecycleBank. This is the most widely known system but there are many other similar programs in use. In this program, behavior changes are driven and encouraged by granting participating residents with points per set number of pounds recycled. These points are redeemable at local retailers and stores. This option is likely to be received better by the public than implementing PAYT programs because residents feel they are being rewarded for their behavior instead of punished. However, PAYT programs are often more effective at diverting waste because there is a steeper price to pay if residents don't recycle.

The District does not currently offer any rebate programs, but it may be a viable opportunity to explore and pair with PAYT programs to lessen the feeling of punishment. Whether combined with PAYT programs or implemented solo, rebates could play a role in establishing favorable recycling habits.

Grants:

The District does offer a Recycling Incentive Mini-Grant that is available to community, businesses, and institutions in the District who are interested in implementing a new recycling program to support long-term recycling goals. The District used this grant incentive opportunity in 2017 to award the City of Chillicothe \$50,000 to initiate its curbside recycling program. This program allowed the City to establish its non-subscription curbside service beginning in 2018. Since its inception, this program has collected 65% of all curbside materials on average. That is more than the other three programs combined.

In 2020, the District was in discussion with two other communities to add curbside recycling services. The District attempted to incentivize the communities to add these services using this grant program. The communities were receptive, but in 2021 decided not to pursue this option.

While this program offers a great incentive for communities to recycle, for many there are too many barriers to overcome that outweigh the economic incentive provided. The District could meet with haulers to discuss how to reduce the barriers to providing services, such as curbside recycling.

B. Conclusions/Findings

The District has one economic incentive source for recycling, the Recycling Incentive Mini-Grant. This incentive was successful in helping to establish the

City of Chillicothe's curbside recycling program; however, it has not been successful at establishing curbside programs recently as two communities decided not to pursue them even with financial aid. Apart from this, the District has no structured economic incentives to help with recycling. The purpose of economic incentives is to encourage communities and residents to recycle. Thus, even if communities were not interested in this most recent attempt the District should continue to foster discussion and reach out to local municipalities and governments. With only four curbside services available, issues with drop-off sites, and lack of multiple strong economic incentives, the District has struggled with increasing recycling participation and rates. The District has seen decreases each year over the last five years in diversion rate, sitting at about 17% compared to the 25% diversion rate in 2017. This decrease is mostly due to fewer commercial businesses responding to surveys.

6. Restricted and Difficult to Manage Waste Streams Analysis

Goal 6 of the 2020 State Plan requires solid waste management districts to provide strategies for managing materials that are difficult to dispose of such as scrap tires, yard waste, lead-acid batteries, household hazardous waste (HHW), and obsolete/ end-of-line electronic devices. This analysis evaluates the District's strategies, considers other materials, and programs for hard to manage waste.

A. Evaluation

Scrap Tires:

The Ohio EPA estimates that more than 12 million scrap tires are generated in the State of Ohio every year. When not properly disposed of, these often end up in illegal dumps that create hazards to public health and the environment. The number of tires and cost associated with managing them can be challenging to track and properly manage.

The District hosts scrap tire collection events annually. There are typically four events, one in each county. In the reference year, the District received 2,388 tires totaling 55 tons of scrap tires based on the Ohio EPA waste conversion factors estimation. **Figure H-6.1** below details the amount of tires collected and the cost to do so.



Figure H-6.1 Historic Scrap Tires Collected



As can be seen above, the District hosts tire collection events annually. The price to hold these events fluctuates as does the number of tires collected. The District collected 683 tons of in 2019, up nearly 300% from 2018. This number is so high because the District reported receiving almost 9,000 commercial tires, which are significantly heavier than passenger tires.

The following years, 2020 and 2021, the District reported very low numbers of tires gathered at the collection events. This is primarily due to the effects of COVID-19 as in 2020, the District had to reschedule the events. Though the District still held the events in 2020, this affected the participation. In 2021, residents were still feeling the effects of the pandemic and limited participation occurred. Excluding 2019, the District reported collecting an average of 4,250 tires annually or 105 tons, costing an average of \$13,677.

The District used the Ohio EPA's volume-to-weight conversion factors report to estimate the number of tires collected in tons. **Table H-6.1** below presents the estimated tons collected.

Year	Total Tires	Passenger	Commercial	Passenger	Commercial	Total
	rotar mes			tons	Tons	Tons
2017	10,379	NA	NA	NA	NA	207
2018	5,366	4,770	596	54	36	90
2019	22,296	13,423	8,873	151	532	683
2020	2,446	1,620	826	18	50	68
2021	2,388	1,806	582	20	35	55

Table H-6.1 Estimated Tons Recovered

Source(s): Internal District Collection Data 2017-2021

Sample Calculations:

Passenger Tire Tons = (number of tires * average weight of passenger tires) / 2000

Passenger Tire Tons 2018 = (4,770 * 22.5lbs) / 2,000 = 54 tons

Commercial Tire Tons = (number of tires * average weight of commercial tires) / 2000 Commercial Tire Tons 2018 = (596 * 120lbs) / 2,000 = 36 tons

Total Tons = Passenger tire tons + Commercial tire tons Total Tons 2018 = 54 + 36 = 90 tons

The District's website provides the locations of the businesses and transfer stations that accept scrap tires and lists contact information for each.

Yard Waste:

As shown in Figure H-6.2 below, the yard waste diverted has historically seen major fluctuations. Beginning at just over 1,000 tons in 2017, the District saw a large increase to 2,000 tons in 2018 before falling more minimally to 1,700 tons in 2019. This was followed by a significant jump to 2,200 tons in 2020 and immediately plummeted to the 5-year low of 520 tons in the reference year.



Figure H-6.2 Historic Yard Waste Diversion

The District has six composting facilities throughout the four counties. Three of these facilities are class IV, class III, and class II facilities. The District reported to the Ohio EPA only using four class IV facilities in the reference year: two in-District and two out-of-District.

The following yard waste services are offered in the District:

- Ross County: The City of Chillicothe's Yard Waste Drop-Off Site on Renick • Avenue is open on Wednesdays and Saturdays from 8:00 a.m. until 12:00 p.m.
- Highland County: The Yard Waste Facility on Selph Road opens on April 1 • of each year from 12:00 p.m.-3:30 p.m. on Fridays and Saturdays from 8:00 a.m.-12:00 p.m. It is open from 12:00 p.m.-3:30 p.m. every other Friday and the first Saturday of every month from 8:00 a.m.-12:00 p.m. until the fall.

- Pickaway County: Circleville, the largest municipality in Pickaway County, offers leaf collection free of charge to residents from November to December.
- Fayette County: Washington Court House, the largest municipality in Fayette County, offers leaf collection free of charge for residents from October to December

Based on the projected waste composition completed in Appendix G, an estimated 24,657 tons of yard waste was disposed in 2021. Only 523 tons of this waste were diverted in the District, it is estimated that 2% of yard waste was diverted in the reference year. However, the District is predominantly rural. In many rural areas, it is a common practice to use backyard composting. It is likely that backyard composting diverts a significant amount of yard waste, and residents cannot track the tonnages.

Household Hazardous Waste:

HHW are materials that homes may generate and if mishandled may cause pollution and safety risks. HHW includes used oil, gasoline, diesel and heating oil, kerosene, household batteries, lead-acid batteries, pesticides, paint and paint thinners, mercury-containing devices, lights/light bulbs, and electronics.

Costs for HHW collection events are high. The District hosts HHW events when funding permits. The District contracts with Environmental Enterprises Inc. (EEI) to assist with hazardous waste collection events. Materials accepted include the following: oil paint, stains, polishes, kerosene, gasoline, motor oil, light bulbs, insecticides, rat poison, batteries, thermostats, etc. **Table H-6.2** below details the District's collection efforts and cost associated with the events.

Year	Tons	Cost	Cost/Ton
2017	9.21	\$ 14,088	\$ 1,530
2018	22	\$ 10,160	\$ 462
2019	NA	NA	NA
2020	NA	\$ 2,029	NA
2021	8.05	\$ 15,197	\$ 1,888

Table H-6.2 HHW Collection Amount and Cost

There was no collection event held in 2019. There was an event held in 2020; however, the contractor used did not report the total tonnage collected from the event. It costs the District about \$1,300 per ton on average to collect HHW.

In lieu of hosting these events, the District could provide education and resources on the website. The webpage lists outlets for other difficult-to-manage waste, such as appliances, batteries, tires, medications, used motor oil, cell phones, and electronics.

B. Conclusions/ Findings:

There are outlets for several difficult-to-manage waste materials in the District. The high cost of frequent collection events is a challenge faced by the District that prohibits events and the frequency of conducting events.

Given the high cost of HHW, scrap tire and electronic collection events, the District also channels residents to the private sector for disposal options. The benefits of utilizing the private sector for managing restricted waste is its ability to provide year-round management opportunities for residents. In contrast, collection efforts managed by the County are often limited to every-other-year or yearly events. Another benefit to this model is that it frees up District funds to provide more services in other waste management areas such as the recycling drop-off program.

At the same time, there are drawbacks to relying on the private sector. Businesses can close at short notice, leaving residents without disposal access. Additionally, businesses often charge residents for management, which can be a prohibitive barrier for some residents.

Regardless of the collection approach, restricted materials can create public health issues. For example, tires are breeding grounds for mosquitos, and HHW can contain chemicals that pose environmental risks. Informing the public of these dangers and providing outlets for proper disposal or recycling can be a priority item. The District can increase education on using less-harmful ingredients and more environmentally friendly products on the webpage and social media outlets.

The District will continue to update the lists of outlets where residents can take restricted or difficult-to-manage waste on their website. By providing more resources and making them accessible to residents, the District can increase diversion rates of these restricted waste streams. The website could also include more educational pieces on properly managing these materials.

7. Diversion Analysis

Waste diversion is the amount of waste recycled, also called diverted, from entering the landfill through source reduction activities. These are waste minimization, reuse, recycling, and composting. This analysis examines the diversion programs, infrastructure, and trends to elevate the District's diversion rate over the planning period. This analysis also assesses any major impacts the District experienced regarding diversion fluctuations over the years and looks at how to optimize or mitigate those impacts.

A. Evaluation



Figure H-7.1 Residential/Commercial Diversion Rate

Figure H-7.1 presents the District's residential/commercial diversion rate over the past five years compared to the Ohio EPA's Goal 2, a 25% residential/commercial diversion rate. As shown above, the District's residential/diversion rate fell below the Ohio EPA's goal diversion rate in 2018 and has continued to fall yearly. Over the past five years, the average diversion rate was 22%. Historically, waste disposal has been increasing, which helps to explain why the diversion rate has decreased. Tons diverted have also been declining. The District diverted about 17% of residential/commercial material



Figure H-7.2 Disposal and Diversion Trends

Figure H-7.2 presents the historic amount of waste disposed, diverted, and generated over the past five years. The amount of material diverted over this time has been steadily decreasing except in 2018, when the diverted material increased by 3,000 tons. The District has experienced steeper decreases in 2020 and 2021 compared to other years. At the same time, diverted material has been decreasing, and material disposed of in landfills has been increasing. Historically, the only year where disposal tonnages decreased was 2021, down 9,000 tons from 2020. The declining diversion and increasing disposal contributed to the diversion rate of residential/commercial materials to 17% in 2021.

The District collects data from several sources to track diversion. A major factor in the diversion rate is the commercial survey data, which the District conducts a survey every year. In 2021, the diverted tonnage reported in the commercial survey accounted for 12% of the total diversion. Data sources higher than the commercial survey were data from other recycling facilities and the Ohio EPA commercial retail data at 40% and 26%, respectively. However, this has been decreasing over the past five years. The District struggles to get survey responses back, resulting in lower calculated totals, as shown in **Figure H-7.3**.



Figure H-7.3 Percent of Data from District Commercial Survey (2017 – 2021)

Source(s): Appendix E and Historic Data 2017 - 2020

As can be seen, the District received much more of its data from District commercial surveys in historical years. There have been steep decreases each year, save for 2020, when the District received 3% more data from commercial surveys than the previous year. The District received 51% of data from commercial surveys in 2017, steadily decreasing to 12% in 2021. While the change in tonnage may reflect a decrease in recycling activity in the

commercial sector, it is more likely reflective of the decline in response rates. The District has struggled to receive commercial survey responses, especially in the last three years. The largest hindrances to survey responses are high turnover and a lack of employees at many businesses that are historically repeat responders.



Figure H-7.4 Residential/Commercial Diversion per Material 2021

Figure H-7.4 presents the residential/commercial diversion by material for the District in the reference year. The top three materials diverted were corrugated cardboard (29%), wood (21%), and commingled recyclables (14%). See Appendix E for further information.



Figure H-7.5 Benchmark Residential/Commercial Diversion Rate

Source: Ohio EPA Waste Flow Data 2021 RPHF Calculated Diversion Rate from Appendix E

Figure H-7.5 compares the District's residential/commercial diversion rate with similar district's diversion rates. The compared districts are all similar in composition and population size. The District's diversion rate is below the average at 17% compared to the average of 23%.

The District compiled **Table H-7.1** to benchmark programs from Mahoning and Adams-Clermont Solid Waste Districts to look for similarities and/or identify best practices pushing them towards higher diversion.

Benchmark District Programs	RPHF	Mahoning	Adams- Clermont
Diversion Rate	17%	32%	35%
# Curbside Programs	4	11	14
# Drop-Off Programs	32	27	18
Yard Waste Curbside	2	9	4
PAYT Programs	No	Yes	No
Annual Commercial Survey	Yes	Yes	Yes

Table H-7.1 Benchmark District Programs

Source(s): Adams-Clermont 2018 Solid Waste Management Plan Update Mahoning 2018 Solid Waste Management Plan Update

> PAYT programs most likely financially motivate Mahoning County to recycle more and dispose of less. As of 2018, nine of the 11 curbside recycling have a PAYT trash program. Both compared districts also have numerous curbside recycling programs. According to their most recent solid waste management plan updates, Mahoning has 11 communities, and Adams-Clermont has 14 communities that offer curbside recycling.

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As previously mentioned, curbside recycling programs offer residents a convenient opportunity to recycle and typically recover more materials per capita than dropoff locations and other recycling methods. This appears to be the case in both districts, as both have fewer drop-off locations than the District but yield significantly higher diversion rates. Lastly, Mahoning and Adams-Clermont offer more curbside programs to collect leaves and brush. The convenience of services is a contributing factor to the higher diversion rates exhibited by both of these districts.

B. Conclusions/Findings

The District demonstrated compliance with Goal 1 in the 2018 plan; however, fell short of meeting the target waste reduction and recycling rate set by the Ohio EPA of 25%. The District reported a 23% diversion rate in the previous plan update and hoped the additional recycling programs would boost this to at least 25% in 2019. Despite adding another curbside recycling program since the last plan update, the District's diversion rate has decreased and currently sits at 17%. The lack of commercial responses and data is a major contributing factor to this.

The District can pursue opportunities to continue exploring effective ways to increase waste diversion. Expanding education and outreach is a strong step the District may take. Education on what is recyclable, what programs exist, and where to drop off recyclables will help increase diversion rate. The commercial sector is a significant generator contributing towards diversion. Better connections with the commercial sector to gather data and/or set up recycling programs will contribute towards higher diversion rates.

The District projects an increased diversion rate over the planning period. The District is actively making changes to and/or creating additional programs to foster education and data collection. The District was able to increase the diversion rate from 16.73% in 2021 to 21.32% in 2022 by collecting more data from commercial surveys.

8. Special Program Needs Analysis

Ohio Revised Code 3734.57(G) gives SWMDs the authority to fund many activities that are not related to achieving the goals of the state solid waste management plan. In addition, SWMDs fund other programs that the State Plan or law do not address. This analysis evaluates the performance and status of these activities and programs and the value to the SWMD. These programs under ORC Section 3734.57 include:

- Boards of Health, Solid Waste Enforcement
- Counties, Road/Facility Maintenance
- Boards of Health, Water Well Sampling
- Out-of-State Waste Inspection
- Enforcement of Anti-Littering

- Boards of Health, Training & Certification
- Cities and Townships, Road Maintenance, Public Services, etc.

A. Evaluation

Open Dump and Scrap Tire Cleanup

The District partners with Ohio EPA's "Consensual Scrap Tire Removal" program to clean-up tire dumps when problems persist. During the reference year there were no scrap tire cleanups needed. There were no funds spent on cleaning up illegal open and scrap tire dumps in 2021.

Other Enforcement and Clean-Up Activity

The District achieves its enforcement strategy through partnerships with local law enforcement. The District works with local law enforcement to assist with environmental compliance issues on an as-needed basis. There was no funding given to local law enforcement in the reference year.

In the reference year, the District had a couple of instances where law enforcement assisted in the identification and resolution of some illegal dumping issues at our bin sites. There are rarely any prosecutorial actions taken.

Health Department Funding

The District tries to bring the health departments together to strengthen hauler requirements and to assist with enforcement. There has been no activity in this program since it started in 2018. There were no funds spent on health department funding in the reference year.

B. Conclusion/ findings

The District has three special programs. There was little activity and no funds spent on either of these programs in the reference year. Illegal dumping has been a challenge the District faces in terms of scrap tire dumps and contamination at drop-off sites. The District does take measures to prevent these and/or clean up the dumps, but there is little activity with these programs annually.

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 receives revenues from generation fees and to a lesser extent a combination of "other" revenue streams that are not consistent year to year.

A. Revenue

Disposal Fee

The District does not have a disposal facility located within its boundaries. As such, the District does not have a disposal fee. There is no reason to expect the development of a District-sponsored disposal facility during the planning period.

Generation Fee

In accordance with ORC Section 3734.5, a solid waste management policy committee may levy fees on the generation of solid waste within the District. Levying a generation fee means any landfill or transfer facility receiving district waste, regardless of where in Ohio the waste is disposed, remits the generation fee. Historically, generation fees have provided 98% of the District's annual funding. The District has a generation fee of \$3.00 per ton.

Other Revenue

Grants

The District occasionally applies for Ohio EPA grants. In the last five years, the District received two grants - one in 2017 and one in 2018 totaling just over \$33,000.

Reimbursement

Reimbursement revenues are miscellaneous monies resulting from refunds and reimbursements. The District has consistently received reimbursements historically. Over the last five years, the District has received reimbursements every year, averaging roughly \$6,300 annually.

As shown in **Figure H-9.1** below, the District receives revenue mainly from generation fees. Historically, other sources such as grants and reimbursements contributed to the District's revenue. However, these only comprise a small percentage of the total revenue received.



Figure H-9.1 Historic Revenue Stream

B. Expenses

The District's generation fee funds solid waste recycling, reuse, and reduction programs as outlined in the solid waste management plan. **Figure H-9.2** presents the District's expense distribution in the reference year.



Figure H-9.2 Expense Distribution

Of the roughly \$644,000 spent by the District in the reference year, a majority of that went towards servicing the drop-off program. This program accounted for 55% of the District's expenses. Historically, the District has had issues with contamination at many of the drop-off sites. The hauler charges the District more when the drop-off sites are contaminated with non-recyclable material. Because of this, the District has removed many of the drop-off sites in recent years. The District's other major expenses are staff and personnel related.





Figure H-9.3 shows the District's historical expenditures. The District has fluctuated yearly with its expenses. There was a period of three years from 2018 to 2020 where the District reduced its expenditures. However, in 2021 the District's expenses jumped approximately 16% to nearly \$664,000. Over this historical period, the District's trend line shows a slight increase.

The District prepared **Table H-9.1** to compare expenses with other solid waste management districts of similar population sizes to the District. Normalizing the expenses per person, the District spent \$3.18 per person on its programs. This is in the middle of the five districts in the comparison. Warren County was the lowest at \$0.71 per person and Geauga – Trumbull was the highest at \$8.56 per person.

District	Population	Expenses	Per Capita Expenses	
Geauga -Trumbull	297,374	\$2,546,031	\$8.56	
SE Ohio	225,563	\$1,226,707	\$5.44	
RPHF	208,484	\$663,972	\$3.18	
Adams - Clermont	233,609	\$620,722	\$2.66	
Warren	246,553	\$175,938	\$0.71	

Table H-9.1 SWMD Comparison of Expenses

Source(s):

Ohio EPÁ SWMD Disposal, Recycling, and Generation Report

Ohio EPA SWMD Fee Summary Report

SE Ohio is a joint district comprised of Muskingum, Guernsey, Morgan, Noble, Monroe, and Washington Counties

The average per capita expense of the five Districts is \$4.11. The District lies below the average. Geauga – Trumbull has over \$3.00 more spent per capita than the next highest district. They also have over two times the expenses as the next highest. The reason behind this is that the Geauga – Trumbull district has a transfer facility with Trumbull County. The Geauga-Trumbull district contracts with this facility, spending roughly \$1,050,000 on this alone. The Geauga-Trumbull district also services 41 drop-off locations, costing nearly \$560,000 dollars in 2021. Finally, this district spends about \$204,000 on hard-to-recycle material collection such as electronics, HHW, and scrap tires. The \$5.50 generation fee for designated facilities offsets these expenses.

C. Carry Over Balance

Figure H-9.4 below shows the projected revenue, expenses, and annual surplus for the first five years of the planning period. Financial modeling projects the District will begin decreasing its balance in 2026 as expenses rise above revenue. In 2027, the District's expenses will be \$65,000 more than its revenue. However, in 2028 the District could bring in \$123,000 more in revenue than expenses.

After meeting with the policy committee to discuss various budget projections, it was decided that the District move away from Goal 1, recycling access, and instead transition into achieving Goal 2, 25% residential/commercial diversion rate. The District's drop-off expenses have become too large for the District to manage if other programs are still to be kept. Rising fuel costs, inflation, and high contamination rates are all factors that contribute to the large expenses for the drop-off program.

As such, the District would like to move towards centralized "mega sites" such as the Fayette County Recycling Center. The District will place these sites areas with high recycling demand and will substitute the 30+ recycling drop-offs currently in use. The District plans to have one in each of the four counties comprising it. This method for drop-offs would not reach the minimum 80% access rate for Goal 1 and would require the District to achieve a 25% diversion rate in its residential/commercial sector. See Appendix J for the full analysis of this approach.

In creating three additional "mega sites" by 2028, the District anticipates a savings of roughly \$160,000, resulting in the annual surplus seen in 2028 and 2029.





Source(s) Appendix O

Figure H-9.5 below details the projected balance throughout the planning period.



Figure H-9.5 Projected Budget

As discussed, the District anticipates reducing the costs of the drop-off program with the removal of many drop-off sites in favor of larger, less contaminated "mega sites" and transitioning into achieving Goal 2 instead of Goal 1. The District will start incurring savings in 2028 that last throughout the planning period. The District anticipates three one-time charges of \$50,000 in 2025, 2026, and 2027 to get the sites operational. Under this scenario, the District will not need to raise the generation fee.

D. Conclusions/Findings

Drop-off program operating costs are the District's number one expense, accounting for roughly 55% of the annual budget. Despite the time and money that the District spends on the program, the District is not achieving the Ohio EPA goals and contractor costs are expected to increase due to high contamination, illegal dumping, rising fuel costs, and inflation. As explored previously, the drop-off locations face high contamination and illegal dumping, resulting in the program underperforming in terms of its recycling numbers.

The District feels it could use the time and money better elsewhere and will move away from achieving Goal 1 in favor of Goal 2. To do this, increased emphasis will be put on retrieving accurate recycling totals throughout the programs offered in the District. With the removal of many of the currently operational drop-offs, the District anticipates large savings in expenses. The District projects the fund balance to increase through 2032 before rising costs and inflation begin to drop the District's fund minimally through 2039.

10. Regional Analysis

A. Evaluation

Waste Impacts

The transportation and management of waste is not confined to one location or geographic area. Instead, waste can flow along multiple channels or streams based on what is the most economically beneficial. Factors such as economic pressures, presence of facilities, distanced needed to travel, road infrastructure, and contracts between haulers and processors are all drivers behind where solid waste flows.

District waste migrated to four landfills and eight transfer stations within a 75mile radius. The District does not have any landfills within its boundaries but does have four transfer stations. Approximately 60% of District waste is direct hauled to landfills and the remainder is consolidated ate transfer stations. A majority (60%) of the direct-hauled waste ends up at the Pike Sanitation Landfill, located in Pike County directly south of the District. Other notable percentages include 14% of direct-hauled waste taken to Rumpke Waste's Brown County Landfill in Brown County and 8% delivered to Rumpke Waste's Beech Hollow Landfill in Jackson County. Both of which directly border the District.

Two out-of-state landfills received District direct hauled waste in the reference year, Marysville Mason County Landfill and the Boyd County Landfill. Both of these facilities are located in Kentucky and combined accounted for 1% of total direct-hauled waste.

Waste haulers primarily transported District waste to in-District transfer stations; they delivered 94% of all waste to the following four facilities:

- 29% taken to the Rumpke Waste Circleville Transfer Facility in Pickaway County.
- 28% taken to the Waste Management Chillicothe Transfer Facility in Ross County.
- 20% taken to the Rumpke Waste Chillicothe Recycling and transfer Facility in Ross County.
- 18% taken to the Fayette County Transfer Station in Fayette County.



Figure H-10.1 Regional Transfer and Disposal Facilities Used

Diversion Impacts

The recycling industry differs from landfill businesses. Local economic climates play an important role in determining where recycled materials end up. When recyclable materials leave resident households, commercial businesses, or industrial businesses, it becomes a material used to create other material goods. This process varies depending on the type of material, its unique characteristics, and market demand.

Four MRFs received District residential recyclables in the reference year. Two are located within a 75-mile radius and one of these is located inside the District. The District used one scrap tire facility and four compost facilities in the reference year. As discussed in earlier sections, all four compost facilities were Class IV.

Class IV facilities can only accept yard waste such as leaves and brush whereas class II facilities can accept food, manure, yard waste, and containers to be composted. The District does have two Class II facilities, the Pickaway Correctional Institute and Out-of-the-Ashes Vermicast that is a private business. While organics diversion facilities are within a reasonable distance, there is a lack of collection infrastructure to transport it to the processing facilities. Collection of organic waste is integral to any composting system and economics is generally more than twice the processing cost on a per ton basis.

Figure H-10.2 Regional Recovery Facilities Used



B. Conclusions/Findings

The region has adequate capacity and infrastructure for managing waste and processing recyclables. However, there are noticeable collection gaps in the diversion infrastructure. As one of the more rural solid waste management districts in the region, the District may lack the advantage for recycling contracts and hauling that larger/more densely districts have. Organics collection economics is often prohibitive for expanding diversion of organic materials. The District could look to focus on additional reduction strategies for managing this waste stream.

11. Data Collection Analysis

The State of Ohio classifies solid waste by three generator sectors: residential, commercial, and industrial. Solid waste districts are required to quantify the amount of solid waste that all generators reduce, recycle, compost, incinerate, and dispose in order to establish a baseline and to demonstrate achieving Ohio's landfill diversion goals. 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 District is to divert materials from landfills, therefore data collection is important to measure results. Below describes the data collection process from beginning to end for each type of generator.

The District was not able to demonstrate achieving Goal #2 of the State Plan, which requires a waste reduction and recycling rate of at least 25% for residential/commercial waste. However, it was able to demonstrate a recycling rate of at least 66% for industrial waste (even though the 66% goal is no longer a target in the 2020 State Plan). In the reference year, the District's residential/commercial sector achieved a waste reduction and recycling rate of 17% and the industrial sector achieved a 70% recycling rate.

The District devotes staff time to overseeing the data collection efforts as well as hiring a consultant to advise the District.

Residential

The District gathers data from its residential sector through a variety of sources and programs. Communities report residential recycling tonnages and include data from any curbside or drop-off recycling, yard waste collection, and any special collection programs like electronics, household hazardous waste, or scrap tires.

The data reported from curbside and drop-off recycling programs is possible to be double counted or miscounted. In order to mitigate this, the District cross references data referenced to community reported tonnages from haulers who operate in the area. If there are any inconsistencies identified, the community and hauler will investigate it. The haulers aggregate the total material collected from collection services because they combine routes over multiple jurisdictions for efficiency. Therefore, the data is an estimate.

Lastly, the data resulting from programs that the District sponsors, such as scrap tire collection, are included in the residential recycling totals. This data comes from the various organizations or contractors who operate these programs.

Commercial/Institutional

The District directly gathers data from commercial/institutional, establishments and from the Ohio EPA annual published data. The District sends surveys through mail and email to registered businesses in the four counties. The list of participants is updated annually based on commercial survey responses. The District annually conducts commercial/institutional surveys; and provides multiple options to receive the survey and send it back. There is a hard copy, which the District can mail to respondents and there is an electronic version of the survey, which is available to previous and repeated respondents. Survey recipients have the option to submit their response online, mail, e-mail, or fax. The District spends considerable time, effort, and money to survey the commercial entities with low response rates. To streamline this process, the District places priority on obtaining responses from the largest businesses first and past responders second.

The more responses the District receives, the more accurate the numbers will be to the actual recycling numbers. This allows the District to improve data analysis, track its progress towards attaining certain goals, and progress strategies for recovering and managing waste. Historically, the District has spent considerable time and resources tracking down data and encouraging participation. Allowing participants to respond online has made the process easier and more time efficient. Having a central online platform that the District uses every year also gives survey recipients access to the previous year's data, allowing them to see progress or address internal issues themselves. **Table H-11.1** shows response rates from the last five surveys.





The District gathers data for a calendar year in the subsequent year, meaning the data collection is delayed from the data recording from companies and institutions. For example, the District received data from 2017 in 2018. The District had strong response rates for calendar years 2017 and 2018, both being above 60%. However, the calendar years 2019 and 2020 data dropped significantly. The reason for this decline likely was the COVID-19 pandemic. In these years, many of the establishments in the District sheltered in place or experienced employee turnover. The District had a difficult time getting businesses to respond in those two years. The District had an increased response rate in 2021 as more and more businesses and institutions recovered from the pandemic and the restrictions associated with it. However, the District continued to struggle to reach many establishments and the response rate was significantly less than in 2017 and 2018.

The District sent an average of 62 surveys to commercial businesses annually over the past five years.

Industrial

The District gathers data in a similar manner as it does for commercial/institutional by surveying the industrial sector businesses. The District uses the same Ohio EPA reports as the commercial/institutional sector listed above and the identical survey procedure for the industrial sector. The District sent surveys to operating industrial businesses and employers and contacted recipients by phone and/or email. **Figure H-11.2** presents the historical response rate.



Figure H-11.2 Industrial Survey Responses

Similar to the commercial/institutional surveys detailed above, the District had strong response rates in calendar years 2017 and 2018. The COVID-19 pandemic also affected the industrial sector businesses in a similar way it did the commercial sector, causing a significant drop in response rates in 2019. The District has continued to struggle to reach this sector in 2020 and 2021 with the response rates falling each year. The District sent out an average of 40 surveys annually from 2017-2021.



Figure H-11.3 details the success rate of responses for both the commercial/institutional and industrial surveys described above. The District will continue to put resources into the surveying process. This process brings valuable data that is used for tracking progress towards state goals and helps determine how well the District is diverting waste. The more responses and accurate data the District receive from the annual surveys, the better the information available becomes.

In order to understand the different methodologies for collecting commercial recycling data, the District researched and benchmarked the Solid Waste Authority of Central Ohio's (SWACO) methods to collect data.

SWACO is the solid waste authority for Franklin County, sharing the northern border of one of the District's four counties, Pickaway. SWACO uses a different approach to gathering commercial data than most districts in Ohio. Instead of surveying commercial businesses directly, a majority of the surveying effort focuses on brokers and haulers who service the area, with a few large businesses as well. Using this approach has helped SWACO exceed Goal 2, a 25% diversion rate, each of the last five years.

Year	2017	2018	2019	2020	2021
SWACO Diversion Rate	46%	45%	46%	45%	44%
RPHF Diversion Rate	25%	24%	24%	19%	10%

Source: Annual District Reports 2017 – 2021

Despite the District experiencing many challenges in data collection as a result of COVID-19 which led to a 9% diversion rate decrease in 2021, SWACO was able to maintain historic levels. By focusing more on haulers and brokers, SWACO is able to consistently derive reliable data on recycling activities in Franklin County. All brokers and haulers are required to keep track of the number of materials that come in and out of their business. This helps SWACO document, compare, and adjust for double counting if necessary.

While not the only factor contributing to SWACO's consistent success of demonstrating Goal 2, bypassing many of the commercial businesses in Franklin County to focus on surveying the brokers and haulers is a key factor in its success.

Planned Improvements

Overall, data collection is vital to measuring waste reduction and recycling rate. The District's limited data collection has prevented their ability to achieve Ohio EPA's Goal 2 of the State Plan. The District has found it difficult to receive survey responses over the last few years and has not been successful in reaching the same number of businesses as historically. The following are changes to increase data collection for all sectors . If the District still is not receiving the desired level of responses from the commercial sector in the third year of the planning period (2028), the District will explore adopting SWACO's methodology of bypassing most of the commercial businesses and surveying haulers and brokers directly.

Methods to increase data collection:

- Acquire an updated and accurate list of current businesses within the District.
 - Update the list of businesses annually.
 - Maintain a list of contacts at each business who responded.
- Create an outreach schedule and follow up with businesses after surveys have been sent out.
- Conduct phone calls and send emails to businesses to acquire data, prioritizing those who did not respond to the initial survey mail outs.
- Prioritize responses from large businesses and respondents from past years.

Methods to improve data management:

- Create a data collection workbook that tracks data from the current year and records data from previous years to allow a multi-year comparison of results.
 - Include the number of surveys mailed and record the number of surveys received.
 - Include data from the Ohio EPA reports and waste collection events within this workbook to keep all data in one place.

12. Education/Outreach Analysis

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. The 2020 State Plan maintained this education/outreach objective.

The following analysis evaluates the District'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.

A. Minimum Education Requirements - Evaluation

In accordance with Goal 3 of the 2020 State Plan, each district is required to provide four minimum education programs: website, resource guide, infrastructure inventory and speaker/presenter.

<u>Website</u>

The District maintains a website at <u>http://rphfsolidwastedistrict.com/index.html</u>. This is a website entirely focused on the RPHF Solid Waste Management District. The District follows best practices for a website with clear and concise information with helpful links and/or contact information. The website divides the District's services into four tabs, one for each county that makes up the District.

The website is a resource that provides much of the information that residents and educational institutions would seek. The homepage is key to user navigation and that the District can update regularly to reflect recycling services, seasonal program info, and opportunities. The webpage provides an inventory of the infrastructure, drop-off collection locations, information about tire collection events and available education and outreach opportunities.

Comprehensive Resource Guide

The District's webpage includes information for businesses and households to find outlets for recycling materials. The website is a resource guide for District managed outlets and services. Additionally, the District has a list of resources and links to outside information as well as contacts and facilities.

Infrastructure Inventory

The inventory of solid waste management infrastructure is located in the District's plan update that it updates every five years. Additionally, the District list drop-off recycling locations on the website. The District does not have a link to their most recent plan update on the website. This is an opportunity for the District to explore going forward, it would be a helpful addition to the website for residents, especially for hard to manage materials.

Speaker and Presentations

The District maintains one outreach specialist for each county in the District. Their role is to coordinate best practices sharing, education tours, presentations, and programs to educate the public about recycling and reducing their waste.

B. Goal 4 Outreach and Education - Evaluation

In accordance with Goal 4 of the State Plan, the District is required to provide education, outreach, marketing, and technical assistance to identified target audiences.

All types of behavior change initiatives, even mass-media based campaigns, can successfully employ the tools of social marketing, which include social norms, goals/commitments, feedback, prompts, and one-on-one interactions.

The District uses many forms of outreach and education to teach and inform residents and businesses how to properly manage and divert waste. These programs are crucial for measuring and ensuring recycling programs are effective. Inadequate outreach and education will lead to improper use, or lack thereof, of District funded programs and initiatives designed to reduce waste. The District's primary source of educational material is the website.

<u>Target audience – Residential Sector</u>

The District has several programs targeted toward this audience sector and deploys various outreach strategies and marketing collateral. The website focuses on helping residents recycle. The website has an easy, user-friendly layout that includes helpful links, FAQs, and contact information. This creates a valuable educational tool the District will continue to use.

- Yard Waste: The District currently relies on cooperating agencies to distribute existing brochures and flyers on backyard composting and yard waste management. The outreach specialists speak about and create educational material for the residents on proper disposal of their yard waste.
- 2) HHW: The District has a dedicated page on their website for HHW along with a resource page on the website as well.
- 3) General: The District uses the website and social media as a platform to provide information about landfill diversion opportunities and or give information about businesses accepting recycled material. The website is updated regularly. The District also posts to social media weekly about educational topics, questions, and events. The District's Facebook page currently has 626 followers. The District has been working with other counties to get ideas from some of their messaging and videos and will be creating a YouTube channel in hopes of getting more information out to residents. The District outreach specialists also put together an electronic newsletter that is distributed and posted online.

Current education for this target audience provides a general awareness of the various types of services in the District. Engagement of this sector heavily relies on the District's website and social media presence. In-person engagements are

educational and designed to promote best practices in managing waste for residents and to inform residents of common misconceptions, mistakes, and solutions. As described above, the District participates in educational activities through their education specialists.

The District experiences a few gaps in the residential sector programs. Mainly, there are no educational/ behavior changing programs targeted at scrap tire diversion, accepted materials at drop-offs, or curbside recycling. These are three areas the District reports seeing contamination and/or illegal dumping. The District does have resources on their website to address these issues; however, additional programming and information specifically focused on these topics may yield better results and higher diversion rates.

While the District does offer support for this sector, the challenge faced by the District is changing the culture to place recovery and recycling above the costs of service. The District has attempted to reach out to multiple municipalities about the addition of a curbside service for residents, but the costs to implement such programs have been a large hurdle for this sector.

Target Audience: Commercial sector

Commercial sector entities are defined as commercial businesses, multifamily facilities, schools and universities, government agencies, office buildings, stadiums, amusement parks, event venues (stadiums, concert halls), hospitals and non-profit organizations that receive dumpster or compactor service for garbage.

Areas, where the District has gaps include reaching the businesses and schools. The District could work with outreach partners, such as the Chamber of Commerce and recycling educators, to identify companies and institutions that could environmentally and possibly financially benefit from initiating a diversion program. Survey responses would be an effective way for the District to analyze data to help these businesses, institutions, and industries.

The District could also offer recycling grants for businesses of varying sizes to start recycling initiatives. The District could make completing business surveys a prerequisite to be eligible for grant funds. This method could help the business establish recycling programs and build relationships with the District. The emphasis on this target audience is the completion of the business surveys.

Target Audience: Industrial Sector

The emphasis on this target audience is the completion of the industrial surveys. To meet the State Plan Goals, the District needs to provide three programs to this audience.

The District's goal is to target four businesses annually to provide technical assistance. The District offers waste assessments, contract assistance, education, and in-person meetings as technical assistance. In 2021, the District did not host

any meetings. However, if a business or industry calls for assistance, the District can meet with them one on one and help or guide them in their recycling endeavors.

Target Audience: Schools

The District's goal is to target at least one school each year to provide technical assistance to help implement a recycling program. COVID-19 guideline changes allowed the District to return to schools in 2021 slowly. The District hosted another billboard contest and was even able to do our very first sidewalk chalk challenge. The District collaborates with schools to host an Environmental Education Camp in the summer. The District's website has an education tab that allows schools to contact the outreach coordinators and set up presentations or other educational experiences for students.

Target Audience: Elected Officials

The District facilitates discussions and engagements with political jurisdiction stakeholders to encourage curbside recycling. A target of reaching two jurisdictions per year through in-person meetings is set. There was no activity in this sector for the last few years. The District will work to increase support for landfill diversion among elected officials.

13. Recyclable Material Processing Capacity Analysis

This analysis aims to evaluate the existing capacity for processing recovered materials. The analysis evaluates MRFs in the District and surrounding areas. As previously presented, a MRF is a specialized facility that receives, separates, and prepares recyclable materials for marketing to end-user manufacturers.

The District does not own or operate a MRF; therefore, materials collected through the District's drop-off and other collection programs are sent to private MRFs. **Table H-13.1** identifies the MRFs used by the District in 2021 and those MRFs within the larger regional area.

Used By District	Facility Name	County	Type of Ownership	Material Streams	Distance from District Office
Yes	Rumpke Recycling - Dayton	Montgomery	Private	Single-stream, Multi-stream, Bluebags	77 Miles
Yes	Rumpke - Chillicothe	Ross	Private	NA	22 Miles

Table H-13.1 Regional MRFs and Processing Capacity
Used By District	Facility Name	County	Type of Ownership	Material Streams	Distance from District Office
Vac	Rumpke Waste Recycling -	Franklin	Private	Single stream	32 Miles
	Rumpke Center City				
Yes	Recycling	Hamilton	Private	Single stream	102 Miles
	-		Regional MRFs		
No	Adams Brown Recycling Center	Brown	Public	Multi-stream	80 Miles
No	Waste Management - Columbus	Franklin	Private	Multi-stream	21 Miles
No	Waste Management - Dayton	Montgomery	Private	Single stream	70 Miles
No	Logan County Recycling Center	Logan	Public	Single stream	80 Miles
No	Auglaize Recycling Center	Auglaize	Public	Multi-stream	124 Miles

Rumpke owns all of the MRFs the District used in 2021. Only one of these is located inside the District. Because Rumpke owns and operates all four MRFS, they accept the same materials. The materials accepted are mixed paper, cardboard, glass bottles and jars, plastic bottles, plastic tubs and jugs, metal cans, and cartons. Two of the MRFs accept commingled, single-stream recyclables, while one, in Dayton, accepts materials in single-stream, multi-stream, and blue bags. While these MRFs appear to have ample processing capacity if the District were to expand recycling programs, the main challenge is the distance from most of these facilities and transportation costs.

Of the MRFs available regionally, one is within 21 miles, and the rest are 70 miles or farther away from the District. The lack of closer processors could create challenges with high cost of transportation and limits competition and resiliency in the system. Consolidation of material and transportation would still be hurdles to overcome.

APPENDIX I

CONCLUSIONS, PRIORITIES, AND PROGRAM DESCRIPTIONS

APPENDIX I Conclusions, Priorities, and Program Descriptions

The District developed its 2018 Plan to meet the State of Ohio's 2009 State Plan goals. To fulfill the directives in Ohio Revised Code Section 3734.50, the SWMD's Plan must demonstrate strategies and programs in place to address all of the required goals. This 2024 Plan is prepared to comply with the State of Ohio 2020 State Plan. In accordance with the 2020 State Plan, a SWMD must prepare a solid waste management plan that ensures the SWMD makes progress toward achieving the following ten goals:

Goal #1
 The SWMD shall ensure that there is adequate infrastructure to give residents and commercial businesses opportunities to recycle solid waste.
Goal #2
 The SWMD shall reduce and recycle at least 25% of the solid waste generated by the residential/commercial sector.
Goal #3
•The SWMD shall provide the following required programs: a website; a comprehensive resource guide; an inventory of available infrastructure; and a speaker or presenter.
Goal #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.
Goal #5
 The SWMD shall incorporate a strategic initiative for the industrial sector into its solid waste management plan.
Goal #6
 The SWMD shall provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.
Goal #7
 The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.
Goal #8
•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.
Goal #9
 The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.
Goal #10
 The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

Appendix J shows the District's progress to meeting Goal 1 of the 2020 State Plan. To obtain approval from Ohio EPA for the solid waste management plan, the District must demonstrate achieving either Goal 1 or 2. The District does not meet Goal 1 by demonstrating over 90% of the population has access to recycling infrastructure. The District provided access to 50% of residents in the reference year. The District reduced the number of drop-off sites due to contamination and location obstacles.

This appendix describes the accomplishments of the strategies/programs and their future direction for the 2024 Plan.

A. Actions and Priorities

1. Actions

Appendix H evaluates the District's performance of strategies/programs in offering and maintaining services as outlined in the 2018 Plan. The process of evaluation determines whether the performance observed was expected or desired. If these strategies did not perform as desired, the District and stakeholders suggested strengthening programs to improve effectiveness.

The areas of improvement do not commit the District to undertake every specific action. Making decisions about the District's programs offered during the planning period required valuable input and analyses depicted in Appendix H. The policy committee used the program evaluations detailed in Appendix H to recommend action items. These conclusions represent what the District learned about its structure, abilities, strengths and weaknesses, operations, existing programs, unique needs, and available resources. See Appendix H for actions that the District could implement.

2. Priorities

The District diverted 17% from residential/commercial generators in 2021; from 2017 to 2020, it historically averaged 22% diversion. This Plan Update analyzed which materials are landfill disposed by applying national waste composition data. From the analysis, the District estimated a diversion capture rate of about 43% for paper (including cardboard) and 13% for organics. Not calculated is the diversion capture rate for plastics. Still, the District believes that the plastics capture rate is low due to accepting only plastic bottles and jugs and the inconsistency of plastic collection.

The District's priority for this planning period is to move away from achieving Goal 1, recycling access, towards achieving Goal 2, a residential/commercial diversion rate of 25%. The District's drop-off program is costly to operate. It will not be economically sustainable to continue at the level required to meet an 80% access rate. As such, the District will work with additional municipalities to offer curbside recycling and enhance commercial sector data collection, as previously discussed.

One area to help increase capture rates of materials is alignment and focus on education and outreach. Education and outreach would allow the District to better promote and encourage program participation. As part of this education and outreach, the District will announce the annual recycling survey to all commercial entities and residents.

The District identified areas to modify or enhance the programs to maintain effectiveness and growth. The priority areas to focus future efforts for the 2025 plan are as follows:

Priority Program	Priority Area
Environmental Education	Teaching residents the importance of recycling, how to recycle right, and where to recycle so they share their knowledge with others in their community.
Promote Curbside Recycling	Meeting with elected officials to discuss curbside recycling. Both Washington Courthouse and Circleville are targets.
Drop-off Program	 Work with the service provider to obtain better diversion tonnage metrics. Add two more mega-sites in two other counties. This will require siting and capital improvements for developing the site. Education will also be needed for the households and elected officials. Add commercial service opportunity for the mega-sites.
Survey	Annual recycling surveys to all commercial
Commercial/Institutional	businesses with increased time and effort in
Businesses	collecting the data from this sector.

B. Programs

Residential Recycling Infrastructure

Curbside Recycling Services

Non-Subscription Curbside Recycling

ID	Name	Start Date	End Date	Goal(s)
NSC-1	Ashville	Ongoing	Ongoing	1 and 2

The Village of Ashville participates in a consortium organized by the neighboring solid waste district Solid Waste Authority of Central Ohio (SWACO). The consortium is a contracting mechanism that increases negotiating power when procuring solid waste,

recycling, and yard waste collection services. A law firm specializing in developing and implementing solid waste consortiums advises SWACO.

The Village of Ashville has been seeking the best pricing and services for recycling and refuse since August 21, 1989, with the passage of Ordinance 1989-14, which permitted franchise agreements. In 2014, SWACO invited the Village of Ashville to join Consortium 2 and secure services for refuse and recycling. In 2018, the Village joined Consortium 3, and in December 2021 joined the 2021 Consortium 4. The 2021 Consortium expires in 2026.

Household service is automatic with a 65-gallon recycling container. Commercial businesses must arrange recycling with the hauler.

As shown in **Figure I-1**, historically diversion is increasing annually.



Figure I-1 Ashville Curbside Diversion

Target for Next 5 Years: The District expects the Village of Ashville's curbside program will continue.

ID	Name	Start Date	End Date	Goal(s)
NSC-2	South Bloomfield	Ongoing	Ongoing	1 and 2

Beginning in 2013, South Bloomfield utilizes Rumpke as its exclusive trash and recycling service provider. Curbside is collected bi-weekly in a single stream. Accepted materials include cardboard, plastic bottles/jugs/tubs, metal cans, glass jars/bottles, and cartons. Rumpke collected these materials in wheeled carts; no volume-based billing is associated with the program.

The Village did not share diversion tonnages and has no metrics for program performance in 2021. However, with increased outreach in 2022, the District was able to receive collection numbers. This program reported collecting 1,044 tons of recycling in 2022. The

District believes this number may be inflated based on historical reports from this community.

Target for Next 5 Years: The District expects the Village of South Bloomfield's curbside program will continue. The service provider, Rumpke, expanded their material list by adding cups to the curbside program in February 2022. The District will work with the Village to develop a requirement for the service provider to report diversion tonnages. Diversion tonnage data is needed for the District to demonstrate the 25% diversion goal in this 2025 Plan.

ID	Name	Start Date	End Date	Goal(s)
NSC-3	Commercial Point	2021	Ongoing	1 and 2

The Village of Commercial Point added curbside recycling in 2020. The program's first full year was in place in 2021, and 639 households participated in service.

The Village and the District have actively helped residents recycle. Rumpke collects recycling from households weekly. Accepted materials include cardboard, plastic bottles/jugs/tubs, metal cans, glass jars/bottles, cups, and cartons. Rumpke collects recyclables in wheeled carts; with no associated volume-based billing.

The Village did not share diversion tonnages and has no metrics for program performance in 2021. However, with increased outreach in 2022, the District was able to receive collection numbers. This program collected 175 tons of recyclable material in 2022.

Target for Next 5 Years: The District expects the Village of Commercial Point's curbside program will continue. The District will work with the village to develop a requirement for the service provider to report diversion tonnages. Diversion tonnage data is needed for the District to demonstrate the 25% diversion goal in this 2025 Plan.

ID	Name	Start Date	End Date	Goal(s)
NSC-4	Chillicothe	2017	Ongoing	1 and 2

Source: 2021 RPHF ADR

In 2017, the District helped the City of Chillicothe request start-up funds from Ohio EPA and awarded the District's Mini-Grant for a curbside recycling program. The City was awarded a community development grant to purchase 95-gallon carts and a truck. The city's sanitation department services the program. The program kicked off in September 2018. Accepted materials include cardboard, plastic bottles/jugs/tubs, metal cans, glass

jars/bottles, and cartons. No volume-based billing is associated with the program, and materials are collected bi-weekly.

The District knows the City of Chillicothe's curbside recycling program has been a major success since its creation; however, it has its challenges. Operationally, the rising fuel costs and declining staffing are forcing the city to evaluate the program. The city is already operating bi-weekly when the intent was weekly. CDL drivers in the 2022 and 2023 economy continue to report shortages which is a problem. The District is providing technical assistance to find ways to keep this program operational.

As shown in Figure I-2, in 2019, the first full year of implementation, diversion increased over 800 tons and has been holding relatively flat.



Figure I-2 Chillicothe Curbside Diversion

Table I-1 Non-Subscription Recycling Totals (all programs)

Year	Tons Recycled	Households Participating	Number of Programs
2017	230	1,995	2
2018	585	9,293	3
2019	1,089	9,293	3
2020	1,091	9,342	3
2021	1,360	10,918	4

The recycled tons increased every year over the last five years. The number of households participating has also shown consistent growth over the past five years, most notably in 2018, with the addition of the Chillicothe program.

Target for Next 5 Years: The District expects Chillicothe curbside program will continue. The District will work with the City on best practice education to encourage greater participation in the program. The District will also provide technical assistance with any operational assistance the City may need.

Technical assistance the District will provide includes one-on-one phone call outreach to elected officials, city managers, and other community leader stakeholders to work with on how best to disseminate information in Chillicothe. The next step will be to develop an awareness campaign targeted at city residents. The District will explore utilizing local media such as tv, radio, or newspaper ads, as well as developing mailable post cards to send to single family homes. The District will also promote this program on its website and social media to raise awareness. Online social media promotion will include the benefits of curbside recycling, the importance to the District, and the fact that it is a social norm throughout the State in similar sized communities.

The District will also explore developing a brief online survey for residents to complete with the goal of understanding the barriers to resident recycling, awareness of the program, and importance placed on it. Hearing from residents firsthand through the survey may yield important information not yet known to the District and city.

ID	Name	Start Date	End Date	Goal(s)				
Full-Time L	Full-Time Urban Drop-Offs							
	Ross County							
FTU11	Chillicothe, Rumpke Recycling	Ongoing	Ongoing	1 and 2				
FTU12	Chillicothe, Yoctangee Park	Ongoing	Ongoing	1 and 2				
	Huntington Township, Huntington Schools							
FTU13	softball field	Ongoing	Ongoing	1 and 2				
	Pickaway Cour	nty						
	Scioto Township, Teays Valley West Middle							
FTU14	School	Ongoing	Ongoing	1 and 2				
FTU7	Circleville, PICCA	Ongoing	Ongoing	1 and 2				
FTU8	Circleville, Pickaway Service Center	Ongoing	Ongoing	1 and 2				
FTU9	Circleville, Rhoads Farm Market	Ongoing	Ongoing	1 and 2				
FTU10	Circleville, SNAP Fitness	Ongoing	Ongoing	1 and 2				
	Highland Cour	ity						
FTU2	Hillsboro, BMV Office Parking Lot	Ongoing	Ongoing	1 and 2				
FTU3	Hillsboro, Hillsboro Board of Education	Ongoing	Ongoing	1 and 2				
FTU4	Hillsboro, Sunoco	Ongoing	Ongoing	1 and 2				
FTU5	Second St. Greenfield, OH	Ongoing	Ongoing	1 and 2				
FTU6	Greenfield-McClain Schools	Ongoing	Ongoing	1 and 2				
Favette County								

Full-Time Drop-offs

ID	Name	Start Date	End Date	Goal(s)				
	Washington Courthouse, Fayette County							
FTU1	Transfer Station	Ongoing	Ongoing	1 and 2				
Full-Time F	Rural Drop-Offs							
	Ross County							
FTR9	Colerain Township, Adelphi, Village Office	Ongoing	Ongoing	1 and 2				
FTR10	Deerfield Township, Clarksburg, Parking Lot	Ongoing	Ongoing	1 and 2				
FTR11	Jefferson Township, Richmond Dale	Ongoing	Ongoing	1 and 2				
FTR12	Paxton Township, Bainbridge Fire Department	Ongoing	Ongoing	1 and 2				
FTR13	Twin Township, Bourneville, Fire Department	Ongoing	Ongoing	1 and 2				
	Green Township, Zane Trace High School Bus							
FTR14	Garage	Ongoing	Ongoing	1 and 2				
FTR17	Scioto Township, Coppel Athletic Complex	Ongoing	Ongoing	1 and 2				
FTR18	Scioto Township, Adena Road	Ongoing	Ongoing	1 and 2				
	Pickaway Coun	ity	1					
	Monroe Township, Mt. Sterling, Deercreek							
FTR6	State Park	Ongoing	Ongoing	1 and 2				
FTR7	Perry Township, New Holland, Fire Station	Ongoing	Ongoing	1 and 2				
FTDO	Washington Township, Ohio Christian		0	4				
FIR8	University	Ungoing	Ungoing	1 and 2				
FTR16	School	Ongoing	Ongoing	1 and 2				
111110	Salt Creek Township, Kingston, Salt Creek	Oligonig	Oligonig					
FTR19	Intermediate School	Ongoing	2022	1 and 2				
	Highland Coun	ty						
FTR2	Dodson Township, Lynchburg, Terry's Grocery	Ongoing	Ongoing	1 and 2				
FTR3	Leesburg	Ongoing	Ongoing	1 and 2				
FTR4	Paint Township, Paint Township Building	Ongoing	Ongoing	1 and 2				
FTR5	Village of Lynchburg, Main Street rt 134	Ongoing	Ongoing	1 and 2				
FTR15	Rocky Fork State Park, Hillsboro	Ongoing	Ongoing	1 and 2				
	Fayette Count	cy c						
	Jasper Township, Milledgeville, Community							
FTR1	Center	Ongoing	Ongoing	1 and 2				

Source: 2021 RPHF ADR

The District contracts with a private service provider to collect from single-stream recycling drop-off containers. Containers are available 24/7 and accept cardboard, plastic bottles/jugs/tubs, metal cans, glass jars/bottles, and cartons. The number of containers and service frequency varies based on location. Most locations have 8-cubic yard containers, and fewer locations have a 30-cubic yard roll-off container. Drop-off site locations are subject to change at any time for unforeseen reasons or to maintain performance and access rates.

In 2017, the District coordinated 47 full-time drop-off sites. In 2021 that lowered to 39 sites due to contamination and dumping. In 2020 the District closed three sites; reducing the total number to 36. These issues, paired with program changes, resulted in the District maintaining 32 sites in 2023 as opposed to the 47 from 2017.

Overall, the District experienced issues with contamination at the full-time locations, much of which is deliberate abuse, across the four counties. While contamination is present in all counties, Ross and Pickaway Counties seem to have the biggest issues. The District has used various methods to improve these problems, such as on-site education, best practice flyers, and security camera installation. Even with these program approaches improvement is marginal. Plus, the efforts are requiring considerable staff time where efforts could be focused on other programming. It's impossible to monitor all full-time urban sites and implement other programming.

Ross County:

The City of Chillicothe's curbside recycling collection program began in 2018, so the District closed two sites in this City. Then due to contamination the District was forced to close more sites. Increasing the number of locations, the District added the Coppel Athletic Complex site in 2021, which has been a positive addition so far.

Highland County:

In 2020, a storeowner in Highland County that hosted two drop-off locations removed their trash dumpsters, and residents began using the recycling drop-offs as dumpsters. The District investigated the dumping issues and immediately decided to close the sites. The District found two new locations in Greenfield to supplement the ones removed. Highland continued to have significant contamination and dumping issues, and the District is closely monitoring the drop-off sites.

In Highland County, Rocky Fork State Park contacted the District to ask about recycling bins for the State Park. The District was able to add this new site that will serve the area around the State Park along with its weekend campers and boaters.

Fayette County:

Constant contamination and dumping at Fayette County pushed the District to research other options to provide service offerings. District staff made phone calls to out of state districts surveying their programs and best practices. One program stood out in Cabell County, West Virginia. The District toured the drop-off location collecting data to evaluate if this would be feasible in Fayette County.

Fayette County is rural but has transfer station infrastructure making this a great pilot for testing. Construction for a permanent drop-off site with concrete padding, fencing, electric and a gate began in 2020. In 2021, the District opened the Fayette County Recycling Center. The center is a fenced and gated facility that members can access seven days

a week from 5 a.m.-10 p.m. The site has ten recycling bins and a storage shed that the District uses for electronics waste collection by appointment.

The opening of this member only access site is referred to as a mega-site. The District advertised to the households that access would be provided to those that signed up for use. This requires households to share address information which allows the District to monitor illegal dumping and contamination. In 2021 the District handed out 1,202 key fobs to households and an additional 135 in 2022. In 2022, the District conducted a visual observation of the recyclables at the service provider's tip floor which showed very clean recyclables with little contamination.

The investment in this hub style infrastructure is well received by the households of Fayette County and reduced contamination.

In 2021 the District removed all other drop-off recycling site locations except for one. The District kept the two recycling bins on the opposite end of Fayette County. The local village has utilized that site and has been maintained well by a volunteer that lives next to the site.

Pickaway County:

There have continued to be contamination issues in Pickaway County. The District added two new locations and removed one spot in 2018. Pickaway County sites continued to experience contamination and dumping issues of greater significance. The District installed cameras at heavily abused sites and worked with local law enforcement to minimize the problems. One of the more problematic locations is Snap Fitness location. Pickaway County experiences significant contamination issues with illegal waste disposal continuously occurring here since 2020. In an attempt to reduce contamination, District staff:

- Monitored the location
- Discussed with residents how to recycle right
- Handed out best practice papers

The result was marginal improvement.

Overall tonnage data shows an annual decline. Much of this is believed to be a result of how the District's data is reported. Operationally the service provider hauler is coming out of different locations to service the four counties. The routes cross over other solid waste districts service area resulting in an estimation of tonnages reported to the District.



Figure I-1 Full Time Drop-Off Sites

Target for Next 5 Years: Work with the service provider to obtain better diversion tonnage metrics. Diversion tonnage data is needed for the District to demonstrate the 25% diversion goal in this 2024 Plan. Historically, collected material is aggregated for all collection of drop-off locations and reported to Ohio EPA by the service provider. Due to hauler route efficiencies and operational routes crossing county lines into other solid waste management districts the service provider is unable to provide drop-off tonnage data. The District has attempted to work with haulers on this issue but has not been able to get the data. The District could estimate a per drop-off tonnage and apply it to the operating sites. However, data from Rumpke captures an unknown amount of the drop-off tonnage that then gets reported to Ohio EPA. Thus, making it difficult to estimate data reliably. The District does not have Rumpke's routes and cannot confidently determine which drop-off site tonnages may be credited to other districts. The estimate would be an unsubstantiated guess and therefore, the District is conservatively omitting these from future projections to prevent subjective guessing of tonnages.

Adding two more mega-sites in two other counties will require siting and capital improvements for developing the site. Appendix O includes the cost estimate the District is budgeting for the construction. Education will also be needed for the households and elected officials.

With the Fayette County drop-off performing well the District will explore opening this up to the commercial sector for use. This may require additional drop-off bins to be added or possibly a compactor for cardboard. Any equipment the District may need to invest in will be evaluated and partnerships explored, such as grant funding assistance. Expanding to allow commercial business use is a mid to long term strategy as there will need to be infrastructure development at the center to accommodate the increase in volume. As such, the District did not include additional tonnage projections in Appendix E. However, this is still a plausible program that could significantly increase recycling capture rates.

Part-Time Drop-offs

The District does not provide any part-time drop-offs.

Residential Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
Abibow LLC Fiber Collection	2004	Ongoing	1 and 2

At one point, a private business, Abibow LLC (formerly Abitibi Consolidated, Inc), provided paper retriever bins in Ross and Pickaway Counties. Abibow provided the bins at no expense to the District and added recycling convenience and service to households and businesses. The historical timeline roughly looks like this:

- April 2004 the District staff coordinated with Abibow LLC to place and service receptacles collecting various paper types. This collection includes a limited amount of paperboard or corrugated cardboard because of the limited volume at each site. Abibow provides 32 containers in Ross County and 15 containers in Pickaway County. They accept paper, newspaper, magazines, office and computer paper, mail, and catalogs.
- Abibow containers were dwindling.
- 2015 Abibow abruptly ceased operations in Southwest Ohio. While this had no direct impact on the District, it provided a precedent that this could also happen in the District.
- 2017 the District answering several calls to remove paper bins from properties as the property owners have been unable to contact Abibow since 2017. The last time Abibow reported to the District was in 2017. Abibow reported collecting 375 tons from 65 recycling containers.
- 2021 Abibow still operates in the District but no longer reports to the District. It seems likely in the coming years, Abibow will cease operations in the District. This will stress the District drop-off program as the paper typically collected at Abibow locations will no longer be accepted.

Target for Next 5 Years: It's a private business operation. The District doesn't have any information about whether this will continue; but it does not expect this to continue throughout the planning period. The District will continue to try to maintain connections at Abibow and offer to help keep the program going. Additionally, the District will try to get diversion tonnage metrics for this program. Should this program cease, the District will connect interested businesses to other recycling services in the area.

Name	Start Date	End Date	Goal
Partner with the Private Sector to Provide Recycling	Ongoing	Ongoing	1 and 2

The District works with the private sector recyclers to provide convenient opportunities for buy-back centers and special collection projects. The District works with all in-District recyclers to encourage each recycler to accept more materials from the residential waste stream and to promote using the private recyclers' buy-back programs. The District personally meets with these recyclers at least once a year. The District continues to update a list of all recyclers in the District that accept recyclable and/or waste for disposal. All residents, commercial establishments, and industries benefit by becoming more aware of the recycling opportunities that exist on the local level.

From 2017 to 2021, the District partnered with Rumpke Waste & Recycling and First Capital Enterprises to provide residential/commercial recycling opportunities for the District and works with Environmental Enterprises Inc. to provide recycling of HHW.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Promote Curbside Recycling	2017	Ongoing	1 and 2

Through a Mini-Grant program, the District committed financial resources in the 2017 and 2018 budgets to encourage communities to start curbside recycling. Chillicothe received the Mini-Grant to assist with the start-up of curbside recycling. The program started in August of 2018. Also, in 2018, the District approached a village near Chillicothe to help with curbside recycling efforts, but they did not progress curbside recycling.

The District met with two other communities in 2020 and 2021 to discuss the option of curbside recycling. The District provides technical assistance and assists interested parties with exploring curbside options. Unfortunately, in 2021 the two communities interested decided not to pursue curbside recycling options. The cost associated with programs was likely the main reason for opting out.

Target for Next 5 Years: The District will continue to offer communities technical assistance and aid with exploring options for curbside recycling. The District will target at least one community to meet with and discuss adding a curbside recycling program each year. In 2023, elected officials of Washington Courthouse and the District began exploring curbside for the City. Three meetings to date exploring costs and operations. With cost savings from the drop-off program (site consolidation and mega-site infrastructure) the District is able offer more financial assistance for curbside start-ups. Considerations include a Mini-Grant that is advancing towards a cost per household for the year 1 and possibly year 2 of service.

The District's goal is to establish a new curbside program in Circleville and/or Washington Court House in 2025. Both cities have roughly 14,000 residents, making them some of

the District's largest cities. Neither has curbside recycling service so are priority targets for this program.

The District will conduct one-on-one phone calls to respective city managers, elected officials, and appropriate staff to begin initial conversations. This has already been accomplished in Washington Court House and in 2024 the District will reach out to Circleville. The next step will be conducing in person meetings where the District staff will provide tangible documentation of success in the form of case studies for similar communities that started a curbside program. The District will also provide an example contract at additional meetings for interested parties to explore. After the initial interest meetings, the District will ask to speak with the City Councils and present on the benefits for the community, impacts on the District, and how curbside recycling is now more than ever a social norm for many similarly sized cities.

In order to provide a first-hand account of the benefits of communities establishing a curbside recycling program, the District will coordinate guest speakers to share advice and talk to interested parties about the challenges faced with getting a curbside recycling program as well as how they were overcome. Based on feedback, the District will be available for further research and information.

The District is anticipating multiple (3-10) initial meetings before moving forward to discussions with haulers and available funding options. As part of the initial meetings the District will share information on applicable grants and financial resources such as EPA grants, third party grants, and the District curbside mini grant. The District will also develop a household survey and disseminate to determine the interest for curbside recycling. The District plans to do this with both communities.

Commercial/Institutional Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
Survey Commercial/Institutional Businesses	Ongoing	Ongoing	1 and 2

The District directly gathers data from commercial/institutional, establishments and from the Ohio EPA annual published data. The District sends surveys through mail and email to registered businesses in the four counties. The list of participants is updated annually based on commercial survey responses. The District annually conducts commercial/institutional surveys; and provides multiple options to receive the survey and send it back. There is a hard copy, which the District can mail to respondents and there is an electronic version of the survey, which is available to previous and repeated respondents. Survey recipients have the option to submit their response online, mail, email, or fax.

The District receives few commercial/institutional responses and there is no requirement or incentive to complete and return surveys. As discussed in Appendix H, the number of businesses responding declined over the years, but the District believes a measurable amount of commercial waste is being recycled just not reported to the District.

In 2023, the Director, Assistant Director, and outreach specialists contacted the 62 businesses on the commercial business survey list via phone to gather 2022 data. Phone surveys were conducted for the majority of responding businesses. Some completed the online survey and others emailed a response back. The District's aggressive survey efforts proved to be very successful, increasing diversion tonnage from the commercial survey by 186% from the 2021 survey data. Commercial responses in 2021 attribute 4,183 tons of diverted material and in 2022, increased nearly 8,000 tons to 11,948 tons. Of the 62 businesses surveyed in 2022 only six reported diverting 500 tons or more proving. most of the responders were not larger generators.

Target for Next 5 Years: The District sees two main challenges to increase the diversion data reporting from the commercial/institutional businesses. One is obtaining data from past responders that inconsistently report and have fallen out of the timeframe to be able to include the data. The second is expanding the number of businesses reporting.

Appendix H evaluation documents the lack of inconsistent reporting from the commercial/institutional businesses. Emphasis will be placed on direct outreach via phone calls to gather data from the businesses inconsistently reporting data. There are also a list of businesses inconsistently reporting data to Ohio EPA. The businesses inconsistently reporting listed in the table below are targets in each County:

County	Commercial Target List
Fayette County	Walmart, Home Depot, Dollar General, Kroger, USPS, Aldi, Advanced Auto Parts, CVS, Sam's Club, and Walgreens
Highland County	Walmart, Dollar General, Kroger, USPS, Advanced Auto Parts, Walgreens
Ross County	Walmart, Home Depot, Dollar General, Kroger, USPS, Aldi, Advanced Auto Parts, CVS, Sam's Club, Walgreens, Kohls, Big Lots, Meijer, Lowe's
Pickaway County	Walmart, Dollar General, Kroger, USPS, Aldi, Advanced Auto Parts, CVS, Big Lots

Most of the listed businesses reported or are still reporting to Ohio EPA so obtaining diversion data from these businesses annually is a top priority. A few of the businesses listed above have not responded in recent years and/or are sporadic responders such as Aldi, Big Lots, Meijer, and Lowe's. The District is committed to achieving Goal 2 and will make it a priority to work with Ohio EPA on collecting data consistently from these businesses this planning period. It is estimated an additional 1,800 tons could be collected annually from these businesses that are not reporting. This estimate is based on the historical average reported tonnages from these businesses from 2017 through 2021.

Ohio EPA was able to collect data from three correctional facilities which inconsistently report, Chillicothe Correctional Institute, Pickaway Correctional Institute, and Ross Correction Institute reported roughly 1,600 combined tons diverted.

Appendix H evaluation shows over 2,700 commercial businesses in the District, and that the District's survey efforts are reaching a small fraction of the commercial base. Expanding the number of businesses reached will include established businesses as well as new commercial growth. Amazon and Bath & Body Works warehouse distribution centers recently opened and will contribute to diversion tonnages. The District is reaching out to these warehouses to make connections. However, because they just opened the contacted staff could not get the data requested for 2021. The District will continue work to contact these warehouse centers moving forward.

While the District has not received direct responses from these businesses yet, it is possible to estimate the amount of material likely to be diverted using similar distribution centers. The Amazon Distribution Center is likely to have similar quantities as the Walmart Distribution Center located in Washington Court House. Walmart consistently reports to Ohio EPA and in 2022 reported over 5,200 tons of recycled material. It is reasonable to assume the Amazon location will output roughly the same amount of material. Furthermore, the Bath & Body Works Distribution Center is similar to the Kohl's Distribution Center in Middletown. This Kohl's location consistently reports to Ohio EPA and in 2022 reported over 2,000 tons of material diverted from landfills. It is reasonable to conclude that the Bath & Body Works Distribution Center will have similar numbers, making it and Amazon top priority targets for data throughout the planning period.

The District realizes it may take one on one engagement to get any business in the habit of reporting. Outreach and the surveying is expected to be labor intensive in the next year or two. The District will continue to place heavy emphasis on receiving commercial survey data from as many businesses as possible over the next three years. The District is committed to reaching out to 5 new (not previously reported) businesses a year.

If in three years the District is not receiving the desired level of responses, the District will explore lessening focus on surveying commercial businesses and instead focus on survey brokers and haulers operating in the District directly. Other Solid Waste Districts and Authorities such as SWACO utilize this method in their surveying efforts and receive reliable data to drive the diversion goal to the desired 25%.

The District is assigning the District Assistant to the role of Business Diversion Specialist (a new role) to target commercial businesses and assist with their diversion efforts.

Also exciting is private investment in recycling infrastructure. In June of 2023, a statement from PTT Global Chemical Public Company Limited (GC America) was released detailing the company's decision to build a recycling plant in Fayette County. GC America will build a "Midwest Mega Commerce Center in Fayette County for a new mechanical recycling facility" that will process plastics into polyethylene terephthalate (PET) pellets to be made into new products. Once operational, the District expects to see recycling diversion increase. GC America will have a high demand for plastic feedstock and are expected to be aggressive in purchasing local feedstock. Businesses and industries in the District will have developing infrastructure and an aggressive buyer, driving the demand for recycling and the broader market. Thus, also increasing diversion from landfills.

Name	Start Date	End Date	Goal
Event Recycling	2018	Ongoing	1 and 2

The District partners with local organizations to provide recycling and technical assistance at special events and festivals. This assistance includes the recycling container loan program, targeting community events, and technical assistance.

Activities in 2018 and 2019:

- The District provided recycling containers so fairgoers could recycle at the Pickaway County Fair in June. The Fair used approximately 30 recycling carts throughout the grounds to capture recyclables every day of the Fair. In October, the Circleville Pumpkin Show again provided recycling containers so attendees could recycle.
- An outreach specialist met with Ross County Fair organizers to explore offering recycling at the Ross County Fair. Unfortunately, there were too many barriers to recycling in 2018.

Activities in 2020:

• There were no events allowed in 2020 due to COVID-19 restrictions and shelterin-place.

Activities in 2021:

• Events slowly started to open back up in 2021. The District loaned out recycling containers for a few events in 2021. The largest event in the District, Circleville Pumpkin Show, utilized recycling carts during that week with the District and the Ohio EPA's logo on them.

Target for Next 5 Years: Add this service offering to the District's webpage and continue through the planning period.

Industrial Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
Survey Industrial Businesses	Ongoing	Ongoing	1 and 2

See the commercial business survey above. The District uses the same methods to conduct the two surveys.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Waste Assessments and Audits	Ongoing	Ongoing	3 and 4

The District offers waste audits and assessments upon request to commercial and industrial businesses for no charge. Following an audit or assessment, the District identifies opportunities for maximizing waste diversion and discusses customized strategies for implementing or expanding recycling activities. In 2017, the District helped Huntington Local Schools conduct a waste audit. The school reached out in early 2018 to the District to request an additional recycling bin for their site. The school is implementing new recycling producers in 2018.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Industrial Materials Marketplace	Ongoing	Ongoing	3 and 4

The District promotes the materials marketplace on its website. This is a strategy the District uses to inform businesses about when receiving inquiries on special waste.

Restricted/Difficult to Manage Wastes

Name	Start Date	End Date	Goal
Electronics Collection Events	Ongoing	Ongoing	2 and 5

Electronics contain hazardous materials that can pose health and environmental risks after disposal. The preferred method of handling is donating to working electronics and recycling for non-working electronics. The District maintains a list of retailers take-back, secondhand retailers, and scrap yard outlets where residents may take electronics, which it posts on the website. The intent is to provide this opportunity until the private sector takes over this role. The outlets accept residential household electronics; however, there are restrictions on CRTs and TVs.

The District also hosts special collection events that accept CRTs and TVs for a nominal fee. The District contracts with a third party to collect and process electronics for recycling. Since the last plan update, the District switched from offering collection events every other year to offering events every year.

In 2017, the District held electronic collection events in three of the four counties as Highland and Fayette Counties hosted a joint event. There was a total of 9.39 tons collected this year. In 2018, a one-day collection event was held in each of the four counties, receiving a total of approximately 21 tons. This event saw a large increase in

tons collected. In 2019, there were five events in the District; one in each county plus an additional event for America Recycles Day. However, there were issues with reporting from third parties, and only the America Recycles Day collection event recorded any tonnages, a total of 1.62 tons.

Despite complications from COVID-19, in 2020 and 2021, the District still hosted events. In 2020, the District hosted four events. The Fayette Transfer Station also added an electronics-recycling bin that residents could drop off anytime. The District has the bin serviced when full. There were no numbers reported to the District in 2020 despite hosting events. Similarly, in 2021, there are no reported numbers despite hosting five electronics collection events.

The District recognizes electronic waste as a growing waste stream and wants to be of assistance in diverting these materials from the landfill. Unfortunately, hosting electronics collection events is costly, limiting the program's capabilities.

The District also referred residents to Goodwill, Christy Lane Industries, and Mid-Ohio Electronics to recycle e-waste. The District planned to evaluate options for collecting source-separated electronic waste at the transfer station in 2018. However, the District did not identify an affordable R2 licensed and certified processor. If the District finds this program can occur without substantial costs, then it will consider implementing it.

Notifications to District communities and/or residents of activities, promotions, changes in programs, opportunities to recycle or other communication initiatives will occur through mail, newspaper advertisements, newsletters, website announcements, public service announcements or other mechanisms utilized by the District and its partners.



Figure I-2 Electronics Collected and Cost Associated

Figure I-2 above details the available data from the District. In 2017, there was no cost recorded for hosting the collection events. As mentioned above, from 2019 through 2021,

Source(s): 2017-2021 ADR, 2017-2021 QFR, Internal Collection Records

the District had difficulties receiving tonnages collected from the events. However, the District did not receive the costs associated with the collection events.

Target for Next 5 Years: The District is targeting to host a collection event in each county through the planning period. The District will work to receive accurate numbers from third parties on the amount collected for data collection and accuracy purposes.

Household Hazardous Waste

Name	Start Date	End Date	Goal
Household Hazardous Waste Collection Program	Ongoing	Ongoing	2 and 5

The District hosts annual HHW collection events. The District held its first-ever Districtwide collection event in November 2017, in Ross County, at the Adena High School parking lot. Approximately 125 vehicles came through the line and collected over 18,000 pounds (9.21 tons) of HHW. Some of the challenges were the setting up of the site for the event with the school. Also, a few people dropped off HHW before the event. The entire event cost the District about \$14,000. The District contracted with Environmental Enterprises (EEI) to collect and process HHW. Also in 2017, the District began a semipermanent HHW drop-off opportunity for District residents by collaborating with EEI in Columbus, Ohio. The vouchers cover expenses for residents to manage HHW properly. The District distributed approximately 20 vouchers to residents to use the service. Residents receive information about this opportunity if they call District offices looking for a year-round option.

In 2018, The District held one collection event in Pickaway County, where 252 vehicles participated, and the District collected 44,325 pounds (about 22 tons). The District cost was about \$10,000. The District was fortunate to receive \$1,750 in donations for this event. The semi-permanent voucher system continued in 2018. Residents call the District for a voucher and drop off HHW at EEI in Columbus, Ohio, for no charge, pending District funds' availability.

The District did not conduct events held in 2019 or 2020, though the voucher system continued in these years. In 2021, the District hosted one collection event. The District and EEI safely collected over 17,000 pounds (8.5 tons) of HHW from residents. The District cost was about \$15,000 for HHW collection. The voucher system continued as well in 2021.



Figure I-3 Historic HHW Collection Events

Figure I-3 presents the three years the District has accurate data for HHW collection events. The average cost to put on an event was about \$13,000 and collected approximately 10 tons of material. On average, it costs the District \$1,300 per ton collected of HHW.

Target for Next 5 Years: The District is targeting to host a collection event annually through the planning period.

Scrap Tires

Name	Start Date	End Date	Goal
Scrap Tire Management	Ongoing	Ongoing	2 and 5

The Scrap Tire Program provides annual events that allow residents to drop off scrap tires. The District's philosophy remains that the public should not bear the expense that benefits a small percentage of the population unwilling to pay for normal tire disposal fees. However, the District also believes such events may help minimize illegal dumping along the District's roadsides. Accepted tires include passenger vehicle tires, truck tires, tractor tires, and OTR loader tires.

The District sponsored four tire drop-off events, one in each county. Soil and Waste Conservation District (SWDC)/Ohio EPA also hosted two scrap tire events in the District during 2017. The events collected 10,379 tires. In 2018, the District held four collection events, one in each county, that received 5,366 tires. The District also held four events in 2019 that collected many tires (22,296).

Due to COVID-19 restrictions and guidelines, the District rescheduled all four 2020 scrap tire events. They still took place in 2020 but only collected 2,466 tires. In 2021, the District collected 2,388 tires. The District suspects the low totals are indicative of the COVID-19 pandemic and the effects it presented to residents.



Figure I-4 Historic Scrap Tire Collection

The District experienced significant growth in the tires recovered in 2019. Of the total, over 9,000 were commercial tires. After this, the District recovered only a fraction of the 2019 total in 2020 and 2021.

Target for Next 5 Years: The District is targeting to host a collection event in each county annually through the planning period.

Target for Next 5 Years: Continue through the planning period.

Yard Waste and Organics

Name	Start Date	End Date	Goal
Yard Waste Programs	Ongoing	Ongoing	2 and 5

The District provides yard waste and composting information on its website and works with other local agencies, such as Ohio State University (OSU) Extension and SWCD to provide such information. Two facilities are in Fayette County, the Fayette County Compost Facility at the Transfer Station, and the Washington Compost Facility. Other facilities in the District include Garrick Corp Pay grow Division, Duncan Farms, Pickaway Correctional Institution, Pleasant View Farms, and Ross Correctional Institution. These facilities do not report to the District; the data is derived from the Ohio EPA reports.

The City of Chillicothe's Yard Waste Drop-Off Site on Renick Avenue is open on Wednesdays and Saturdays from 8:00 a.m. until 12:00 p.m. In Highland County, the Yard Waste Facility is open from April 1, 12:00 p.m.-3:30 p.m. and on Fridays and Saturdays 8:00 a.m.-12:00 p.m. This will continue every other Friday from 12:00 p.m.-3:30 p.m. and the first Saturday of every month from 8:00 a.m.-12:00 p.m. These are not open for commercial use. Pickaway, Fayette, and Highland all have leaf collection pick-ups in the Fall in their largest municipalities, Circleville, Washington Court House, and Hillsboro. Collected leaves are not taken to compost facilities and reported to Ohio EPA but they are creditable towards Goal 2. As can be found in Appendix E, a total of 236 tons of organic material was recovered from these three cities. Hillsboro reported 17.5 tons, Washington Court House reported 15 tons, and Circleville reported 204 tons to the District in 2022.

There were no changes to this program from 2018 through 2021.



Figure I-5 Historic Yard Waste Collection

Most households do not remove grass clippings and leaves from yards because of the rural settings and collecting them is not financially viable. Another reality is that most District municipalities can't afford separate yard waste collection. In light of these logistical and financial constraints, the District has been educating residents of backyard composting and waste reduction methods for yard waste to divert more material. However, it is challenging to quantify landfill reduction of yard waste through these management methods.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Organics Management Program	2018	Ongoing	2 and 5

Source(s): Ohio EPA 2017 - 2021 Compost Report

The District has a few large institutions that could possibly benefit from in-vessel composting for managing food waste. Both the Pickaway Correctional Facility and Ross Correctional Facility compost food waste using in-vessel composters. The District's goal is to explore in-vessel composting at additional institutions and receive data from existing sources.

In 2018, the District temporarily delayed this research. The neighboring district, SWACO, was developing a food waste action plan and conducting a feasibility study for infrastructure options. The District opted to follow SWACO's work and review the final report to glean information for best practices for the District. No further progress was made in 2019, as the District could not make any headway on getting information from what other districts are doing. The District continued monitoring other food waste recovery programs in 2020 and in 2021, but organic composting/recovery facilities did not progress.

However, in partnership with the Pickaway County Park District & Pickaway Soil & Water Conservation District, the District hosted a backyard composting class for beginners in Pickaway County. Twenty-two adults and two children registered to learn how to start their own journey to organic waste reduction in their homes. Participants entered into a drawing to win several prizes, such as a compost tumbler.

Target for Next 5 Years: The District will work with institutions over the planning period to explore this type of on-site food waste management by conducting meetings, gathering technical data, seeking grant funds, etc. Both correction facilities in-vessel composting systems are currently not in use. The District will contact those facilities to explore challenges in operating the system and assist in making the systems operational. Another data gap is collecting diversion data from the correctional facilities programs. The District is adding these facilities to the commercial/institutional survey list of businesses to contact annually.

Grants, Economic Incentives, and Market Development Programs

Name	Start Date	End Date	Goal
Recycling Incentive Mini-Grant	2017	Ongoing	2

The District will provide grants to businesses, government entities, non-profit organizations, and educational institutions interested in implementing a new recycling program to support long-term landfill diversion goals. The District gives priority to grant funding based on the following criteria:

- New curbside recycling programs.
- Demonstration of Need Applicant clearly defines funding need.

- Strength of Program The innovative activities attempt to enlist new behavior.
- Evaluation Applicant has the means and mechanisms for tracking results and measuring success.
- Sustainability Applicant demonstrates a commitment to long-term recycling.

The District will continue to offer and award grants annually so long as funding permits.

In 2017, the District provided the City of Chillicothe with a \$50,000 Mini-Grant to start their curbside recycling program. The District did not award a grant in 2018 but in 2019, the grant money went to Teays Valley High School for their recycling program. This grant allowed the school to purchase multiple benches made from recycled plastic. They collected one ton of bottle caps for the project and received \$1,500 in funding. In 2020, the District tried to get two communities to consider curbside but were unsuccessful. The District continued this effort in 2021, but unfortunately, there was no movement with the curbside prospects.

Target for Next 5 Years: Target Washington Courthouse and Circleville to add curbside recycling programs.

Name	Start Date	End Date	Goal
County Revolving Fund	Ongoing	Ongoing	2

The District distributes funds to each county that they can use for HB 592 programming. Typical expenses include monitoring drop-off recycling containers and cleaning contamination. The counties can also use these funds to implement outreach/education programs and recycling programs in county offices. The District appropriates the money to each county, but each county must request the funds before they spend them. The District approves or disapproves requests before distributing the funds.

Target for Next 5 Years: Continue through the planning period.

Enforcement & Clean-Up

Name	Start Date	End Date	Goal
Tire Dump Cleanup	Ongoing	Ongoing	6

The District partners with the Ohio EPA to access its "Consensual Scrap Tire Removal" program to remove dumped tires. In 2017, the program removed 1,966 tires from seven dump sites. The District did not clean up any tire dumps in 2018; however, it did not receive any requests or reports of sites. This was also the case through 2021.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Enforcement Strategy Program	Ongoing	Ongoing	none

The District and county commissioners will meet with the sheriff and health departments to improve the environmental enforcement program. These meetings could include establishing goals, such as setting criteria for illegal dumping, inspections, and complaints; establishing procedures for violations; and gaining support from prosecutors and judges. Similar to other districts, it is extremely challenging to prosecute illegal dumping violators; thus, law enforcement becomes discouraged. The District had several instances in 2021 where law enforcement assisted in identifying and resolving some illegal dumping issues at District bin sites.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Health Department Funding	2018	Ongoing	none

The District assists health departments in all four counties to develop stronger and more consistent methods for haulers and to work with the enforcement of illegal dumping. Initial outreach included meetings between the District and health departments to discuss programs, issues, and solutions. There have been no changes since 2018.

Target for Next 5 Years: Continue through the planning period.

Other Programs

Name	Start Date	End Date	Goal
Fayette County Sort Floor	Ongoing	Ongoing	2 and 5

The Fayette County Transfer Station, operated by the Fayette County Engineer, is the only publicly owned transfer station in the District. As time allows, facility staff manually remove recyclable materials from the delivered waste stream. According to the Fayette County Engineer, the economics of this process do not justify large-scale, automated segregation of materials. The District will continue to evaluate and possibly fund options to increase material recovery at the transfer station.

As discussed, recovery of recyclables from the sorting floor is minimal. However, the District worked with the Fayette County Engineer to re-design a new recycling drop-off site at the Transfer Station and applied to Ohio EPA in 2017 for Community Development Grant funds for the expansion. Unfortunately, the District did not receive the grant. The

District set aside money in the 2018 budget for a new recycling site with mixed recycling bins, potentially hosting a year-round electronics collection bin for the District residents.

There were no changes or reports on the sort of floor from 2018 through 2021.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Fayette County Recycling Center Study	2022	2023	1 and 2

In April 2021, the Fayette County Recycling Center (Recycling Center) opened. The Recycling Center is a drop-off site available to all residents with membership. Becoming a member is free; however, the District requires residents to complete a contact information form to sign up. After signing up, residents receive access to the Recycling Center through a personal 4-digit code. The personalized codes allow the District to monitor who uses the Recycling Center and track any dumping or contamination to continue educating residents.

The gated facility is open seven days a week from 5 a.m. to 10 p.m. It has ten recycling bins and a storage shed the District uses for electronics collection by appointment. The Recycling Center aims to provide a convenient recycling facility while decreasing contamination through controlled and monitored access. As discussed, the District faces issues with illegal dumping, high contamination, and an inability to enforce recycling guidelines at the other drop-off sites. The District hopes this facility will provide an avenue for resident – District interaction and proper recycling.

So far, the District has over 1,300 residents with memberships. Membership is household wide, not specific to each resident. Assuming Fayette County averages 2.49 people per household, this facility has provided recycling access to roughly 3,240 residents as of December 2022. Most residents are from Fayette County; however, 30 residents with access live outside the County. There are 22 in Ross County and eight in Highland County with memberships. There have been minimal issues with illegal dumping and contamination at the site. For the few cases that are present, the District issues a warning and informs the resident what was done.

District Staff and a Rumpke representative performed a waste audit of 1.44 tons of material from the Recycling Center. Rumpke's internal residential contamination rate for recycling was between 12%-18% on average; the District found that 0.03% of the material collected from the recycling center by weight was trash.

There is an opportunity to expand the recycling center to accept recycling from the commercial sector. This would give commercial businesses and small haulers access to a centralized facility without having to go to a transfer facility or MRF. The District may experience higher volumes than the facility is capable of processing if this occurs, however, the District can invest in a baler or other machinery to improve capacity.

Target for Next 5 Years: The District will evaluate the feasibility of taking commercial waste at this facility. This is a mid to long term strategy as there will need to be infrastructure development at the center to accommodate the increase in volume. As such, the District did not include these in projections. However, this is still a plausible program that could significantly increase recycling capture rates.

Name	Start Date	End Date	Goal
Recycling Scholarship Application	2025	Ongoing	none

The Recycling Scholarship is a new program designed to encourage students in Ross, Pickaway, Fayette, and Highland Counties to pursue a degree in environmental studies. Those eligible are graduating seniors majoring in environmental studies pursuing a twoor four-year degree at an accredited institution. The scholarship is a \$500 non-renewable award. Applicants must complete a form and write an essay answering a question. One \$500 scholarship will be awarded annually.

APPENDIX J

REFERENCE YEAR OPPORTUNITY TO RECYCLE AND DEMONSTRATION OF ACHIEVING GOAL I

APPENDIX J REFERENCE YEAR OPPORTUNITY TO RECYCLE AND DEMONSTRATION OF ACHIEVING GOAL 1

In the District's 2018 Plan the District was unable to demonstrate compliance with the 25% residential/commercial Goal 2 and thus chose to demonstrate compliance with the infrastructure access Goal 1. In preparing the 2024 Plan update, the District is unable to demonstrate compliance with Goal 1. There are two reasons why:

1) The adoption of the 2020 State Plan revised the demonstration methodology restricting the District from obtaining credit for the drop-off locations where curbside recycling is also obtaining credit.

2) The District removed drop-off locations in one of the four counties creating a mega site collection area. Operationally this type of site resolved contamination issues (additional vendor charges and resource time) while also expanding the collection center towards more of a convenience center.

The demonstration of meeting Goal 1 as outlined in this Appendix J, shows the District is able to meet Goal 1 by adding more drop-off site locations. Additional drop-off site locations will increase the operational costs of the program requiring a generation fee increase in this planning cycle. The Policy Committee and Board of Directors do not want to increase generation fees during this 2024 Plan update and are moving away from the Goal 1 demonstration. Instead, this 2024 Plan will demonstrate efforts for the District to comply with the 25% residential/commercial Goal 2.

For the exercise, the District completed Appendix J to show the District's infrastructure analysis for meeting Goal 1. Since the demonstration does not show compliance with meeting Goal 1 the District prepared a potential alternative demonstration for Ohio EPA's consideration. However, at this time the District is planning to demonstrate how the District will reach the 25% residential/commercial Goal 2 in this 2024 Plan planning period.

A. Goal 1 Demonstration Requirements

The 2020 State Solid Waste Management Plan requires SWMD's to demonstrate adequate infrastructure to provide at least 80% of the residential population in a County with convenient opportunities to recycle. The SWMD must demonstrate one of the following:

- a. Demonstrate that there was adequate infrastructure in the reference year to provide at least 80% of the residential population within each county of the SWMD the opportunity to recycle.
- b. Demonstrate that the SWMD will implement new and/or upgraded recycling infrastructure sufficient to provide at least 80% of the residential population within each county of the SWMD the opportunity to recycle.
- c. Apply for a waiver from Ohio EPA to provide less than 80% of the residential population with opportunities to recycle.

The SWMD must ensure that there will be adequate infrastructure throughout the entire planning period covered by the solid waste management plan to give at least 80% of the residential population in each county of the SWMD the opportunity to recycle.

Additionally, the SWMD must:

- 1) Demonstrate that the SWMD will meet the applicable standards established in the Format for the remainder of the planning period.
- Calculate the solid waste reduction and recycling rate for the residential/commercial sector. If less than 25% in the reference year, then demonstrate achieving annual increases in the solid waste reduction and recycling rate for the residential/commercial sector.
- 3) Demonstrate that commercial and institutional generators of solid waste have adequate opportunities to recycle solid waste.
- 4) Demonstrate that the SWMD will encourage participation in available recycling infrastructure.
- 5) Demonstrate that the SWMD will maintain the required infrastructure throughout the entire planning period.

Technical elements of the demonstration include:

- 1) Components of the residential infrastructure must collect at least 5 materials from a specified list in Format 4.1.
- 2) The SWMD must demonstrate that the commercial sector has adequate opportunities to collect at least 5 materials from a specified list in Format 4.1.
- Format 4.1 will specify the "credits" for various types of infrastructure. The amount of the credit assigned is dependent upon the type of recycling service being provided.
 - Non-Subscription Curbside: Credit the entire population of each community.
 - Subscription Curbside: Credit 25% of the community population.
 - Full-Time Urban Drop-off: Credit 5,000.
 - Full-Time Rural Drop-off: Credit 2,500.
 - Part-Time Urban Drop-off: Credit 2,500.
 - Part-Time Rural Drop-off: Credit 2,500.
- 4) The following minimum standards apply to drop-offs:
 - Residents can easily find and access the site.
 - All drop-off sites must provide a minimum of 6-cubic yards of capacity.
 - There are signs that are adequate to, at a minimum:
 - i. Direct the public to the site or indicates the location of the site;
 - ii. Lists the materials that are accepted; and
 - iii. Provide days and hours of operation
 - The SWMD has made a reasonable attempt to meet the demand of the population for use of the drop-off site.

5) "Credit" for infrastructure in a community is limited to the population of an entire community, up to and including the entire credit for a drop-off that would be needed to achieve 100% of the residential population with access to recycling infrastructure.

B. Residential Sector Opportunity to Recycle

Table J-1. Opportunity to Recycle

Ross County

	Ross	2021		2024		2038			
ID #	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit		
Non-subscription curbside									
NSC1	Chillicothe	22,009	22,009	21,967	21,967	21,772	21,772		
Subscr	iption curbside	•				•			
SC1	None								
Full-tin	ne, urban drop-off								
FTU11	Chillicothe, Rumpke Recycling	22,009	Not Creditable	21,967	Not Creditable	21,772	Not Creditable		
FTU12	Chillicothe, Yoctangee Park	22,009	Not Creditable	21,967	Not Creditable	21,772	Not Creditable		
FTU13	Huntington Township, Huntington Schools softball field	6,130	5,000	6,118	5,000	6,064	5,000		
Part-tin	ne, urban drop-off	•				•			
PTU1	NONE	-	-	-	-	-	-		
Full-tin	ne, rural drop-off								
FTR9	Colerain Township, Aldephi, Village Office	1,675	2,500	1,672	2,500	1,657	2,500		
FTR10	Deerfield Township, Clarksburg, Parking Lot	645	2,500	644	2,500	638	2,500		
FTR11	Jefferson Township, Richmond Dale	1,039	2,500	1,037	2,500	1,028	2,500		
FTR12	Paxton Township, Bainbridge Fire Department	1,134	2,500	1,132	2,500	1,122	2,500		
FTR13	Twin Township, Bourneville, Fire Department	3,396	2,500	3,390	2,500	3,359	2,500		
FTR14	Green Township, Zane Trace High School Bus Garage	3,953	2,500	3,945	2,500	3,910	2,500		
FTR17	Scioto Township, Coppel Athletic Complex	5,803	2,500	5,792	2,500	5,740	2,500		
FTR18	Scioto Township, Adena Road	5,803	2,500	5,792	2,500	5,740	2,500		
Part-tin	ne, rural drop-off	1	1	ſ	1	1	1		
PTR1	NONE	-	-	-	-	-	-		
Mixed n	Mixed municipal waste material recovery facility								

	Ross	2021		2024		2038	
ID #	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit
	NONE						
Total County Population		76,891		76,744		76,451	
Total Po	Fotal Population Credit 47,009		46,967		46,772		
Percent	of Population		61%		61%		61%

Note: County population adjusted per Ohio EPA Format 4.1 Guidelines (see Appendix C for explanation).

Pickaway County

	Pickaway	20	21	20	24	2038				
ID #	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit			
Non-sub	Non-subscription curbside									
NSC2	Ashville	4,621	4,621	4,680	4,680	4,963	4,963			
NSC3	South Bloomfield	2,161	2,161	2,188	2,188	2,321	2,321			
NSC4	Commercial Point	3,124	3,124	3,164	3,164	3,355	3,355			
Subscri	otion curbside									
	NONE									
Full-time	e, urban drop-off									
FTU14	Scioto Township, Teays Valley West Middle School	8,722	5,000	8,832	5,000	9,367	5,000			
FTU7	Circleville, PICCA	14,106	5,000	14,285	5,000	15,149	5,000			
FTU8	Circleville, Pickaway Service Center	14,106	5,000	14,285	5,000	15,149	5,000			
FTU9	Circleville, Rhoads Farm Market	14,106	5,000	14,285	5,000	15,149	5,000			
FTU10	Circelville, SNAP Fitness	14,106	Not Creditable	14,285	Not Creditable	15,149	Not Creditable			
Part-tim	e, urban drop-off									
	NONE									
Full-time	e, rural drop-off									
FTR6	Monroe Township, Mt. Sterling, Deercreek State Park	1,241	2,500	1,257	2,500	1,333	2,500			
FTR7	Perry Township, New Holland, Fire Station	601	2,500	609	2,500	645	2,500			
FTR8	Washington Township, Ohio Christian University	3,038	2,500	3,076	2,500	3,263	2,500			
FTR16	Walnut Township, Teays Valley East Middle School	2,520	2,500	2,552	2,500	2,706	2,500			

FTR19	Salt Creek Township, Kingston, Salt Creek Intermediate TSchool	2,520	2,500	2,552	Not Available	2,706	Not Available	
Part-time	Part-time, rural drop-off							
	NONE							
Mixed m	Mixed municipal waste material recovery facility							
	NONE							
Total Co	ounty Population		59,467		60,220		61,755	
Total Po	pulation Credit		42,406		40,031		40,638	
Percent of Population 71%		66%		66%				

Note: County population adjusted per Ohio EPA Format 4.1 Guidelines (see Appendix C for explanation).

Highland County

ID #	Highland	2021		2024		2038				
	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit			
Non-subscription curbside										
	NONE									
Subscription curbside										
	NONE									
Full-time, urban drop-off										
FTU2	Hillsboro, BMV Office Parking Lot	6,483	5,000	6,455	5,000	6,328	5,000			
FTU3	Hillsboro, Hillsboro Board of Education	6,483	5,000	6,455	5,000	6,328	5,000			
FTU4	HIIIsboro, Sunoco	6,483	Not Creditable	6,455	Not Creditable	6,328	Not Creditable			
FTU5	Second St. Greenfield, OH	4,335	5,000	4,316	5,000	4,231	5,000			
FTU6	Greenfield-McClain Schools	4,335	Not Creditable	4,316	Not Creditable	4,231	Not Creditable			
Part-time, urban drop-off										
	NONE									
Full-time, rural drop-off										
FTR2	Dodson Township, Lynchburg, Terry's Grocery	1,049	2,500	1,045	2,500	1,024	2,500			
FTR3	Leesburg	1,268	2,500	1,263	2,500	1,238	2,500			
FTR4	Paint Township, Paint Township Building	4,844	2,500	4,823	2,500	4,728	2,500			
FTR5	Village of Lynchburg, Main Street rt 134	1,520	2,500	1,514	2,500	1,484	2,500			
FTR15	Rocky Fork State Park, Hillsboro	3,703	2,500	3,687	2,500	3,614	2,500			
Part-time, rural drop-off										
	NONE									
ID #	Highland	2021		2024		2038				
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	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit			
Mixed m	Mixed municipal waste material recovery facility									
	NONE									
Total County Population		43,354		43,169		42,801				
Total Population Credit		27,500		27,500		27,500				
Percent of Population		63%		64%		64%				

Note: County population adjusted per Ohio EPA Format 4.1 Guidelines (see Appendix C for explanation).

Fayette County

	Fayette	202	21	2024		2038	
ID #	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit
Non-sul	bscription curbside						
	NONE						
Subscri	iption curbside						
	NONE						
Full-tim	e, urban drop-off						
FTU1	Washington Courthouse, Fayette County Transfer Station	14,496	5,000	14,489	5,000	14,454	5,000
Part-tim	ne, urban drop-off						
	NONE						
Full-tim	e, rural drop-off						
FTR1	Jasper Township, Milledgeville, Community Center	531	2,500	531	2,500	529	2,500
Part-tim	ne, rural drop-off						
	NONE						
Mixed n	nunicipal waste material recove	ery facility					
	NONE						
Total County Population 28,772			28,757		28,728		
Total Po	opulation Credit		7,500		7,500		7,500
Percent	of Population		26%		26%		26%

Note: County population adjusted per Ohio EPA Format 4.1 Guidelines (see Appendix C for explanation).

Table J-1 calculates access for each county in the solid waste district in the reference year, year one of the planning period, and the last year of the planning period. As shown in the access demonstration tables above, the District is not demonstrating at least 80% of the residential population in each county have the opportunity to recycle under Ohio EPA's 2020 State Plan.

One of the limiting factors to demonstrating compliance with Goal 1 is the credit limit. "Credit" for infrastructure in a community is limited to the population of an entire community, up to and including the entire credit for a drop-off that would be needed to achieve 100% of the residential population with access to recycling infrastructure. Some locations have values denoted as "not creditable" and are not included in the total calculation because the total population credits are higher than the population total. Due to the access population credits for drop-offs being a fixed value, some communities demonstrate a credit greater than 100% of the total population. Following the guidelines set by the Ohio EPA, this overage is permissible but is not creditable in excess when the community has already achieved 100% of the population.

Due to geographics, the District has multiple locations where the amount of population credits given for existing drop-off sites exceeds the population of the location: Chillicothe, Circleville, Hillsboro, and Greenfield. There is a greater demand for the service in the higher population density areas. It makes sense to have more drop-off locations in these areas. Per the 2020 State Plan the purpose of the access goal is allow District's "to devote resources to establishing the basic recycling infrastructure needed to achieve diversion". Unfortunately, there is a disconnect between the formula calculations to meet Goal 1 and the actual infrastructure needed.

As an exercise the District developed **Table J-2** below to calculate the entire Districts access population credits as a whole.

Year	2021	2024	2038
District Population	208,484	208,890	209,735
Population Credits	124,415	121,998	122,410
Access To Recycling	60%	58%	58%

Table J-2 District Total Opportunity to Recycle

The District demonstrates 60% of the residential population across the four counties have access. Pickaway County has the highest percentage of population at 71%, closely followed by Ross County and Highland County at 61% and 63% respectively. Fayette County has a significantly lower percentage compared to the other three counties, demonstrating 26% of its population has opportunities to recycle. Per the 2020 State Plan standard access demonstration, none of the four counties reach 80% access under the Ohio EPA's standard access demonstration.

The District believes one of the challenges for demonstrating Goal 1 is the fact that all four counties are predominantly rural. All four counties consist of small pockets of densely developed areas, a city, and the remaining population sparsely distributed throughout each county. Housing units spread out over larger areas is a barrier to providing recycling services to residents. The land comprising the District is about 6% developed out of the entire land cover/usage¹.

¹ Ohio Department of Development, <u>https://devresearch.ohio.gov/reports_countytrends_map.htm</u>

Due to the rural setting of most of the District's land, the District relies on drop-off locations to provide collection opportunities. Curbside recycling is not offered in all the areas of each county and if it is, the cost of services is higher than what many households are willing to pay. This is a challenge associated with attaining curbside recycling services in such a rural setting.

While drop-off is the relied-on method for collection, it's not without its own challenges. Drop-off site contamination and illegal dumping are two constant issues the District handles at many of its drop-off sites. It's costly to manage contamination, mostly open dumping, at these sites. The service contracted hauler charges the District additional costs for contamination and/or trash. Plus, the District and county staffing time and resources needed to manage dumping issues at drop-off locations.

Distributed drop-offs in rural areas that are abused is not an effective solution. The District has been there and done that. Wanting to find a way for better infrastructure to service the community led to a creative innovative design for a mega drop-off location in Fayette County. This one drop-off location is a better solution to provide collection service of recyclables in the District. Adding more drop-off locations, especially in rural areas that are hard to monitor and manage, will result in more contamination and open dumping, and more program expenses.

Goal 1 demonstration provides greater credits when political jurisdictions have curbside recycling programs. Curbside recycling programs are the most convenient and effective method for increasing access to recycling for residents to reach the 80% goal. Non-subscription curbside services allow the District to take credit for 100% of the population and subscription services allow a credit of 25% of the population. Alternatively, establishing strategically placed drop-off recycling locations allow the District to take credit for 5,000 residents per site in a location for full-time urban.

As discussed in detail in Appendix H, the District could explore distributing the drop-off locations elsewhere to reach the 80% in each county. **Table J-3** below presents an example of where the District would need to place drop-off sites to demonstrate 80% access in each county.

Location	2021 Population	Current Opportunity to Recycle				
	Ross County					
Union Township	12,504	NA				
Huntington Township	6,130	NA				
Scioto Township	5,803	2,500				
Pickaway County						
Scioto Township	8,722	5,000				
	Highland County					
Paint Township	4,844	2,500				
Maddison Township	2,112	NA				
Liberty Township	3,703	NA				

Table J-3 Additional Recycling Opportunities

Location	2021 Population	Current Opportunity to Recycle					
Fayette County							
Washington Court House	14,496	5,000					
Union Township	3,605	NA					

If the District were to add drop-off locations in these areas, the District would provide access to over 170,000 of their residents. This would meet the 80% access goal, demonstrating compliance with Ohio EPA's goal.

Per Goal 1 demonstration requirements, to provide enough access opportunity to achieve the 80% goal, at minimum 167,000 population credits are needed between the four counties. There are a number of ways the District can reach the required additional amount of recycling credits including subscription curbside services, non-subscription curbside services, additional drop-off locations, or a combination of the three. However, each of these options are not without their own challenges.

In the reference year, the District spent more than \$363,000 to implement the drop-off program. The cost was inflated as the hauler charged the District to remove contamination found in the stream. The drop-off program was 55% of the District's expenses in 2021 and the largest expense category.

The District and the contracted hauler, Rumpke, entered into a contract in 2020. Based on the rates and charges laid out in the contract, the District should have paid \$309,902 in 2021 for Rumpke to service the drop-off locations. However, as mentioned previously, the District paid more than \$363,000 in 2021, an additional \$53,250 or 17% due to contamination and fuel charges. The contract states that the District will be subject to a fuel surcharge when gas prices reach \$2.58 per gallon or above. According to the U.S Energy Information Administration (EIA), gas has not been \$2.58 per gallon since late 2020 and has averaged a price of \$4.06 in the Midwest from the 1st Quarter of 2021².

² Energy Information Administration, <u>https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMD_EPD2D_PTE_R20_DPG&f=W</u>



Figure J-1 Average Price of Gas in the Midwest

Source(s): Energy Information Administration

Despite the recent decrease in gas prices shown above, the average price per gallon is still well above the \$2.58 set price that Rumpke subjects a fuel charge to, meaning the District will have to continue to pay the surcharge. If the District were to add more drop-offs, that would mean Rumpke would have more routes to run and the District would have to pay even more for the drop-offs to be serviced.

Also stated in the contract between the District and the hauler is a charge for each contaminated load rolled-off. The District is charged \$61 per ton for disposal. As mentioned, the District has had numerous problems with rural distributed drop-off site locations and contamination. Problems that were eliminated when the recycling center in Fayette County opened with a gate and monitored video surveillance. The gate requires access through a key fob which allows the District to direct monitoring of those with access. The total project cost just over \$86,000 dollars and has been a large success, with residents coming from all four counties in the District.

Using the identified possible locations to add drop-off recycling bins found above in Table J-3, the District estimated the additional cost to service drop-off locations in order for the District to meet the 80% access goal. Table J-4 below presents the estimated costs.

Township	2021 Population	Current Opportunity to Recycle	Additional Drop-offs needed to reach maximum credit FT Drop-offs	Population Credit with additional FT Drop- offs	Cost to provide additional drop-offs (based on District's 2021 costs)	Cost to provide additional drop-offs (Rumpke Contract)
		R	oss County			
Union Township	12,504	NA	3	15,000	\$34,046	\$29,030
Huntington Township	6,130	NA	2	10,000	\$22,697	\$19,354
Scioto Township	5,803	2,500	2	10,000	\$22,697	\$19,354

Table J-4 Possible Additional Drop-Off Locations

Township	2021 Population	Current Opportunity to Recycle	Additional Drop-offs needed to reach maximum credit FT Drop-offs	Population Credit with additional FT Drop- offs	Cost to provide additional drop-offs (based on District's 2021 costs)	Cost to provide additional drop-offs (Rumpke Contract)
		Pick	away County			
Scioto Township	8,722	NA	1	5,000	\$11,349	\$9,677
		Higl	hland County			
Paint Township	4,844	2,500	1	5,000	\$11,349	\$9,677
Maddison Township	2,112	NA	1	5,000	\$11,349	\$9,677
Liberty Township	3,703	NA	1	5,000	\$11,349	\$9,677
		Fay	ette County			
Washington Court House	14,496	5,000	1	5,000	\$11,349	\$9,677
Union Township	3,605	NA	1	5,000	\$11,349	\$9,677
Total	61,919	10,000	13	65,000	\$147,533	\$125,798

Sample Calculations:

Scenario 1: Average cost per drop-off 2021 * number of drop-offs required to reach maximum population credit Scenario 1 Union Township: \$11,349 * 3 drop-off sites = \$34,046

Scenario 2: Rumpke Contract monthly cost to service drop-off site 2x per week per bin * number of bins * number of drop-offs required to reach maximum population credit * 12 months Scenario 2 Union Township: ((\$269 * 3 bins) * 3 drop-off sites) *12 = \$29,030

Note: This scenario does not include fuel or contamination costs charged by Rumpke

Table J-4 above presents two different cost estimations for drop-off recycling. The first scenario assumes the future values to service a drop-off site will remain at the same cost as was seen in 2021. The District serviced 32 drop-offs, each costing on average \$11,349. This was applied to the number of drop-off sites needed to reach the population credit for the access goal in order to get a total estimated cost of an additional \$147,000 to service these potential locations. This brings the total to over \$510,000, which would have been about 75% of the District's total expenses from 2021.

A more conservative approach, Scenario 2 estimates the cost of providing the necessary additional drop-offs based on the contract signed with Rumpke. This scenario assumes all drop-offs will be 8 cubic yards with three bins at each site and serviced twice per week. Per the District's contract, Rumpke would charge \$269 per bin serviced each month. Under this scenario, the District would have to pay an additional \$125,000 to service the required drop-offs needed to reach the access goal. This would bring the total to roughly \$508,000 and would have been 72% of the Districts total expenses from 2021. It is important to note that under this scenario, there are no fuel surcharges nor contamination charges included. Furthermore, the actual number of bins and service frequency varies from site to site, but the average of all the District's drop-off locations was three bins per site serviced twice per week. These assumptions result in a conservative total of \$125,000, however, the actual total would likely be higher. Neither scenario one nor two is economically sustainable for the District to pursue.

C. Alternative Residential Sector Demonstration

At this time the District is planning to demonstrate how the District will reach the 25% residential/commercial Goal 2 in this 2024 Plan planning period (see Appendix K). However, for the exercise, the District prepared a potential alternative demonstration for Ohio EPA's consideration.

The District is providing an alternative residential sector access demonstration for consideration. This demonstration plans and demonstrates drop-off collection infrastructure using a hub and spoke design that best serves the population sector of the District. Hub and spoke collection infrastructure is proven best practice for rural areas and should be an acceptable demonstration for access to recycling.

The District designed a hub in Fayette County located at the Fayette County Transfer Station. The collection point is easily accessible to all residents of Fayette County and through collected data shown in **Figure J-2** is used by residents in all four counties.





Figure J-2 is a heat map showing households with registered key fobs. This map was created using demographic data that is required to use the Fayette County Recycling Center (FCRC) and is collected by the District. As shown, the most densely populated area is in and around Washington Courthouse where the site is located. However, there are also dense populations driving from Bloomingburg, Jeffersonville, Octa, and New Holland within Fayette County. What is also evident is that residents from outside of Fayette County are using this site, despite having other drop-off locations closer. Some users come from Highland County, Ross County, and even Madison County (outside the District).

The data shows that residents from every corner of Fayette County as well as surrounding counties use the FCRC. The FCRC is a centralized hub drop-off location servicing households with collection infrastructure to recycle. The heat map shows the hub is servicing an area larger than just Fayette County. The service reach is arguably greater than a traditional drop-off sites. It is also more economically sustainable.

Key features:

- Centrally located.
- Replicable and scalable
- Monitored
- Gated 24/7 access

Benefits:

- Provides access to recycling.
- Cost effectiveness
- Less contamination/open dumping.

Hub and spoke infrastructure should be given credit for demonstrating collection infrastructure. Drop-off locations used in this type of system are a sustainable supportive collection infrastructure. Unfortunately the Goal 1 demonstration is not flexible to allow for this type of collection infrastructure which is why the District is proposing an alternative demonstration.

Goal 1 requirements are designed around the quantity of sites needed to reach an access goal, not the actual utility gained from providing recycling opportunities. In the rural setting of the Counties in the District, a centralized site provides residents in areas of high recycling demand more utility than drop-offs in areas with low population density. Focusing on hubs provide greater utilization of drop-offs rather than number of drop-offs available. If the District is able to focus on hubs then it's possible service offerings could be expanded to collection centers that collect more than the five materials.

As discussed in Appendices C and H, the District's highest population centers are all cities or villages. The largest cities in the District are Chillicothe, Circleville, Washington Courthouse, and Hillsboro. As the largest cities within the District, this is typically where a majority of the recycling demand is. The District has observed this to be the case in its cities. To keep up with the community demand, the District services more drop-off locations than are creditable under Format 4.1. The current system of establishing credit for recycling does not paint a true picture in cases like this. If these sites were to be moved to a less populated area, for example a Township, then the District would be able to credit the drop-off sites, but the site would more than likely not be as heavily utilized by the population it credits. There are two primary concerns with rural drop-off locations like this. First is that there is less demand to recycle in rural areas generally, which means less materials get collected and recycled. The other concern is that with such a small population density, one drop-off site in a township would be a 5-minute drive for some residents and 20 plus minutes for others. The inconvenience of residents having to travel that far to recycle will discourage recycling at the drop-off sites. Instead of placing dropoff sites in less populated areas where they will be underutilized, the District feels it makes better use of time and money spent to keep them in large population centers where demand for recycling and quantity gathered is higher.

The access credit goal for the District creates a problematic dichotomy between receiving credit for underutilized, often more contaminated, rural drop-offs, and providing recycling in high demand areas but not receiving credit. The District is striving to help transition

from a take-make-waste society into a closed loop circular economy that diverts as much waste as possible from landfills. Adding infrastructure just to obtain access credits is a waste of resources that would be better served elsewhere. Unfortunately, the District does not have the financial resources to do both. While the District's fund balance as of 2021 is just over \$1 million, as explored above, the additional resources required to service new drop-off locations that would be creditable under Format 4.1 would dramatically increase the total drop-off program costs, quickly depleting the District's fund balance.

The District is not achieving the access credit of 80% per the 2020 State Plan. If the 2020 State Plan allowed for focus on infrastructure as it intends, then the District does provide adequate access for its residents to recycle by focusing on areas with high demand for recycling as well as high population density.

B. Commercial Sector Opportunity to Recycle

Service Provider	Type of Recycling Service Provided	Cardboard	Newspaper	Mixed Paper	Steel Containers	Aluminum Containers
Ross						
Chillicothe City						
Service	Hauler Collection	Х	Х	Х	Х	Х
Rumpke	Hauler Collection	х	Х	Х	х	Х
Waste Management						
Inc	Hauler Collection	Х	Х	Х	Х	Х
Pickaway						
Rumpke	Hauler Collection	Х	Х	Х	х	Х
Waste Management	Hauler Collection	v	v	v	v	Y
		^	^	^	^	^
Highland		1	[[[
Rumpke	Hauler Collection	Х	Х	Х	Х	Х
Waste Management		Ň	X	Ň	Ň	X
Inc	Hauler Collection	X	X	X	X	X
Fayette		•			•	
Rumpke	Hauler Collection	Х	х	Х	X	х
Waste Management	Hauler Collection	X	x	х	x	x

 Table J-7 Demonstration of Commercial Opportunity to Recycle

The SWMD obtains data for commercial infrastructure to meet Goal 1 from recycling services that offer collection to commercial/industrial generators throughout the county. The three service providers above met the minimum material requirements: cardboard, newspaper, mixed paper, steel containers, aluminum cans. Rumpke and Waste Management service all four counties in the District. Ross County has an internal collection service in Chillicothe that is managed by the City

C. Demonstration of Meeting Other Requirements for Achieving Goal 1

1. Residential/Commercial Waste Reduction and Recycling Rate

To achieve Goal 1 the District must show a 25% residential/commercial waste reduction and recycling rate or that the District will achieve annual reduction rate increases during the planning period. Appendix Κ calculates the residential/commercial solid waste reduction and recycling rate for the reference year and planning period. The District recorded a higher waste reduction and recycling rate in 2022 than in the 2021 reference year. Jumping from 16.7% in 2021 to 22% in 2022 shows a documented increase towards the state goal established at 25%. See Appendix K for additional narrative of how the District intends to reach the 25% diversion goal in this planning cycle.

2. Encouraging Participation

The District will continue to encourage residents and commercial generators to participate in existing recycling infrastructure. Appendices I and L provide more detail on education and outreach programs anticipated within the planning period.

APPENDIX K

WASTE REDUCTION AND RECYCLING RATES AND DEMONSTRATION OF ACHIEVING GOAL

APPENDIX K Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2

Goal 2: Waste Reduction and Recycling Rates states the SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector. This appendix demonstrates the SWMD's progress toward achieving the waste reduction and recycling rates established in Goal 2 of the 2020 State Plan.

Table K-1 below shows the waste reduction and recycling (WRR) rates for the residential/commercial sector in the reference year and projected for the planning period.

Table K-1. Annual Rate of Waste Reduction: Residential/Commercial Solid Waste

Year	Population	Recycled	Disposed	Total Generated	Waste Reduction & Recycling Rate (%)	Per Capita Waste Reduction & Recycling Rate (ppd)
2021	208,484	33,950	169,055	203,005	16.72%	0.89
2022	208,618	46,695	169,510	216,205	21.60%	1.23
2023	208,754	48,738	169,966	218,705	22.29%	1.28
2024	208,890	50,697	170,424	221,120	22.93%	1.33
2025	209,028	52,675	170,882	223,558	23.56%	1.38
2026	209,167	54,642	171,342	225,985	24.18%	1.43
2027	209,307	56,630	171,803	228,433	24.79%	1.48
2028	209,448	58,606	172,266	230,872	25.38%	1.53
2029	209,591	59,094	172,729	231,823	25.49%	1.54
2030	209,735	59,573	173,194	232,767	25.59%	1.56
2031	209,735	59,581	173,194	232,775	25.60%	1.56
2032	209,735	59,573	173,194	232,767	25.59%	1.56
2033	209,735	59,581	173,194	232,775	25.60%	1.56
2034	209,735	59,573	173,194	232,767	25.59%	1.56
2035	209,735	59,581	173,194	232,775	25.60%	1.56
2036	209,735	59,573	173,194	232,767	25.59%	1.56
2037	209,735	59,581	173,194	232,775	25.60%	1.56
2038	209,735	59,573	173,194	232,767	25.59%	1.56
2039	209,735	59,581	173,194	232,775	25.60%	1.56

Sources of Information: Data for this table is taken from the following portions of the solid waste management plan:

• Waste reduced and recycled: Appendix E, Table E-4 (for reference year) and Table E-5 (for planning period)

• Waste Disposed: Appendix D, Table D-3 (for reference year) and Table D-5 (for planning period)

• Waste Generated: Appendix G, Table G-1 (for reference year) and Table G-2 (for planning period)

• Population: Appendix C, Table C-1 (for reference year) and Table C-2 (for planning period)

Sample Calculations:

2021 Waste Generated = 2021 Waste reduced and recycled + 2021 waste disposed 203,005 tons = 33,950 tons + 169,055 tons

2021 Waste Reduction & Recycling Rate = (2021 Waste Reduced & Recycled \div 2021 Waste Generated) x 100 16.72% = (33,950 tons \div 169,055 tons) x 100

2021 Per Capita Waste Reduction & Recycling Rate = $(2021 \text{ tons recycled x } 2,000) \div 365) \div$ population 0.89 PPD = $((33,950 \text{ tons x } 2,000) \div 365 \text{ days/year}) \div 208,484 \text{ persons}$

A diversion rate of 16.72% in the reference year is below the 25% diversion goal. **Table K-1** demonstrates that the District does not meet the requirements of Goal 2 of the 2020 State Plan in the reference year.

The approved 2018 Plan Update projected an increasing waste reduction rate annually. Those projections estimated the 2021 waste reduction rate would be 19.85%. Data collected shows, waste reduction decreased while the disposal amounts increased. The 2018 Plan projected 37,696 tons of waste diverted in 2021 and 152,187 tons disposed. The actual reported tonnages were 33,975 tons of waste reduced and 169,055 tons disposed.

Table K-1 shows actual tonnages for 2021 and 2022 data years. With the changes to the 2020 State Plan and demonstration of compliance with Goal 1, Access, the District intends to move away from Goal 1 in favor of achieving Goal 2. The District is committed to reaching the goal diversion rate of 25% by the third year of the planning period (2028).

Diversion data is collected from several sources as documented and shown in Appendix E, Table E-8. Program services and offerings developed by the District are designed to improve infrastructure and increase diversion. While the District focused on drop-off improvements, HHW, and other programs, some programs were not able to receive as much attention. The commercial survey program is one program where focus was diverted elsewhere over the past few years. Plus, COVID 19 greatly impacted the business outreach. As discussed in Appendix E, the diversion data reported from the commercial survey program documented decreased annually.

The District invested significant time and resources to receiving survey responses from the residential and commercial sectors for the data year 2022. The Director, Assistant Director, and outreach specialists contacted each commercial business via phone to gather data. Phone surveys were conducted for the majority of responding businesses. Some completed the online survey and others emailed a response back. The District's aggressive survey efforts proved to be very successful, increasing data received from the commercial survey by 186% from the 2021 survey data. Commercial responses in 2021 attribute 4,183 tons of diverted material and in 2022, increased over 9,000 tons. The overall impact from the District's focused and targeted effort saw a 5% residential/commercial diversion rate increase from 2021 (16% diversion) to 2022 (21% diversion).

Steps to Increase Diversion in the Planning Period

1) Commercial Sector

The District believes there is more diversion occurring that hasn't been captured by the survey efforts. Historically in 2017, the diversion reported from commercial businesses was over 23,000 tons. Re-directing focus towards data collection should move the District towards that historical diversion tonnage. It won't be easy. It's challenging to obtain data from businesses, but focus will be made on developing relationships. While tonnage data from the commercial survey respondents in 2022 is good, there is room for improvement. One way to help the District outreach to the commercial sector and obtain survey responses is to develop a new program called Business Diversion Specialist. The duties of the Business Diversion Specialist will be conducted by the Assistant Director and include maintaining relationships, collecting data, and analyzing reports from the commercial sector. See Appendix L for further information.

Commercial sector growth is planned. Two retail warehouses opened in the District recently, Amazon and Bath & Body Works. The District has already been in contact with these locations but was unable to receive any data as they are still working to be fully operational. However, based on similar distribution centers such as Walmart and Kohl's, it is estimated the District could receive more than 7,000 tons of creditable materials from these locations. This tonnage estimate was projected in Appendix E.

Non-responding businesses are a target. While not received in 2021, the Disrict was able to work with Ohio EPA and the Ohio Department of Rehabilication and Corretion (ODRC) in 2022 to gather diversion data. This resulted in 1,600 tons of additional material being collected for the commercial survey. These facilities have in-vessel composting systems that are not currently in use. The District plans to provide technical assistance to help get these operational once more, further contributing to the anticipated commercial survey increases.

Recycling infrastructure development. In June of 2023, a statement from PTT Global Chemical Public Company Limited (GC America) was released detailing the company's decision to build a recycling plant in Fayette County. GC America will build a "Midwest Mega Commerce Center in Fayette County for a new mechanical recycling facility" that will process plastics into polyethylene terephthalate (PET) pellets to be made into new products.

Global Chemical is aligned with the Paris Agreement to reduce CO2 emissions by 20% by 2030 and to be net zero by 2050. The company's recycling facility demonstrates a broader goal to help facilitate a circular economy as well. Global Chemical has been rated number one globally by the Dow Jones Sustainability Indices Chemical Sector for four consecutive years.

The project is still in its early stages of study and preparation. Once operational, the facility will use feedstock from Ohio and surrounding states and is estimated to divert 40,000 tons of plastics annually. The 2,300 acre park will be located on the east side of I-71 near the planned site for Honda's new battery manufacturing facility about 40 miles southeast of Columbus.

K-3

It is expected that this major facility will drive demand for plastic feedstock in the coming years. Once operational, the District expects to see recycling diversion increase. GC America will have a high demand for plastic feedstock and are expected to be aggressive in purchasing local feedstock. Businesses and industries in the District will have developing infrastructure and an aggressive buyer, driving the demand for recycling and the broader market. Thus, also increasing diversion from landfills.

2) Residential

As outlined in Appendix I, the District will work towards estblashing nonsubscription curbside programs in Circleville and Washington Court House. The District has four curbside programs with only two regularly reporting diversion tonnages. One of the District's priorities this planning period is to receive annual tonnages from all four curbside recycling programs and to work with additional municipalities such as Circleville and Washington Court House on establishing new curbside recycling programs. Non-subscription curbside recycling programs are an effective way to increase the number of materials being diverted from landfills and working towards a 25% diversion rate. See Appendix I for more information on how this will be accomplished.

Assuming both communities establish a curbside recycling program, an estimated 1,500 tons could be collected annually. This is based on 2021 per capita data from the existing programs that reported to the District in Ashville and Chillicothe. The average tons per person annually for these programs from 2017 to 2021 was 0.05 tons. Applying this to the population projections found in Appendix C for these two cities in 2025 yields 724 tons and 731 tons for Circleville and Washington Court House respectively.

There is a three year window from the start of the planning period (2025) to reach a 25% residential/commercial diversion rate to be in compliance with Ohio EPA's Goal 2. The District is confident with the planned programs it will be able to achieve Goal 2 in the allowable time of three years into the planning period (2028).

Even though the recycling rate for the industrial sector is no longer required by the Ohio EPA, the District surveyed the industrial sector and therefore was able to document the industrial sector data and projection for waste reduction.

 Table K-2 shows the District's industrial sector's 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)
2021	245,774	103,165		348,939	70.43%
2022	244,471	103,423		347,894	70.27%

Table K-2. Annual Rate of Waste Reduction: Industrial Solid Waste

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Non-Recyclable Waste	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2023	243,175	103,682		346,857	70.11%
2024	241,887	103,941		345,827	69.94%
2025	240,605	104,201		344,805	69.78%
2026	239,329	104,461		343,791	69.61%
2027	238,061	104,722		342,783	69.45%
2028	236,799	104,984		341,783	69.28%
2029	235,544	105,247		340,791	69.12%
2030	235,544	105,510		341,054	69.06%
2031	235,544	105,510		341,054	69.06%
2032	235,544	105,510		341,054	69.06%
2033	235,544	105,510		341,054	69.06%
2034	235,544	105,510		341,054	69.06%
2035	235,544	105,510		341,054	69.06%
2036	235,544	105,510		341,054	69.06%
2037	235,544	105,510		341,054	69.06%
2038	235,544	105,510		341,054	69.06%
2039	235,544	105,510		341,054	69.06%

Sources of Information: Data for this table is taken from the following portions of the solid waste management plan:

• Waste reduced and recycled: Appendix F, Table F-4 (for reference year) and Table F-5 (for planning period)

• Waste Disposed: Appendix D, Table D-3 (for reference year) and Table D-5 (for planning period)

• Waste Generated: Appendix G, Table G-1 (for reference year) and Table G-2 (for planning period)

Sample Calculations:

2021 Waste Generated = 2021 Waste reduced and recycled + 2021 waste disposed 348,939 tons = 245,774 tons + 103,165 tons

2021 Waste Reduction & Recycling Rate = (2021 Waste Reduced & Recycled \div 2021 Waste Generated) x 100 70.43% = (245,774 tons \div 103,165 tons) x 100

The industrial waste reduction rate in the reference year is calculated at 70.43% percent. The approved 2018 Plan Update projected the 2021 waste reduction rate would be 84.54%. The 2018 Plan Update projected waste reduction increasing each year, in 2021 the previous plan projected industrial waste reduction to be 239,724. The District actually diverted roughly 6,000 more tons than was projected. However, the District disposed of more than twice the amount that was projected in the previous plan update of nearly 44,000 tons. This caused the waste reduction rate to decrease to the current 70.43%.

To attempt to improve the waste reduction rate for the industrial sector for each year of the planning period, the District will implement the programs and/or initiatives detailed in Appendix I.

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)
2021	279,723	272,220	551,944	50.68%
2022	291,166	272,933	564,099	51.62%
2023	291,914	273,648	565,562	51.61%
2024	292,583	274,365	566,948	51.61%
2025	293,280	275,083	568,363	51.60%
2026	293,972	275,803	569,775	51.59%
2027	294,691	276,526	571,217	51.59%
2028	295,405	277,250	572,655	51.59%
2029	294,638	277,976	572,614	51.45%
2030	295,117	278,704	573,821	51.43%
2031	295,125	278,704	573,829	51.43%
2032	295,117	278,704	573,821	51.43%
2033	295,125	278,704	573,829	51.43%
2034	295,117	278,704	573,821	51.43%
2035	295,125	278,704	573,829	51.43%
2036	295,117	278,704	573,821	51.43%
2037	295,125	278,704	573,829	51.43%
2038	295,117	278,704	573,821	51.43%
2039	295,125	278,704	573,829	51.43%

Sources: Tables K-1 and K-2

Sample Calculations:

2021 Waste Generated = 2021 Waste reduced and recycled + 2021 waste disposed 551,944 tons = 279,723 tons + 272,220 tons

2021 Waste Reduction & Recycling Rate = (2021 Waste Reduced & Recycled \div 2021 Waste Generated) x 100 50.68% = (279,723 tons \div 551,944 tons) x 100

Overall, the District is projecting annual increases in total waste reduction and recycling rate. Both total recycling and total disposal are expected to increase.

In comparison to the previous plan projections, the observed numbers in 2021 are very similar. The only major difference is in the amount of material landfilled. The previous plan projected the District would landfill a total of 236,155 tons of material in 2021 while the actual disposed was 272,220 tons.

The main barrier to achieving Goal 2 for the District historically is lack of reporting from commercial business surveys. Survey responses are critical to achieving Goal 2, without proper representation of the commercial recycling efforts the District will not have accurate tonnages to credit towards diversion. Greater diversion rates can be achieved if more data can be collected. While this is a residential and commercial diversion rate the greatest impact will come from the commercial sector. For the 2022 commercial survey, the District placed increased emphasis on receiving commercial survey responses from local businesses using direct phone outreach. The result was an increase of 5% for their

residential/commercial diversion rate. The District will continue to place emphasis on this commercial sector and commercial survey program throughout the planning period to increase diversion rates.

Specific programs to target in order to increase diversion rates are as follows:

- 1) Survey Commercial/Institutional Businesses (also see Appendix I)
 - a. In 2024 to collect 2023 data the District will:
 - i. Over the next 3 years deploy the same direct phone outreach targeting a 5% increase in responses.
 - ii. From July 2023 to April 2024 work with chamber of commerce in Pickaway and Ross County to develop a comprehensive list of commercial businesses, with focus on removing those out of business and new business growth.
 - iii. From July 2024 to April 2025 work with chamber of commerce in Pickaway and Ross County to develop a comprehensive list of commercial businesses, with focus on removing those out of business and new business growth.
- 2) Promote Curbside Recycling
 - a. Washingon Court House
 - b. Circleville
- 3) Business Outreach Specialist
 - a. Restructure Assitant Director role to include duties of a Business Outreach Specialist

APPENDIX L

MINIMUM REQUIRED EDUCATION PROGRAMS: OUTREACH AND MARKETING PLAN AND GENERAL EDUCATION REQUIREMENTS

APPENDIX L. Outreach and Marketing Analysis

This section discusses State Plan Goals 3 and 4 and the District's strategies to meet each goal's requirements. The following bullet points summarize each goal, as presented in Ohio EPA's Plan Format v4.1:

Goal #3

•The SWMD shall provide the following required programs: a website; a comprehensive resource guide; an inventory of available infrastructure; and a speaker or presenter.

Goal #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.

A. Minimum Required Education Programs

To comply with Goal 3 of the 2020 State Plan, the District must is required to provide four minimum education programs including: (1) a website, (2) a comprehensive resource list, (3) an inventory of available infrastructure, and (4) a speaker or presenter. The District met these requirements in the reference year.

Website

The District maintains a website at <u>http://rphfsolidwastedistrict.com/index.html</u>. This is a website entirely focused on the RPHF Solid Waste Management District. The District follows best practices for a website with concise information and helpful links and/or contact information. The website divides the District's services into four tabs, one for each county that makes up the District.

The website is a resource that provides much of the information that residents and educational institutions would seek. The homepage is key to user navigation and can be updated regularly to reflect recycling services, seasonal program info, and opportunities. The webpage provides an infrastructure inventory, drop-off collection locations, information about tire collection events and available education and outreach opportunities.

Comprehensive Resource List and Inventory of Available Infrastructure

The District's plan updates every five years and includes an inventory of the solid waste management infrastructure. Additionally, the District's website lists drop-off recycling locations. The District does not have a link to its most recent plan update on the website.

Speaker/Presenter

The District maintains one outreach specialist for each of the four counties that makes up the District. Their role is to coordinate best practices sharing, education

tours, presentations, and programs to educate the public about recycling and reducing their waste.

The District experiences significant turnover in outreach specialists, resulting in more re-training and the lack of building the institutional knowledge of programs. It also results in unbalanced education/outreach efforts among the four counties. The District aims to improve education/outreach by restructuring the program. The District will directly employ three full-time outreach specialists and a full-time director, assistant director, and part-time program assistant.

B. Outreach and Education – Outreach Plan and General Education Requirements

As the 2020 State Plan prescribes, each SWMD will provide education, outreach, marketing, and technical assistance regarding education and reuse through an outreach and marketing plan. Per Format 4.1 the Outreach and Marketing Plan needs to have the following components:

- 1. Five target audiences as identified in Ohio EPA Format 4.1
- 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).
- Explain how the SWMD will incorporate principles and tools for changing behavior into the outreach and marketing plan.

To align with Format 4.1, the target audience organized the District's existing programs some of which cross several target audiences.

	Target Audience				
Education/Outreach Program	Residents	Schools	Industries	Institutions and Commercial Businesses	Communities and Elected Officials
Organics Management Partnerships	х				
District Website and Social Media	х	х	Х	Х	х
School Education and Outreach		х			

Table L-1 District Education and Outreach Programs

	Target Audience				
Education/Outreach Program	Residents	Schools	Industries	Institutions and Commercial Businesses	Communities and Elected Officials
Commercial/ Institutional Education and Outreach				Х	
Business Diversion Specialist			x	х	х
Industrial Sector Education and Outreach			х		
Industrial Sector Annual Meetings			х		
Promote Curbside Recycling	Х				Х
Reuse Network	Х				
Promote Product Stewardship and Retailer Take Back	x		х	Х	
HHW Education and Awareness	х				
Outreach Education Specialists	х	x	х	х	х

1. Audience: Residential Sector

Name	Start Date	End Date	Goal
Organic Management Partnerships	Ongoing	Ongoing	Goal 3 and 4

This program, previously called the Cooperating Agencies, distributes brochures and flyers on backyard composting and yard waste management. District Outreach specialists speak about and create educational pieces for the residents on properly managing yard waste. District partners distribute educational materials to residents.

The District continues to support infrastructure development by providing education when requested. The District utilizes existing education resources to promote food waste reduction through source-reduction efforts and back yard composting. Developing a collection infrastructure to recover food waste composting appears to be cost-prohibitive at this time.

Target for Next 5 years: Continue through planning period.

Name	Start Date	End Date	Goal
Education and Awareness of HHW	Ongoing	Ongoing	Goal 3

The District is responsible for the education and public awareness of HHW to the residents of the four counties. Informing the public of potential HHW dangers and the safe outlets for disposal or recycling is a District priority. Efforts include the District webpage and social media, outreach specialists speaking at events, and flyers. The website contains considerable information about using less toxic household products. Each county Outreach/Education staff provides overviews of HHW identification and proper methods of use and disposal at presentations.

Target for Next 5 years: Continue through planning period.

Name	Start Date	End Date	Goal
Reuse Network	Ongoing	Ongoing	3 and 4

The top management hierarchy of waste minimization is the most preferred method of reducing reliance on landfills since, unlike recycling, waste minimization eliminates the generation of waste material. Reuse centers give materials a second life, thereby diverting them from landfills. The target for the Ohio Materials Marketplace is businesses. Residents have similar opportunities in the District through reuse centers and secondhand stores. Reuse infrastructure is scattered throughout the District and operates independently. Reuse infrastructure heavily falls on non-profits and their development of reuse centers.

The District develops a resource guide to donating and educating residents on the benefits of using these types of businesses that get updated as needed. The District also uses social media platforms and the website to provide other recycling uses and/or give information about businesses accepting recycled material.

Target for Next 5 years: Continue through planning period.

2. Audience: Schools

Name	Start Date	End Date	Goal
School Education and Outreach	2018	Ongoing	3 and 4

The District aims to target at least one school a year to provide technical assistance to help implement a recycling program. In 2018, the District worked to bring recycling inside Huntington Local Schools in Ross County. Inside receptacles were added to buildings. In addition, the District now has two commingled recycling containers at the practice baseball field behind the bus garage. Teays Valley High School in Pickaway County received a District and Ohio EPA grant to purchase recycling receptacles for inside and outside.

In 2019, the District worked to bring recycling to Bright Elementary. Each classroom received recycling tubs for all classroom recyclable paper. Students at Bright will actively participate in the program by collecting paper and assuring that it goes to the large recycling bin.

In 2020, COVID-19 restrictions prohibited the District from being in the classrooms physically, but the District was able to create a new tab on the District's website for education. The District was still able to host the annual billboard contest and was able to host an Environmental Education summer camp.

2021 allowed for the District to get back into the schools slowly. The District still has an updated education tab on the website as well. The District hosted another billboard contest and partnered with the Environmental Education camp in the summer.

Target for Next 5 years: Continue through the planning period.

3. Audience: Industries

Name	Start Date	End Date	Goal
Industrial Sector Education and Outreach	Ongoing	Ongoing	3 and 4

The District provides education and outreach technical assistance to the industrial sector when requested. The District worked with local industrial contacts to set up and conduct the District's first Environmental, Health & Safety Managers meeting in January 2017. The District planned to meet with this group annually to update them on District and Ohio EPA programs such as the Ohio Material Market Place, Environmental Excellence Awards, and Market Development Grant opportunities. As an outcome of the 2017 meeting, the District had two businesses contact them for guidance on utilizing the Ohio Materials Marketplace. One company applied for an Ohio EPA Market Development Grant, and another mentored a local school district to help them develop a recycling plan.

The District provided no education and outreach to industries in 2018, 2019, or 2020. In 2021, the District decided not to host any meetings. However, suppose a business or industry calls for assistance. In that case, the District will meet with them individually and do what is possible to help and/or guide them in their recycling endeavors.

Target for Next 5 years: Continue through the planning period by targeting at least four businesses annually to assist.

4. Audience: Institutions & Commercial Businesses

Name	Start Date	End Date	Goal
Commercial/Institutional Education and Outreach	Ongoing	Ongoing	3 and 4

The District tries to target one government entity annually to provide technical assistance to help implement a recycling program. Outreach specialists are encouraged to visit commercial businesses to assist them with waste audits or finding an outlet for recycled material. The District distributes a list of recycling opportunities for commercial waste in the region.

In 2018 the District targeted the Village Of Commercial Point and assisted Chillicothe in the startup of their curbside program in September of that year. The District continued this work in 2019 as the Village of Commercial Point started its 3-year pilot curbside recycling program. The District committed to assisting them with funding for two of the three years.

In 2020 the District attempted to reach out to the City of Circleville and the Village of Frankfort about curbside recycling, though they were unsuccessful. There was no activity in this program in 2021.

Target for Next 5 years: Continue through the planning period by targeting at least one entity a year to assist.

Name	Start Date	End Date	Goal
Business Diversion Specialist	2025	Ongoing	3 and 4

As part of this plan update, the District is creating a new titled position that will be the responsibility of the Assistant Director. To consistently meet Goal 2, a dedicated specialist is needed to outreach to businesses. Other districts like Hamilton and Cuyahoga have similar programs and positions. The District's Business Diversion Specialist will be responsible for outreach, administering surveys, creating relationships, providing waste reduction and recycling assistance to the commercial and institutional sectors, and helping to develop waste reducation and recycling programs. This includes not-for-profit organizations, government offices, commercial businesses, sports/music venues, educational institutions, as well as industries. Direct one-to-one outreach is planned through meetings, on-site visits, presentations, and other forms of technical assistance. The Business Diversion Specialist will provide strategies and resources to assist businesses in diverting materials from the landfill. One of the resources will be maintaining a list of grant opportunities. Some contacts are already established but others will need to be made. To make those connections door-to-door soliciting and phone calls will be tactics deployed.

Each year surveys will be conducted to collect business recycling data. Continued efforts will be maintaining a contact list for businesses and following up to gather data.

The District is targeting this program to begin in 2025. No new funding will be needed to create this position. Duties and responsibilities will be absorbed in this planning period by the Assistant Director.

5. Audience – Communities & Elected Officials

Name	Start Date	End Date	Goal
Promote Curbside Recycling	Ongoing	Ongoing	3 and 4

The District continues facilitating discussion and engagement with political jurisdiction stakeholders encouraging curbside recycling with a target of reaching two jurisdictions per year. In 2018, the Village of Commercial Point in Pickaway County signed a 3-year contract for curbside recycling to begin in 2019. However, since this, there has been no activity from this program.

Target for Next 5 years: Continue through planning period.

6. General Audience Programs

Name	Start Date	End Date	Goal
Website and Social Media	Ongoing	Ongoing	3 and 4

District staff its Facebook page, which currently has 600 followers. The District also promotes its website through advertising, written material, presentations, displays, and similar opportunities. The site provides disposal methods, disposal options, trash haulers, recyclers, drop-off locations, and links to other sites. The information briefly describes source reduction and/or recycling methods for residential, commercial, and industrial waste, information about special collection events, and lists haulers and recyclers. The information contained on the website prompts telephone calls to the District office by people who wish for more information on specific topics.

The District has been working with another county to follow their best practices from some of their messaging and videos. The District hopes to create a YouTube channel to get more information to residents and businesses.

Target for Next 5 years: Continue through the planning period.

Name	Start Date	End Date	Goal
Promote Product Stewardship and Retailer Take- Back	Ongoing	Ongoing	3 and 4

The District identifies retailer take-bake programs, product stewardship, and producer responsibility. The District posts this information on its website and social media, updating it as necessary. Materials with retailer take-back opportunities in the District include tires, electronics, and appliances.

Target for Next 5 years: Continue through the planning period.

Name	Start Date	End Date	Goal
Outreach Education Specialists	Ongoing	Ongoing	3 and 4

Below details the structure of the outreach specialists:

-				
County	Ross County	Highland County	Fayette County	Pickaway County
Staff	Part-time Outreach a \$20,000 per vear with	nd education Specialist. District agreement of		Full-time Assistant Director will spend part-time as Pickaway
	4_0,000 por your min			County outreach and education specialist. District employs full-time employee
Structure	Work from County off	ices with County suppo	rt structure (i.e. phone.	Work from District offices with
	computer, copier, cou	inty budget/financial pro	cessing).	District support structure (i.e.
				phone, computer, copier)
Reporting	Participate in 4 outrea	ach and education mee	tings at District offices.	Participate in 4 outreach and
	Participate in 2 outr	each and education c	onference calls. Track	education meetings at District
	timesheet and engage	report to County Com	gress. Provide monthly	and education conference calls
	timesheet and activity	report to county comin		Track activities and engagements
				and measure progress. Provide
				monthly timesheet and activity
				report to District.
Responsibilities	Conduct outreach and education activities. Plan and implement, in conjunction with District staff, at least two			
	special collection eve	nts such as tires & electronic	ctronics. Oversee county	s drop-off recycling program: assure
	if needed Assist Dist	rict in conducting annua	l husiness recycling surv	
			a sacino os rocyoning surv	

In this structure many of the activities below were implemented but the District is seeing competing responsibilities for the part-time outreach specialists or unfilling

of the position by the counties. These challenges are placing the bulk of education activities on the responsibility of the Assistant Director.

Target Audience	Outreach/Education Activity	Notes
Residential Sector	Monthly post on social media to expand messaging on waste reduction, recycling topics, composting topics, etc.	Performed by Assistant Director.
	Attend community events to increase one-on-one contact within the county.	All but when position is unfilled or competing responsibilities pull the outreach specialists the activity is performed by Assistant Director.
	Assist community events in respective counties to develop recycling plans.	All but when position is unfilled or competing responsibilities pull the outreach specialists the activity is performed by Assistant Director.
	Write at least 1 article a year for publication in local newspapers.	Not completed.
	Partner with cooperating agencies such as 4-H, OSU extension, SWC to expand messaging	Led by Assistant Director.
Commercial/Institutional Sector	Assist local businesses to be recognized by Ohio EPA's Encouraging Environmental Excellence (E3) Program.	Not completed.
Industrial Sector	Assist local businesses to be recognized by Ohio EPA's Encouraging Environmental Excellence (E3) Program.	Not completed.
Schools	Develop a contest for elementary schools such as calendar art, reuse art, etc.	Led by Assistant Director.
	Develop teacher workshops	Not completed.

Target for Next 5 Years: The District spent \$60,000 per year for outreach specialists. In this planning period, the Assistant Director's duties are planned to direct away from the Outreach Specialist duties in Pickaway County to lead Business Specialist duties. To re-structure to allow for a Business Specialist role, to reduce turnover, minimize competing responsibilities, balance the education in all counties, and create more cohesiveness changes are planned. The Policy Committee directed the Director to set the budget at \$80,000 and consider the following structures:

- Outsource education to an educator to provide education.
- Hire two part-time educators to educate in all four counties.
- A combination that will provide education across all four counties.

Re-structuring is planned to begin in 2025.

D. Outreach Priority

The District's priority during this planning period is to achieve a 25% residential/commercial diversion rate and meet the requirements for Goal 2. The District's outreach priority during this planning period is to work with the cities of Circleville and Washington Court House to adopt non-subscription curbside services.

In conjunction with this goal, the District selected to develop an outreach campaign targeted at promoting curbside recycling to Circleville and Washington Court House.

Name	Start Date	End Date	Goal
Promote Curbside Recycling Outreach	2025	Ongoing	2

Goal/Purpose: The District will focus on promoting curbside recycling programs to Circleville and Washington Court House.

Targeted Audience: Residents and Elected Officials

Strategy: The outreach campaign targeting residents will encompass the creation of a comprehensive outreach and communication strategy with face-to-face interaction and social media to promote the outreach campaign. This strategy will encompass the following key components:

- Establishing a Call to Action: Outlining the desired actions that the target audience should take.
- Setting Measurable Communication Objectives: Clearly defining measurable goals that will gauge the effectiveness of the campaign.
- Planning Tactics and Timelines: Developing a strategic plan that includes the methods and schedule for implementation.

In executing this outreach initiative, the District anticipates implementing various strategies such as establishing a measurable baseline, harnessing social norms, encouraging proactive engagement, maintaining an online presence through Facebook and the official website, monitoring metrics, and implementing follow-up actions contingent upon the campaign's results.

Milestones:

- 1. **Identifying the Desired Behavior:** Promoting curbside recycling to households.
- 2. Establishing a Baseline: Develop a survey and distributed to gauge interest in a specific community. (e.g., 10%, 100%).
- 3. Leveraging Social Norms: Creating short videos showcasing neighbors in other communities with curbside recycling and sharing them on the website and Facebook platform. Developing presentations to elected officials to show neighboring communities cost structure.

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- 4. **Persuading Action:** Providing incentives, such as grants, to communities to help with costs of start-up.
- 5. **Follow-up on Social Media**: Promoting and celebrating exemplary recyclers as on Facebook and the website.
- 6. **Monitoring Metrics:** Measuring the community specific diversion to highlight progress and promote campaign.
- 7. **Implementing Reminder Prompts:** Developing reminder prompts and determining their frequency based on campaign outcomes.

Opportunity: Explore the possibility of applying for the OEPA Community Development Grant, particularly for the Education & Outreach Priority. This grant can cover expenses related to printed materials, signage, and similar needs.

Metrics: Post campaign measure is converting Circleville or Washington Court House to curbside recycling.

APPENDIX M

WASTE MANAGEMENT CAPACITY ANALYSIS

APPENDIX M. Waste Management Capacity Analysis

A. Access To Publicly Available Landfill Facilities

This appendix will provide the SWMD's strategy for ensuring that it has 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 and access to transfer facilities.

Table M-1 below details the landfills used by the District from the reference year and the 2 years prior and their remaining years of capacity.

The District does not have any in District landfills. During the reference year, the District hauled waste to 15 in-State facilities and four out-of-State facilities. The in-State landfills used by the District in the reference year have an average overall capacity remaining of 42 years. All but three landfills used by the District over the past three years have enough remaining years of capacity to dispose of District waste through the planning period. Stoney Hollow Landfill has 4 years, Gallia County Landfill has 9, and Tunnel Hill Reclamation LLC has 7 years of remaining capacity based on the most recent data available from the Ohio EPA.

The District does have access to landfills with plentiful capacity, even without the 3 mentioned above.

Facility	Location	Years of Remaining Capacity
Wilmington Sanitary Landfill	Clinton County	34
SWACO Franklin County Sanitary Landfill	Franklin County	46
Pine Grove Regional Facility	Fairfield	88
Hancock County Landfill	Hancock County	24
American Landfill Inc	Stark County	74
Suburban Landfill Inc	Perry County	77
Rumpke Sanitary Landfill	Hamilton County	37
Rumpke of Northern Ohio Inc Noble Road Landfill	Richland County	16
Athens-Hocking Landfill	Athens	48
Rumpke Waste Inc Beech Hollow Landfill	Jackson County	76
Rumpke Waste Inc Brown County Landfill	Brown County	64
Pike Sanitation Landfill	Pike County	36
Carbon Limestone Landfill LLC	Mahoning County	47
Stony Hollow Landfill Inc	Montgomery County	4
Gallia County Landfill	Gallia	9
Tunnel Hill Reclamation LLC	Perry County	7

Table M-1 Remaining Operating Life of Publicly Available Landfills

Facility	Location	Years of Remaining Capacity
Green Valley Landfill General Partnership	Kentucky	n/a
Marysville-Mason County Landfill	Kentucky	n/a
Boyd County Landfill	Kentucky	n/a

Source(s) of Information: Ohio EPA, SWMD Waste Flow Data 2019, 2020, 2021 and Ohio EPA Facility Data Report 2021 Note: The years of remaining capacity are based on the most recent annual report for the facility. Thus, if the owner/operator of a facility obtained a permit to expand the facility after the reference year, then the additional permitted capacity is included in the years of remaining life.

Table M-2 Tons and Percent Waste Sent to Disposal 2021

Facility	Location	Tons	Percent
Wilmington Sanitary Landfill	Clinton County	6,556	2%
SWACO Franklin County Sanitary Landfill	Franklin County	413.12	0%
Pine Grove Regional Facility	Fairfield County	9,659.16	4%
Hancock County Landfill	Hancock County	0.38	0%
American Landfill Inc	Stark County	7.58	0%
Suburban Landfill Inc	Perry County	34,971.39	13%
Rumpke Sanitary Landfill	Hamilton County	83.90	0%
Rumpke of Northern Ohio Inc Noble Road Landfill	Richland County	6,630.52	2%
Athens-Hocking Landfill	Athens County	1,909.49	1%
Rumpke Waste Inc Beech Hollow Landfill	Jackson County	27,977.67	10%
Rumpke Waste Inc Brown County Landfill	Brown County	23,601.70	9%
Pike Sanitation Landfill	Pike County	161,244.03	58%
Carbon Limestone Landfill LLC	Mahoning County	14.18	0%
Stony Hollow Landfill Inc	Montgomery County	987.85	0%
Marysville-Mason County Landfill	Kentucky	1,894.20	1%
Boyd County Landfill	Kentucky	3.50	0%
Crawford County LF	Crawford County	6.98	0%
Total		275,961.48	100%

Source(s) of Information: Ohio EPA, SWMD Waste Flow Data 2019, 2020, 2021 and Ohio EPA Facility Data Report 2021 Note: Does not include any exempt waste

As seen in Table M-2 above, 58% of the waste disposed of in 2021 was sent to the Pike Sanitation Landfill in Pike County. The second most utilized landfill was the Suburban Landfill in Perry County at 13%. Together, these 2 landfills accepted nearly three-quarters of all waste disposed of by the District in the reference year. According to the 2021 Facility Data report, Pike Sanitation Landfill has 36 years of capacity remaining, and Rumpke Waste Inc Brown County Landfill has 64 years of capacity remaining. Between both landfills there is adequate disposal capacity.

As a result, the District concludes that adequate landfill capacity is available to serve the needs of the District for the entire planning period.

Transfer stations play a key role in managing District waste. Twelve transfer facilities processed 42% of the Districts waste sent for disposal in the reference year. Four of the transfer stations are located within the District, two in Ross County, one in Fayette County, and one in Pickaway.

B. Access To Captive 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.

C. Incinerators and Energy Recovery Facilities

The District did not use any energy and recovery facilities in the reference year.

APPENDIX N

EVALUATING GREENHOUSE GAS EMISSIONS
Appendix N. Evaluating Greenhouse Gas Emissions

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 District 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 District 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 (GHG). These gases include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and fluorinated gases. Each gas has its own global warming potential (GWP) with carbon dioxide establishing the baseline of one same global warming potential, all other gases are compared in units of carbon dioxide equivalent (CO₂e). Each gas has varying degrees of effects on the climate and is dependent on the quantity in the atmosphere, the time they remain in the atmosphere, and how strong their GWP is on the atmosphere. Disposal and treatment of materials results in greenhouse gas emissions from collection, transportation, disposal, manufacturing, etc.

The most common method to measure the climate impact of waste management is to measure in terms of carbon dioxide equivalents. Because waste reduction and management results in multiple types of greenhouse gases, the conversion to a standard carbon equivalent measurement allows for a total quantification of impacts. It also establishes a standard language to compare these sources of emissions to other sources like transportation and energy reduction efforts. A carbon equivalent is the amount of CO₂ it that would have the same global warming potential as the waste reduction impacts when measured over a specified timescale. The international standard for reporting CO₂

emissions is metric tons. Carbon dioxide quantities will be reported as MTCO₂e, metric tons of carbon dioxide 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) are excluded from the modeling because they have no relevant WARM proxy.

The reports below show the metric tons of carbon dioxide equivalent (MTCO₂e) which describes the global warming potential of all common greenhouse gases as an equivalent to CO₂. Negative values indicate a savings while positive values indicate increasing emissions. In 2021, the four counties in the District generated 203,005 tons of waste from the residential and commercial sectors, of which 33,950 tons (13%) were diverted from landfills.

Total GHG Emissions from Baseline – Year 2021	(61,367) MTCO ₂ e
Total GHG Emissions from Alternative – Year 2030	(80,009) MTCO2e
Incremental GHG Emissions Savings	(18,662) MTCO2e

Table N-1: Reference Year Waste Diversion

If the District had no diversion programs in place and all diverted materials were instead landfilled, the District would have close to 0 MTCO₂e savings. To better illustrate the amount saved by the District, the diversion program's emissions saved from the reference year are equivalent to:

- Removing 13,444 passenger vehicles from the road
- Conserving 7,125,333 gallons of gasoline
- Conserving 4,127 household's annual energy consumption

With the projected increase in diversion by 2030, there is an estimated additional reduction of 18,662 MTCO₂e of greenhouse gases. This is equivalent to:

- Removing 3,962 passenger vehicles to the road
- Conserving 2,099,961 more gallons of gasoline
- Conserving 1,216 household's annual energy consumption

APPENDIX O

FINANCIAL DATA

APPENDIX O. Financial Data

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. This 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 District intends to fund during the planning period and estimates how much the District will spend on each program. This 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 2025 to 2039.

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

A. Funding Mechanisms and Revenue Generated

There are a number of mechanisms Districts 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. These fees are often referred to as "statutory" fees because District's authority to levy the fees is established in Ohio law.

A District's policy committee has the authority to establish fees. Before a District can collect a generation or disposal fee, the District's policy committee must first obtain approval from local communities through a ratification process. That process is detailed in ORC Section 3734.57. Ratification allows communities in the District to vote on whether they support levying the proposed fee. If enough communities ratify (i.e. approve), the proposed fee, then the District can collect the fee.

This section examines the funding mechanisms expected to be used by the District. In addition, anticipated revenues from each source listed below are projected for each year of the planning period.

1. Disposal Fee

The District does not receive revenues from disposal fees.

	Di	Disposal Fee Schedule			Revenue		
Veer			Out of		(\$)		Fee Revenue
rear	District	District	State	In-District	District	Out-of-State	(\$)
2017	\$0	\$0	\$0	NA	NA	NA	NA
2018	\$0	\$0	\$0	NA	NA	NA	NA
2019	\$0	\$0	\$0	NA	NA	NA	NA
2020	\$0	\$0	\$0	NA	NA	NA	NA
2021	\$0	\$0	\$0	NA	NA	NA	NA
2022	\$0	\$0	\$0	NA	NA	NA	NA
2023	\$0	\$0	\$0	NA	NA	NA	NA
2024	\$0	\$0	\$0	NA	NA	NA	NA
2025	\$0	\$0	\$0	NA	NA	NA	NA
2026	\$0	\$0	\$0	NA	NA	NA	NA
2027	\$0	\$0	\$0	NA	NA	NA	NA
2028	\$0	\$0	\$0	NA	NA	NA	NA
2029	\$0	\$0	\$0	NA	NA	NA	NA
2030	\$0	\$0	\$0	NA	NA	NA	NA
2031	\$0	\$0	\$0	NA	NA	NA	NA
2032	\$0	\$0	\$0	NA	NA	NA	NA
2033	\$0	\$0	\$0	NA	NA	NA	NA
2034	\$0	\$0	\$0	NA	NA	NA	NA
2035	\$0	\$0	\$0	NA	NA	NA	NA
2036	\$0	\$0	\$0	NA	NA	NA	NA
2037	\$0	\$0	\$0	NA	NA	NA	NA
2038	\$0	\$0	\$0	NA	NA	NA	NA
2039	\$0	\$0	\$0	NA	NA	NA	NA

 Table O-1. Disposal Fee Schedule and Revenue (in accordance with ORC Section 3734.57(B)

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 District. Generation fees are collected on each ton of waste that passes through the transfer stations or ends up at landfills located in the District. The fee is collected at the first facility that accepts the District's waste. The statute does not set minimum or maximum limits on the per ton amount for generation fees.

In accordance with ORC 3734.573, a solid waste management policy committee may levy fees on the generation of solid wastes within the district. In 2012, the District adopted and ratified a \$3.00 per ton generation fee effective January 1, 2013. Generation fees are the District's primary source of revenue, making up nearly 98% of revenue on average annually throughout the last 5 years.

To forecast future revenues anticipated from the generation fee, the historic revenues were analyzed. As seen in **Figure O-1**, "Historic Generation Fee Revenue", generation fee revenues are steady demonstrating increases when fee increases are ratified and implemented.



Figure O-1. Historic Generation Fee Revenue

After the fee increase in 2013, revenue ranged between \$500,000 and \$600,000. From 2018 to 2021 revenues increased to range between \$600,000 and \$700,000.

Year	Generation Fee Schedule (\$ per ton)	Total Revenue from Generation Fee (\$)
2017	\$3.00	\$517,475
2018	\$3.00	\$662,754
2019	\$3.00	\$585,533
2020	\$3.00	\$636,644
2021	\$3.00	\$711,928
2022	\$3.00	\$816,872
2023	\$3.00	\$755,268
2024	\$3.00	\$757,246
2025	\$3.00	\$759,229
2026	\$3.00	\$761,218
2027	\$3.00	\$763,211
2028	\$3.00	\$765,210
2029	\$3.00	\$767,214
2030	\$3.00	\$769,223
2031	\$3.00	\$769,223
2032	\$3.00	\$769,223
2033	\$3.00	\$769,223
2034	\$3.00	\$769,223

Table O-2. Generation Fee Schedule and Revenue

Year	Generation Fee Schedule (\$ per ton)	Total Revenue from Generation Fee (\$)
2035	\$3.00	\$769,223
2036	\$3.00	\$769,223
2037	\$3.00	\$769,223
2038	\$3.00	\$769,223
2039	\$3.00	\$769,223

Source(s) of Information: RPHF SWMD Quarterly Fee Reports and Appendix D Sample Projection Calculations:

Total Revenue from Generation = (Generation fee * Projected Waste Disposed) * 92% 2023 Total Revenue from Generation = (($$3.00 \times 273,647.89 \text{ tons}) \times 0.92$) = \$755,268. Note: Items in bold are actual historic values

Because generation revenue is directly tied to the waste disposed, the projections from 2022 on were calculated using the waste disposal projected in Appendix D. However, because the District operates on a cash accounting basis, tonnages for fee tracking are recorded when the revenues are actually received by a landfill facility. Therefore, to forecast future revenues from generation fees, the District calculated the historical percentage of revenue received from reported disposal tons. The District found the calculated tons generated from the accounting basis system and the actual tons disposed differed by approximately 10-15% over the past 5 years. As such, revenues are conservatively estimated in **Table O-2** using 92% of the projected waste disposed. The revenue projections from generation fees through the planning period range between \$755,000 and \$788,000. The District flatlined values in the 7th year of the planning period.

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. A designation fee can be levied on any solid waste landfill that is designated by the SWMD to receive District generated waste. The District does not currently utilize any designation fees.

Year	Designation Fee Schedule (\$ per ton)	Total Designation Fee Revenue (\$)
2017	NA	NA
2018	NA	NA
2019	NA	NA
2020	NA	NA
2021	NA	NA

Table O-3. Designation Fee Schedule and Revenue

Year	Designation Fee Schedule (\$ per ton)	Total Designation Fee Revenue (\$)
2022	NA	NA
2023	NA	NA
2024	NA	NA
2025	NA	NA
2026	NA	NA
2027	NA	NA
2028	NA	NA
2029	NA	NA
2030	NA	NA
2031	NA	NA
2032	NA	NA
2033	NA	NA
2034	NA	NA
2035	NA	NA
2036	NA	NA
2037	NA	NA
2038	NA	NA
2039	NA	NA

4. Loans

The District does not have any outstanding debt due to existing loans.

Table O-4. Debt

Year Debt Was/Will be Obtained	Outstanding Balance	Lending Institution	Repayment Term (years)	Annual Debt Service (\$)
n/a	n/a	n/a	n/a	n/a

5. Other Sources of District Revenue

The District receives revenues from reimbursements, grants, and other miscellaneous sources.

<u>Reimbursement</u>: Reimbursement revenue is not guaranteed and thus is not projected during the planning period. The District has received an average of \$6,300 annually over the past 5 years.

<u>Grants</u>: Funds received from Ohio EPA grants and other grants as applied for by the District. Grant funds are competitive and are not guaranteed. As such, this revenue

source is not projected during the planning period. The District received two grants, one in 2017 for \$17,220 and one in 2018 for \$15,793.

Other: Other revenue is not projected during the planning period.

Year	Reimbursements	Grants	Other	Total Other Revenue
2017	\$1,758	\$17,220	\$105	\$19,083
2018	\$8,356	\$15,793	\$1,831	\$25,979
2019	\$6,109	\$0	\$84	\$6,194
2020	\$7,687	\$0	\$1,554	\$9,240
2021	\$7,583	\$0	\$0	\$7,583
2022	\$36,845	\$-	\$-	\$36,845
2023	\$-	\$-	\$-	\$-
2024	\$-	\$-	\$-	\$-
2025	\$-	\$-	\$-	\$-
2026	\$-	\$-	\$-	\$-
2027	\$-	\$-	\$-	\$-
2028	\$-	\$-	\$-	\$-
2029	\$-	\$-	\$-	\$-
2030	\$-	\$-	\$-	\$-
2031	\$-	\$-	\$-	\$-
2032	\$-	\$-	\$-	\$-
2033	\$-	\$-	\$-	\$-
2034	\$-	\$-	\$-	\$-
2035	\$-	\$-	\$-	\$-
2036	\$-	\$-	\$-	\$-
2037	\$-	\$-	\$-	\$-
2038	\$-	\$-	\$-	\$-
2039	\$-	\$-	\$-	\$-

Table	O-5 .	Other	Sources	of	Revenue
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Source(s) of Information: RPHF SWMD Quarterly Fee Reports 2017-2021 Sample Calculations:

Other Revenue Total = grants + reimbursements + other

Note: Items in bold are actual historic values

Table O-5 above presents the District's projected other sources of revenue through the planning period. With the uncertainty of these revenue streams, they are not projected through the planning period.

6. Summary of District Revenues

Year	Generation Fees Other Revenue		Total Revenue
2017	\$517,475	\$19,083	\$536,559
2018	\$662,754	\$25,979	\$688,733
2019	\$585,533	\$6,194	\$591,727
2020	\$636,644	\$9,240	\$645,884
2021	\$711,928	\$7,583	\$719,512
2022	\$816,872	\$36,845	\$853,717
2023	\$755,268	\$0	\$755,268
2024	\$757,246	\$0	\$757,246
2025	\$759,229	\$0	\$759,229
2026	\$761,218	\$0	\$761,218
2027	\$763,211	\$0	\$763,211
2028	\$765,210	\$0	\$765,210
2029	\$767,214	\$0	\$767,214
2030	\$769,223	\$0	\$769,223
2031	\$769,223	\$0	\$769,223
2032	\$769,223	\$0	\$769,223
2033	\$769,223	\$0	\$769,223
2034	\$769,223	\$0	\$769,223
2035	\$769,223	\$0	\$769,223
2036	\$769,223	\$0	\$769,223
2037	\$769,223	\$0	\$769,223
2038	\$769,223	\$0	\$769,223
2039	\$769,223	\$0	\$769,223

Table O-6 Summary of District Revenues (in accordance with ORC 3734.57, ORC3734.572 and ORC 3734.573)

Note: Items in bold are actual historic values

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 District's primary funding mechanism is the generation fee. No sources of alternate revenue are projected for the planning period. The District flatlined values in the 7th year of the planning period.

B. Cost of Implementing Plan

Table O-7 shows estimated cost for plan implementation. The estimates are for planning purposes and to provide information concerning the activities of the District office and staff. Strategies will be continuously evaluated for progress. Any strategy that does not provide potential for achieving its goal will be dropped and other strategies not yet developed may be put into place. The District has the ability to adjust to rapidly changing conditions and laws in the solid waste field. In addition, true costs may vary as much as 50% (either more or less) for some of the estimates shown in Table O-7.

0-7

Source(s) of Information: RPHF SWMD Quarterly Fee Reports 2017 – 2021. All other amounts are projections (refer to Table O-2 and O-5).

Table O-7 Years 2017 – 2024

Line #	Category/Program	2017	2018	2019	2020	2021	2022	2023	2024
1	1. Plan Monitoring/Prep.	\$55,588	\$39,079	\$0	\$0	\$0	\$11,545	\$30,000	\$0
1.a	a. Plan Preparation	\$44,716	\$17,857	\$0	\$0	\$0	\$11,545	\$15,000	\$0
1.b	b. Plan Monitoring	\$10,872	\$21,221	\$0	\$0	\$0	\$0	\$15,000	\$0
1.c	c. Other	\$0	\$0	\$0	\$0	\$0			
2	2. Plan Implementation	\$502,085	\$632,275	\$625,474	\$570,642	\$663,972	\$763,016	\$797,223	\$823,484
2.a	a. District Administration	\$66,160	\$89,555	\$159,916	\$198,966	\$164,308	\$179,765	\$260,223	\$259,984
2.a.1	Personnel	\$49,190	\$70,307	\$130,291	\$158,651	\$146,381	\$165,459	\$180,273	\$180,534
2.a.2	Office Overhead	\$16,970	\$19,247	\$29,614	\$40,316	\$17,927	\$14,306	\$19,950	\$19,450
2.a.3	Other	\$0	\$0	\$11	\$0	\$0	\$0	\$60,000	\$60,000
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center								
2.b.2	Compost								
2.b.3	Transfer								
2.b.4	Special Waste								
2.c	c. Landfill Closure/Post-Closure								
2.d	d. Recycling Collection	\$319,873	\$421,546	\$373,108	\$277,286	\$374,170	\$476,661	\$410,000	\$435,000
2.d.1	Curbside	\$50,000	\$50,000	\$20,983	\$11,794	\$0	\$0		\$0
2.d.2	Drop-off	\$264,624	\$361,507	\$347,111	\$261,360	\$363,159	\$470,894	\$410,000	\$415,000
	DROP-OFF SITE DEVELOPMENT								
	DROP-OFF COST SAVINGS								
2.d.3	Combined Curbside/Drop-off								ļ
2.d.4	Multi-family								
2.d.5	Business/Institutional	\$5,249	\$10,039	\$5,014	\$4,132	\$11,011	\$5,767	ļ	\$0
2.d.6	Other							ļ	\$20,000
2.e	e. Special Collections	\$22,851	\$49,953	\$22,024	\$24,337	\$26,645	\$29,260	\$30,000	\$30,000
2.e.1	Tire Collection	\$7,097	\$24,152	\$14,402	\$15,188	\$11,328	\$26,270	\$15,000	\$15,000
2.e.2	HHW Collection	\$14,088	\$10,160	\$0	\$2,029	\$15,197	0	\$7,500	\$7,500
2.e.3	Electronics Collection	\$0	\$14,890	\$7,622	\$7,120	\$120	\$2,990	\$7,500	\$7,500
2.e.4	Appliance Collection								
2.e.5	Other Collection Drives	\$1,666	\$750	\$0	\$0	\$0	\$0	\$0	\$0
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.g	g. Education/Awareness	\$80,367	\$55,310	\$70,427	\$70,053	\$98,849	\$77,331	\$67,000	\$68,500
2.g.1	Education Staff	\$75,000	\$54,699	\$63,700	\$62,402	\$90,000	\$68,820	\$60,000	\$60,000
2.g.2	Advertisement/Promotion	\$5,367	\$263	\$6,727	\$7,650	\$7,534	\$8,510	\$7,000	\$8,500
2.g.3	Other	\$0	\$348	\$0	\$0	\$1,315	A -7		
2.h	h. Recycling Market Development	\$12,833	\$15,912	\$0	\$0	\$0	\$0	\$30,000	\$30,000
2.h.1	General Market Development Activities	\$12,833	\$15,912	\$0	\$0	\$0		\$30,000	\$30,000
2.h.2	ODNR pass-through grant								
2.1	i. Service Contracts								
2.j	j. Feasibility Studies								<u> </u>
2.k	K. Waste Assessments/Audits								
2.1	I. Dump Cleanup								
2.m	m. Litter Collection/Education								
2.n	n. Emergency Debris Management								
2.0	o. Loan Payment								
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0		
3	3. Health Dept. Enforcement								
4	4. County Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Line #	Category/Program	2017	2018	2019	2020	2021	2022	2023	2024
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement								
7.a	a. Heath Departments								
7.b	b. Local Law Enforcement								
7.c	c. Other								
8	8. Heath Department Training								
9	9. Municipal/Township Assistance								
9.a	a. Maintaining Roads								
9.b	b. Maintaining Public Facilities								
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services								
10	10. Compensation to Affected Community (ORC Section 3734.35)								
	Total Expenses	\$557,673	\$671,353	\$625,474	\$570,642	\$663,972	\$774,561	\$827,223	\$823,484

Note: All expenses except for plan monitoring/ preparation assume a 3% annual increase for inflation

Table O-7 Years 2025 – 2032

Line #	Category/Program	2025	2026	2027	2028	2029	2030	2031	2032
1	1. Plan Monitoring/Prep.	\$0	\$0	\$11,891	\$30,900	\$0	\$0	\$0	\$12,248
1.a	a. Plan Preparation	\$0	\$0	\$11,891	\$15,450	\$0	\$0	\$0	\$12,248
1.b	b. Plan Monitoring	\$0	\$0	\$0	\$15,450	\$0	\$0	\$0	\$0
1.c	c. Other								
2	2. Plan Implementation	\$834,889	\$856,935	\$829,643	\$650,785	\$670,309	\$690,418	\$690,418	\$690,418
2.a	a. District Administration	\$205,984	\$212,163	\$218,528	\$225,084	\$231,836	\$238,791	\$238,791	\$238,791
2.a.1	Personnel	\$185,950	\$191,529	\$197,274	\$203,193	\$209,288	\$215,567	\$215,567	\$215,567
2.a.2	Office Overhead	\$20,034	\$20,635	\$21,254	\$21,891	\$22,548	\$23,224	\$23,224	\$23,224
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center								
2.b.2	Compost								
2.b.3	Transfer								
2.b.4	Special Waste								
2.c	c. Landfill Closure/Post-Closure								
2.d	d. Recycling Collection	\$527,450	\$540,274	\$503,482	\$314,839	\$324,284	\$334,013	\$334,013	\$334,013
2.d.1	Curbside	\$50,000	\$50,000	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$427,450	\$440,274	\$453,482	\$467,086	\$481,099	\$495,532	\$495,532	\$495,532
	DROP-OFF SITE DEVELOPMENT	\$50,000	\$50,000	\$50,000					
	DROP-OFF COST SAVINGS				-\$152,247	-\$156,815	-\$161,519	-\$161,519	-\$161,519
2.d.3	Combined Curbside/Drop-off								
2.d.4	Multi-family								
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other								
2.e	e. Special Collections	\$30,900	\$31,827	\$32,782	\$33,765	\$34,778	\$35,822	\$35,822	\$35,822
2.e.1	Tire Collection	\$15,450	\$15,914	\$16,391	\$16,883	\$17,389	\$17,911	\$17,911	\$17,911
2.e.2	HHW Collection	\$7,725	\$7,957	\$8,195	\$8,441	\$8,695	\$8,955	\$8,955	\$8,955
2.e.3	Electronics Collection	\$7,725	\$7,957	\$8,195	\$8,441	\$8,695	\$8,955	\$8,955	\$8,955

Line #	Category/Program	2025	2026	2027	2028	2029	2030	2031	2032
2.e.4	Appliance Collection								
2.e.5	Other Collection Drives	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.g	g. Education/Awareness	\$88,755	\$89,018	\$89,288	\$89,567	\$89,854	\$90,149	\$90,149	\$90,149
2.g.1	Education Staff	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
2.g.2	Advertisement/Promotion	\$8,755	\$9,018	\$9,288	\$9,567	\$9,854	\$10,149	\$10,149	\$10,149
2.g.3	Other								
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								
2.1	I. Dump Cleanup								
2.m	m. Litter Collection/Education								
2.n	n. Emergency Debris Management								
2.0	o. Loan Payment								
2.p	p. Other								
3	3. Health Dept. Enforcement								
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement								
7.a	a. Heath Departments								
7.b	b. Local Law Enforcement								
7.c	c. Other								
8	8. Heath Department Training								
9	9. Municipal/Township Assistance								
9.a	a. Maintaining Roads								
9.b	b. Maintaining Public Facilities								
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services								
10	10. Compensation to Affected Community (ORC Section 3734.35)								
		* 050.000	0 70 004	0055.074	0004455	* ***	0000 777	****	A7 44 000

****Total Expenses****\$853,089\$873,281\$694,155\$680,752\$698,775\$711,023Note: All expenses except for plan monitoring/ preparation assume a 3% annual increase for inflationNote: Projections are flatlined in the 7th year of the planning period (2031).

Table O-7 Years 2033 – 2039

Line #	Category/Program	2033	2034	2035	2036	2037	2038	2039
1	1. Plan Monitoring/Prep.	\$31,827	\$0	\$0	\$0	\$12,616	\$32,782	\$0
1.a	a. Plan Preparation	\$15,914	\$0	\$0	\$0	\$12,616	\$16,391	\$0
1.b	b. Plan Monitoring	\$15,914	\$0	\$0	\$0	\$0	\$16,391	\$0
1.c	c. Other							
2	2. Plan Implementation	\$690,418	\$690,418	\$690,418	\$690,418	\$690,418	\$690,418	\$690,418
2.a	a. District Administration	\$238,791	\$238,791	\$238,791	\$238,791	\$238,791	\$238,791	\$238,791
2.a.1	Personnel	\$215,567	\$215,567	\$215,567	\$215,567	\$215,567	\$215,567	\$215,567
2.a.2	Office Overhead	\$23,224	\$23,224	\$23,224	\$23,224	\$23,224	\$23,224	\$23,224

Line #	Category/Program	2033	2034	2035	2036	2037	2038	2039
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center							
2.b.2	Compost							
2.b.3	Transfer							
2.b.4	Special Waste							
2.c	c. Landfill Closure/Post-Closure							
2.d	d. Recycling Collection	\$334,013	\$334,013	\$334,013	\$334,013	\$334,013	\$334,013	\$334,013
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$495,532	\$495,532	\$495,532	\$495,532	\$495,532	\$495,532	\$495,532
	DROP-OFF SITE DEVELOPMENT							
	DROP-OFF COST SAVINGS	-\$161,519	-\$161,519	-\$161,519	-\$161,519	-\$161,519	-\$161,519	-\$161,519
2.d.3	Combined Curbside/Drop-off							
2.d.4	Multi-family							
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other							
2.e	e. Special Collections	\$35,822	\$35,822	\$35,822	\$35,822	\$35,822	\$35,822	\$35,822
2.e.1	Tire Collection	\$17,911	\$17,911	\$17,911	\$17,911	\$17,911	\$17,911	\$17,911
2.e.2	HHW Collection	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955
2.e.3	Electronics Collection	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955
2.e.4	Appliance Collection							
2.e.5	Other Collection Drives	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.g	g. Education/Awareness	\$90,149	\$90,149	\$90,149	\$90,149	\$90,149	\$90,149	\$90,149
2.g.1	Education Staff	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000
2.g.2	Advertisement/Promotion	\$10,149	\$10,149	\$10,149	\$10,149	\$10,149	\$10,149	\$10,149
2.g.3	Other							
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							
2.1	I. Dump Cleanup							
2.m	m. Litter Collection/Education							
2.n	n. Emergency Debris Management							
2.0	o. Loan Payment							
2.p	p. Other							
3	3. Health Dept. Enforcement							
4	4. County Assistance	\$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	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection							
7	7. Open Dump, Litter Law Enforcement							
7.a	a. Heath Departments							
7.b	b. Local Law Enforcement							
7.c	c. Other							
8	8. Heath Department Training							
9	9. Municipal/Township Assistance							

Line #	Category/Program	2033	2034	2035	2036	2037	2038	2039
9.a	a. Maintaining Roads							
9.b	b. Maintaining Public Facilities							
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services							
10	10. Compensation to Affected Community (ORC Section 3734.35)							
	Total Expenses	\$730,602	\$698,775	\$698,775	\$698,775	\$711,390	\$731,557	\$698,775

Note: All expenses except for plan monitoring/ preparation assume a 3% annual increase for inflation Note: Projections are flatlined in the 7th year of the planning period (2031).

Each expense applicable to the District allocated to line items in Table O-7 are explained below. Note, all expenses are flatlined in the 7th year of the planning period. There is a small variation every three years in the total expenses, this is from the plan preparation line item as this expense is budgeted on a three year cycle to correspond with the District's plan updates.

1. Plan Monitoring/Prep.

1.a Plan Preparation

2017 – 2021 – Actual costs associated with drafting, correcting, ratifying, and finalizing the plan update. Costs for residential, commercial, and industrial surveying, other data collection, consultant costs, legal costs, printing, copying, public notices and meetings associated with the plan update.

2022 – 2039 – The District is budgeting costs for future Plan Update's.

1.b Plan Monitoring

2022 – 2039 – Costs associated with annual plan review and preparing the annual district report which includes the licensing of data collection software, consultant costs to prepare the annual district report, etc.

2. <u>Plan Implementation</u>

- 2.a District Administration
- 2.a.1 Personnel

2017 – 2021 - District staff expenses include Payroll, PERS, Medicare, Health Insurance, and Workers Compensation Insurance. The District employs a full-time District Coordinator and District Assistant Coordinator. In addition to administrative and District duties the District Assistant Coordinator position assumes Pickaway County outreach and education specialist duties. The costs shown for 2017 through 2021 are actual expenses.

2022 – 2039 - In 2022, the U.S. national inflation rate trended around 8.5%. The District is budgeting for a 3% annual rate increase on salaries and annually on fringes and benefits.

2.a.2 Office Overhead –

2017 – 2021 - Overhead expenses include telephone, postage, employee recognition, travel, and technology, advertising, memberships/periodicals, and utilities. The costs shown for 2017 through 2021 are actual expenses.

2022 - 2039 - The District found the average from the five-year (2017 - 2021) historical numbers and multiplied this by an assumed annual inflation rate of 3%.

2.a.3 <u>Other</u>

2017 – 2021 – This includes expenditures for SWMD administration that are not represented by the other line items in this subcategory. The costs shown for 2017 through 2021 are actual expenses.

2022 – 2039 – Actual costs were not incurred in the past three years and thus were not projected in the planning period.

2.b. <u>Facility Operation – the District does not own, operate, or contract for the operation of any of the facilities listed in this section.</u>

- 2.b.1 MRF/Recycling Center n/a
- 2.b.2 <u>Compost n/a</u>
- 2.b.3 <u>Transfer n/a</u>
- 2.b.4 <u>Special Waste</u> n/a
- 2.c. <u>Landfill Closure/Post-Closure n/a</u>
- 2.d. <u>Recycling Collection</u>

2.d.1 <u>Curbside</u> – This is the cost incurred by the District for Recycling Incentive Mini-Grant to assist the promotion of curbside. For budgeting purposes, the program is maxed out at \$50,000 in one year. This program awards grants to businesses, government entities, non-profit organizations and education institutions interested in implementing a new recycling program or improving an existing program to support long-term recycling goals. Grants will be awarded on a competitive basis. The District budgeted \$50,000 towards this program in 2025 and 2026 as this correlates to the anticipated timeline of adopting non-subscription curbside in Circleville and Washington Court House. If the funds are not used in these years, it will be held in a fund to be available when the anticipated programs come into fruition.

2.d.2 <u>Drop-off</u> – This is the cost incurred by the District to provide drop-off recycling services to residents.

2017 – 2021 – Actual program contract costs to service the recycling dropoff containers. The District's contract for collection and processing is a 3year term.

2022 – 2039 – Costs are projected to increase 3% annually from 2023 through the planning period. Projecting at 3% annually builds in an extra cushion for potential fuel surcharges and contamination clean-up costs. Two-line items in Table O-7 are included to show the future planned costs for building and developing two more central mega drop-off sites. These line items are identified as "drop-off site development" and "drop-off cost savings". Planning and budgeting for two more mega sites in the District to serve as hubs for collection. With the building of these sites, the District is planning for a cost savings in collection and processing operational costs. Costs in line item 2.D.2 do not reflect the change in collection and processing costs. Rather, the savings are shown in the "drop-off cost savings" added line item. The District intends to spend the difference between drop-off costs and drop-off savings on the drop-off program.

- 2.d.3 Combined Curbside/Drop-off n/a
- 2.d.4 <u>Multi-Family</u> n/a

2.d.5 <u>Business/Institutional</u> – This is the cost incurred by the District to assist with recycling at events such as Pickaway County's Pumpkin Show. The District is estimating annual expenses to assist organizations to implement recycling programs at community events. Expenses incurred also include outreach engagement to the largest industrial facilities, and technical assistance incurred expenses (waste assessments, contract assistance, education, etc.)

2.d.6 <u>Other</u> – n/a

2.e. Special Collections

2.e.1. <u>Tire Collection</u> – Expenses include third party contracts to hold collection events in each county every year.

2.e.2. <u>HHW Collection</u> – Expenses include third party contracts to collect and process HHW every year and to accommodate a voucher program with a business in a neighboring county.

2.e.3. <u>Electronics Collection</u> – Expenses include third party contracts to collect and process electronics every year in each county.

2.e.4. Appliance Collection - n/a

2.e.5. Other Collection Drives – n/a

- 2.f. <u>Yard Waste/Other Organics</u> No expenses incurred or budgeted.
- 2.g. <u>Education/Awareness</u>
 - 2.g.1 Education Staff -

2017 – 2022 – Actual program costs to provide education staff in Ross, Highland and Fayette.

2023 – 2039 - Budgeted expenses of \$80,000 beginning in 2025 to restructure the outreach specialists. Budgeted costs are assumed to stay the same through the planning period. Re-structuring may include outsourcing the education or hiring education staff to be managed by the District.

2.g.2. <u>Advertisement/Promotion</u> - Costs include promotional and advertisement costs for consistent messaging materials for all outreach/education specialists. Costs are budgeted at a 3% increase through the planning period.

2.g.3. <u>Other – Two expenses incurred but none that are budgeted.</u>

2.h. Recycling Market Development

2.h.1 <u>General Market Development Activities</u> - No expenses incurred or budgeted.

2.h.2 <u>ODNR pass-through grant</u> - No expenses incurred or budgeted.

- 2.i <u>Service Contracts</u> No expenses incurred or budgeted.
- 2.j <u>Feasibility Studies</u> No expenses incurred or budgeted.
- 2.k <u>Waste Assessments/Audits</u> No expenses incurred or budgeted.
- 2.1 <u>Dump Cleanup</u> No expenses incurred or budgeted.
- 2.m. <u>Litter Collection/Education</u> No expenses incurred or budgeted.
- 2.n. <u>Emergency Debris Management</u> No expenses incurred or budgeted.
- 2.o. Loan Payment No expenses incurred or budgeted.
- 2.p. <u>Other</u> No expenses incurred or budgeted.
- 3. <u>Health Dept. Enforcement No expenses incurred or budgeted.</u>
- 4. <u>County Assistance No expenses incurred or budgeted</u>
- 5. <u>Well Testing No expenses incurred or budgeted</u>
- 6. <u>Out-of-State Waste Inspection No expenses incurred or budgeted</u>
- 7. <u>Open Dump, Litter Law Enforcement No expenses incurred or budgeted</u>
- 8. <u>Health Department Training No expenses incurred or budgeted</u>
- 9. <u>Municipal/Township Assistance -</u> No expenses incurred or budgeted

These projections do not hold the District to a binding commitment to spend a certain amount of money on a particular strategy, program, or facility. The District's Coordinator may review and revise the budget as needed, with the support of the Board and Policy Committee, to implement planned strategies, facilities, and programs as needed and as possible with available funds.

The District reserves the right to revise the budget and reallocate funds as programs change or as otherwise deemed necessary to be in the best interest of the District.

Year (\$)	Revenue Balance	Expenses	Annual Surplus/Deficit	Balance
2016			Ending Balance	\$988,706
2017	\$536,559	\$557,673	-\$21,114	\$967,592
2018	\$688,733	\$671,353	\$17,380	\$984,971
2019	\$591,727	\$625,474	-\$33,748	\$951,224
2020	\$645,884	\$570,642	\$75,243	\$1,026,466
2021	\$719,512	\$663,972	\$55,540	\$1,082,007
2022	\$853,717	\$774,561	\$79,156	\$1,161,162
2023	\$755,268	\$827,223	-\$71,955	\$1,089,208
2024	\$757,246	\$823,484	-\$66,238	\$1,022,970
2025	\$759,229	\$853,089	-\$93,859	\$929,110
2026	\$761,218	\$873,281	-\$112,064	\$817,047
2027	\$763,211	\$855,971	-\$92,760	\$724,287
2028	\$765,210	\$694,155	\$71,055	\$795,342
2029	\$767,214	\$680,752	\$86,462	\$881,804
2030	\$769,223	\$698,775	\$70,448	\$952,252
2031	\$769,223	\$698,775	\$70,448	\$1,022,700
2032	\$769,223	\$711,023	\$58,200	\$1,080,900
2033	\$769,223	\$730,602	\$38,621	\$1,119,522
2034	\$769,223	\$698,775	\$70,448	\$1,189,970
2035	\$769,223	\$698,775	\$70,448	\$1,260,418
2036	\$769,223	\$698,775	\$70,448	\$1,330,866
2037	\$769,223	\$711,390	\$57,833	\$1,388,699
2038	\$769,223	\$731,557	\$37,666	\$1,426,366
2039	\$769,223	\$698,775	\$70,448	\$1,496,814

Table O-8 Budget Summary

Note: Revenue and expense projections are flatlined in the 7th year of the planning period (2031).

There is a minor error in the end balance in 2018 and the beginning balance of 2019. While both values should be identical, the balances are off from each other by \$1.79. The correct end balance in 2018 is \$984,971.44. This is also the correct beginning balance for 2019. As a result of this error, the beginning balances recorded in the quarterly fee

reports from 2019 to 2021 are off by a corresponding amount. The District has adjusted the balances to reflect the true balances during these years.

Figure O-2 below presents the District's projected balances through the planning period. As can be seen below, the District's balance is projected to decrease in 2025 and will continue to do so through 2027. Beginning in 2028 the District's balance is projected to increase steadily throughout the planning period. However, this is not because of an increase in revenue, instead, it is due to a decrease in expenses. The District will move away from offering the 30+ drop-off locations currently in operation in favor of centralized "mega sites" similar to the Fayette County Recycling Center. These sites will be situated in centralized areas where there is a high demand for recycling and where the District can better monitor the illegal dumping and contamination rates.

With the removal of many of the currently operational drop-offs, the District anticipates large savings in expenditures and by extent does not anticipate raising any fees. The fund balance is projected to increase through 2032 before inflationary factors result in a declining balance from 2033 to 2039. The District flatlined revenues and expenses in 2031. The fund balance is projected to increase as a result of this flatlining, while all expenses and revenues are flatlined in 2031, the District has an annual surplus between the two flatlined values that drives the projections up.



Figure O-2 Projected Balance

C. Alternative Budget

As discussed previously in Appendix H and further in Appendix J, the District anticipates moving away from Goal 1, recycling access, and towards Goal 2, 25%

residential/commercial diversion. The drop-off program is the most expensive program to implement. High contamination, illegal dumping, fuel prices, and inflation are factored into the rising annual cost. The District feels the time and money invested in servicing drop-off containers that are abused could be better served elsewhere. Because of the limitations of the 2020 State Plan Goal 1 demonstration, the District is moving efforts to reach Goal 2. To do this, increased emphasis will be put on retrieving accurate recycling totals throughout the programs offered in the District.

The District recognizes that there may be complications in the process of transitioning away from meeting Goal 1 in favor of Goal 2. Developing mega-sites is preferred by the District. However, the District understands this transition depends on the ability to reach a 25% residential/commercial recycling rate. In the event the diversion rate is unable to be reached, the District prepared this contingent budget described below. This contingent budget operates under the assumption that the District adds enough drop-offs to meet Goal 1. As explored in detail in Appendix J, the estimated additional cost to do so is between \$100,000 and \$170,000. All other program expense factors such as inflation remain the same. However, the curbside recycling grant is not budgeted and the outreach specialists expense follow an annual inflation rate increase. The District did not flatline these projections in 2031 as the long-term effects of a generation fee increase are desirable to be explored over the 15-year planning period.

Year	Generation Fees	Other Revenue	Total Revenue
2017	\$536,559	\$19,083.48	\$536,558.86
2018	\$688,733	\$25,979.41	\$688,733.13
2019	\$591,727	\$6,193.59	\$591,726.51
2020	\$645,884	\$9,240.31	\$645,884.32
2021	\$719,512	\$7,583.45	\$719,511.71
2022	\$816,872	\$0.00	\$853,717
2023	\$755,268	\$0.00	\$755,268
2024	\$757,246	\$0.00	\$757,246
2025	\$759,229	\$0.00	\$759,229
2026	\$761,218	\$0.00	\$761,218
2027	\$763,211	\$0.00	\$763,211
2028	\$765,210	\$0.00	\$765,210
2029	\$1,086,886	\$0.00	\$1,086,886
2030	\$1,089,733	\$0.00	\$1,089,733
2031	\$1,092,587	\$0.00	\$1,092,587
2032	\$1,095,448	\$0.00	\$1,095,448
2033	\$1,098,317	\$0.00	\$1,098,317
2034	\$1,101,193	\$0.00	\$1,101,193
2035	\$1,104,077	\$0.00	\$1,104,077

Table O-9 Contingent Funding

2036	\$1,106,969	\$0.00	\$1,106,969
2037	\$1,109,868	\$0.00	\$1,109,868
2038	\$1,112,775	\$0.00	\$1,112,775
2039	\$1,115,689	\$0.00	\$1,115,689

Note: Items in bold represent actual historical values

In this contingent scenario, the generation fee needs to increase to \$4.25 in the year 2029 to maintain a balanced budget through the planning period. The cost to service the District's drop-off program will increase under this scenario as the District will be required to put in more drop-off locations to meet Ohio EPA's Goal 1. This additional cost quickly depletes the District's fund balance, requiring an increase from \$3.00 per ton to \$4.25 per ton in 2029.

Line #	Category/Program	2017	2018	2019	2020	2021	2022	2023	2024
1	1. Plan Monitoring/Prep.	\$55,588	\$39,079	\$0	\$0	\$0	\$11,545	\$30,000	\$0
1.a	a. Plan Preparation	\$44,716	\$17,857	\$0	\$0	\$0	\$11,545	\$15,000	\$0
1.b	b. Plan Monitoring	\$10,872	\$21,221	\$0	\$0	\$0		\$15,000	\$0
1.c	c. Other	\$0	\$0	\$0	\$0	\$0			
2	2. Plan Implementation	\$502,085	\$632,275	\$625,474	\$570,642	\$663,972	\$763,016	\$797,223	\$823,484
2.a	a. District Administration	\$66,160	\$89,555	\$159,916	\$198,966	\$164,308	\$179,765	\$260,223	\$259,984
2.a.1	Personnel	\$49,190	\$70,307	\$130,291	\$158,651	\$146,381	\$165,459	\$180,273	\$180,534
2.a.2	Office Overhead	\$16,970	\$19,247	\$29,614	\$40,316	\$17,927	\$14,306	\$19,950	\$19,450
2.a.3	Other	\$0	\$0	\$11	\$0	\$0	\$0	\$60,000	\$60,000
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center								
2.b.2	Compost								
2.b.3	Transfer								
2.b.4	Special Waste								
2.c	c. Landfill Closure/Post-Closure								
2.d	d. Recycling Collection	\$319,873	\$421,546	\$373,108	\$277,286	\$374,170	\$476,661	\$410,000	\$435,000
2.d.1	Curbside	\$50,000	\$50,000	\$20,983	\$11,794	\$0	\$0		\$0
2.d.2	Drop-off	\$264,624	\$361,507	\$347,111	\$261,360	\$363,159	\$470,894	\$410,000	\$415,000
2.d.3	Combined Curbside/Drop-off								
2.d.4	Multi-family								
2.d.5	Business/Institutional	\$5,249	\$10,039	\$5,014	\$4,132	\$11,011	\$5,767		\$0
2.d.6	Other								\$20,000
2.e	e. Special Collections	\$22,851	\$49,953	\$22,024	\$24,337	\$26,645	\$29,260	\$30,000	\$30,000
2.e.1	Tire Collection	\$7,097	\$24,152	\$14,402	\$15,188	\$11,328	\$26,270	\$15,000	\$15,000
2.e.2	HHW Collection	\$14,088	\$10,160	\$0	\$2,029	\$15,197	\$0	\$7,500	\$7,500
2.e.3	Electronics Collection	\$0	\$14,890	\$7,622	\$7,120	\$120	\$2,990	\$7,500	\$7,500
2.e.4	Appliance Collection								
2.e.5	Other Collection Drives	\$1,666	\$750	\$0	\$0	\$0	\$0	\$0	\$0
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.g	g. Education/Awareness	\$80,367	\$55,310	\$70,427	\$70,053	\$98,849	\$77,331	\$67,000	\$68,500
2.g.1	Education Staff	\$75,000	\$54,699	\$63,700	\$62,402	\$90,000	\$68,820	\$60,000	\$60,000
2.g.2	Advertisement/Promotion	\$5,367	\$263	\$6,727	\$7,650	\$7,534	\$8,510	\$7,000	\$8,500
2.g.3	Other	\$0	\$348	\$0	\$0	\$1,315			
2.h	h. Recycling Market Development	\$12,833	\$15,912	\$0	\$0	\$0	\$0	\$30,000	\$30,000

Table O-10 Contingent Expenses Years 2017 – 2024

Line #	Category/Program	2017	2018	2019	2020	2021	2022	2023	2024
2.h.1	General Market Development Activities	\$12,833	\$15,912	\$0	\$0	\$0		\$30,000	\$30,000
2.h.2	ODNR pass-through grant								
2.i	i. Service Contracts								
2.j	j. Feasibility Studies								
2.k	k. Waste Assessments/Audits								
2.1	I. Dump Cleanup								
2.m	m. Litter Collection/Education								
2.n	n. Emergency Debris Management								
2.0	o. Loan Payment								
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0		
3	3. Health Dept. Enforcement								
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement								
7.a	a. Heath Departments								
7.b	b. Local Law Enforcement								
7.c	c. Other								
8	8. Heath Department Training								
9	9. Municipal/Township Assistance								
9.a	a. Maintaining Roads								
9.b	b. Maintaining Public Facilities								
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services								
10	10. Compensation to Affected Community (ORC Section 3734.35)								
	Total Expenses	\$557,673	\$671,353	\$625,474	\$570,642	\$663,972	\$774,561	\$827,223	\$823,484

Table O-10 Contingent Expenses Years 2025 – 2032

Line #	Category/Program	2025	2026	2027	2028	2029	2030	2031	2032
1	1. Plan Monitoring/Prep.	\$0	\$0	\$11,891	\$30,900	\$0	\$0	\$0	\$12,248
1.a	a. Plan Preparation	\$0	\$0	\$11,891	\$15,450	\$0	\$0	\$0	\$12,248
1.b	b. Plan Monitoring	\$0	\$0	\$0	\$15,450	\$0	\$0	\$0	\$0
1.c	c. Other								
2	2. Plan Implementation	\$904,889	\$932,035	\$959,996	\$988,796	\$1,018,46 0	\$1,049,01 4	\$1,049,01 4	\$1,049,01 4
2.a	a. District Administration	\$205,984	\$212,163	\$218,528	\$225,084	\$231,836	\$238,791	\$238,791	\$238,791
2.a.1	Personnel	\$185,950	\$191,529	\$197,274	\$203,193	\$209,288	\$215,567	\$215,567	\$215,567
2.a.2	Office Overhead	\$20,034	\$20,635	\$21,254	\$21,891	\$22,548	\$23,224	\$23,224	\$23,224
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center								
2.b.2	Compost								
2.b.3	Transfer								
2.b.4	Special Waste								
2.c	c. Landfill Closure/Post-Closure								

Line #	Category/Program	2025	2026	2027	2028	2029	2030	2031	2032
2.d	d. Recycling Collection	\$597,450	\$615,374	\$633,835	\$652,850	\$672,435	\$692,608	\$692,608	\$692,608
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$597,450	\$615,374	\$633,835	\$652,850	\$672,435	\$692,608	\$692,608	\$692,608
2.d.3	Combined Curbside/Drop-off							\$0	\$0
2.d.4	Multi-family							\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other							\$0	\$0
2.e	e. Special Collections	\$30,900	\$31,827	\$32,782	\$33,765	\$34,778	\$35,822	\$35,822	\$35,822
2.e.1	Tire Collection	\$15,450	\$15,914	\$16,391	\$16,883	\$17,389	\$17,911	\$17,911	\$17,911
2.e.2	HHW Collection	\$7,725	\$7,957	\$8,195	\$8,441	\$8,695	\$8,955	\$8,955	\$8,955
2.e.3	Electronics Collection	\$7,725	\$7,957	\$8,195	\$8,441	\$8,695	\$8,955	\$8,955	\$8,955
2.e.4	Appliance Collection							\$0	\$0
2.e.5	Other Collection Drives	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.g	g. Education/Awareness	\$70,555	\$72,672	\$74,852	\$77,097	\$79,410	\$81,793	\$81,793	\$81,793
2.g.1	Education Staff	\$61,800	\$63,654	\$65,564	\$67,531	\$69,556	\$71,643	\$71,643	\$71,643
2.g.2	Advertisement/Promotion	\$8,755	\$9,018	\$9,288	\$9,567	\$9,854	\$10,149	\$10,149	\$10,149
2.g.3	Other								
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								
2.1	I. Dump Cleanup								
2.m	m. Litter Collection/Education								
2.n	n. Emergency Debris Management								
2.0	o. Loan Payment								
2.p	p. Other								
3	3. Health Dept. Enforcement								
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	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	6 Out-of-State Waste Inspection								
7	7 Open Dump Litter Law Enforcement								
7 a	a Heath Denartments								
7.a	b Local Law Enforcement								
7.0									
7.0 Q	8 Heath Denartment Training								
0	A Municipal/Townshin Assistance								
9	a Maintaining Roads								
9.d 0.h	h Maintaining Public Facilities								
9.0	c Providing Emergency Services	02	¢0	¢0	¢0	¢0	<u>م</u> ¢	02	¢∩
9.0	d Providing other Public Services	φυ	φυ	φυ	φυ	φυ	φυ	φυ	φυ
9.0	u. Froming other Public Services								
10	(ORC Section 3734.35)								
	Total Expenses	\$904.889	\$932,035	\$971,888	\$1,019,69 6	\$1,018,46 0	\$1,049,01 4	\$1,049,01 4	\$1,061,26 2

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Table O-10 Contingent Expenses Years 2033 – 2039

Line #	Category/Program	2033	2034	2035	2036	2037	2038	2039
1	1. Plan Monitoring/Prep.	\$31,827	\$0	\$0	\$0	\$12,616	\$32,782	\$0
1.a	a. Plan Preparation	\$15,914	\$0	\$0	\$0	\$12,616	\$16,391	\$0
1.b	b. Plan Monitoring	\$15,914	\$0	\$0	\$0	\$0	\$16,391	\$0
1.c	c. Other							
2	2. Plan Implementation	\$1,049,014	\$1,049,014	\$1,049,014	\$1,049,014	\$1,049,014	\$1,049,014	\$1,049,014
2.a	a. District Administration	\$238,791	\$238,791	\$238,791	\$238,791	\$238,791	\$238,791	\$238,791
2.a.1	Personnel	\$215,567	\$215,567	\$215,567	\$215,567	\$215,567	\$215,567	\$215,567
2.a.2	Office Overhead	\$23,224	\$23,224	\$23,224	\$23,224	\$23,224	\$23,224	\$23,224
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center							
2.b.2	Compost							
2.b.3	Transfer							
2.b.4	Special Waste							
2.c	c. Landfill Closure/Post-Closure							
2.d	d. Recycling Collection	\$692,608	\$692,608	\$692,608	\$692,608	\$692,608	\$692,608	\$692,608
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$692,608	\$692,608	\$692,608	\$692,608	\$692,608	\$692,608	\$692,608
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e	e. Special Collections	\$35,822	\$35,822	\$35,822	\$35,822	\$35,822	\$35,822	\$35,822
2.e.1	Tire Collection	\$17,911	\$17,911	\$17,911	\$17,911	\$17,911	\$17,911	\$17,911
2.e.2	HHW Collection	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955
2.e.3	Electronics Collection	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955	\$8,955
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e.5	Other Collection Drives	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.f	f. Yard Waste/Other Organics	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.g	g. Education/Awareness	\$81,793	\$81,793	\$81,793	\$81,793	\$81,793	\$81,793	\$81,793
2.g.1	Education Staff	\$71,643	\$71,643	\$71,643	\$71,643	\$71,643	\$71,643	\$71,643
2.g.2	Advertisement/Promotion	\$10,149	\$10,149	\$10,149	\$10,149	\$10,149	\$10,149	\$10,149
2.g.3	Other							
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							
2.1	I. Dump Cleanup							
2.m	m. Litter Collection/Education							
2.n	n. Emergency Debris Management							
2.0	o. Loan Payment							
2.p	p. Other							
3	3. Health Dept. Enforcement							
4	4. County Assistance	\$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							

Line #	Category/Program	2033	2034	2035	2036	2037	2038	2039
5	5. Well Testing	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection							
7	7. Open Dump, Litter Law Enforcement							
7.a	a. Heath Departments							
7.b	b. Local Law Enforcement							
7.c	c. Other							
8	8. Heath Department Training							
9	9. Municipal/Township Assistance							
9.a	a. Maintaining Roads							
9.b	b. Maintaining Public Facilities							
9.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9.d	d. Providing other Public Services							
10	10. Compensation to Affected Community (ORC Section 3734.35)							
	Total Expenses	\$1,080,841	\$1,049,014	\$1,049,014	\$1,049,014	\$1,061,629	\$1,081,796	\$1,049,014

The contingent expenses differ in two ways from the proposed budget above in Table O-7. First, the recycling drop-off sites remain in operation throughout the planning period. Furthermore, in order to reach Goal 1, the District would be required to add additional drop-offs. The cost to do this lies between \$100,000 and \$170,000 and is explored in depth in Appendix J. To plan for this, the District added \$170,000 to the drop-off costs beginning in 2025 and held the inflation at 3%.

The second difference from the proposed budget found in Table O-7 is that the District flatlined expenses after the 6th year of the planning period (2031). The District will have to ratify a fee increase in 2029 to balance this budget. If during the planning period the District needs to operate from this contingent budget the District will need to ratify a fee increase before January 1, 2029. The ratification of a fee increase will occur separate from the 2025 Plan update ratification.

Year	Revenue	Expenses	Annual Surplus/Deficit (\$)	Balance (\$)
2016			Ending Balance	\$988,706
2017	\$536,559	\$557,673	-\$21,114	\$967,592
2018	\$688,733	\$671,353	\$17,380	\$984,971
2019	\$591,727	\$625,474	-\$33,748	\$951,224
2020	\$645,884	\$570,642	\$75,243	\$1,026,466
2021	\$719,512	\$663,972	\$55,540	\$1,082,007
2022	\$853,717	\$774,561	\$79,156	\$1,161,162
2023	\$755,268	\$827,223	-\$71,955	\$1,089,208
2024	\$757,246	\$823,484	-\$66,238	\$1,022,970
2025	\$759,229	\$904,889	-\$145,659	\$877,310
2026	\$761,218	\$932,035	-\$170,818	\$706,493

Table O-11 Contingent Budget Summary

0-23

Year	Revenue	Expenses	Annual Surplus/Deficit (\$)	Balance (\$)
2027	\$763,211	\$971,888	-\$208,676	\$497,816
2028	\$765,210	\$1,019,696	-\$254,486	\$243,330
2029	\$1,086,886	\$1,018,460	\$68,426	\$311,757
2030	\$1,089,733	\$1,049,014	\$40,719	\$352,476
2031	\$1,092,587	\$1,049,014	\$43,573	\$396,048
2032	\$1,095,448	\$1,061,262	\$34,186	\$430,235
2033	\$1,098,317	\$1,080,841	\$17,476	\$447,711
2034	\$1,101,193	\$1,049,014	\$52,180	\$499,891
2035	\$1,104,077	\$1,049,014	\$55,064	\$554,954
2036	\$1,106,969	\$1,049,014	\$57,955	\$612,910
2037	\$1,109,868	\$1,061,629	\$48,239	\$661,148
2038	\$1,112,775	\$1,081,796	\$30,979	\$692,128
2039	\$1,115,689	\$1,049,014	\$66,675	\$758,803

Note: Items in bold represent actual historical values

Table O-11 above presents the District's budget under the contingent scenario. With the projected cost increase for the drop-off program the District's budget is expected to begin to be drawn down in 2023. From this year the annual deficits are steady until 2029 when the District would need to increase the generation fee to \$4.25. In 2031, the District's flatline year, it is expected that the District will have roughly \$400,000 in its fund balance.

APPENDIX P

DESIGNATION

APPENDIX P. Designation

A. Statement Authorizing/Precluding Designation

The Board of County Commissioners of the Ross Pickaway Highland Fayette Solid Waste Management District is hereby authorized to establish facility designations in accordance with Section 343.013, 343.014 and 343.015 of the Ohio Revised Code.

The District reserves the right to implement facility designations, and to adopt District rules concerning designations.

B. Designated Facilities

	Locati	on	Facility	Year Designated	
	County	State	Туре		
In-District					
None.					
Out-of-District					
None.					
Out-of-State					
None.					

Table P-1. Facilities Designated

C. Waiver Process for the Use of Undesignated Facilities

If the Board of Directors establishes facility designation, any entity may request a waiver from the Board of Directors to allow solid waste to flow to undesignated facilities. The procedure for issuing a waiver to allow solid waste to flow to undesignated facilities has been developed in accordance with Section 343.01(1)(2) of the ORC.

The request must be in writing and state the name and location of the facility to which the waste is to be delivered, the tons of waste each year to be delivered, and the number of years or time period the alternate facility is to be used. The request will be sent to the RPHF District office, PO Box 1124, Circleville, OH 43113 by certified mail to document the date of receipt of the request. The District Coordinator shall prepare a report for the Board concerning the effect of the waiver on:

- 1. Projections contained in the district's approved plan under Section 3734.53(A)(6) and (A)(7).
- 2. Funding implementation and financing of the District's approved plan; and
- 3. Other information the Board desires to know concerning the effects of the diversion of waste.

The Board shall act on the waiver request within 90 days of receipt of the request.

Only after evaluating the waiver request and finding that: 1) it is not inconsistent with Plan projections, and 2) it will not adversely impact Plan implementation and financing, will the District issue a waiver allowing solid waste to be taken to an undesignated facility.

D. Documents

None

APPENDIX Q

DISTRICT RULE

APPENDIX Q. District Rules

A. Existing Rules

The Ross Pickaway Highland Fayette Solid Waste Management District is authorized under ORC Section 343.01(G) to adopt rules:

- prohibiting or limiting the receipt of waste generated outside the District, governing the maintenance, protection, and use of solid waste collection, transfer, disposal, recycling, or resource recovery facilities;
- governing a program to inspect out-of-state waste; and
- exempting an owner or operator of a solid waste facility from compliance with local zoning requirements.

Currently, there are no existing rules for the District.

B. Proposed Rules

The approved district plan for rule-making activity does not put rules into effect in the District. Once Ohio EPA approves the amended plan, the District must proceed with formal rule-making procedures. Procedures at the local level usually include a public hearing, public comment period, and a resolution adopted by the Board of Directors in order for a new rule to go into effect.

During the period covered by this Plan the Board of Directors is hereby authorized to adopt rules:

- prohibiting or limiting the receipt of waste generated outside the District; governing the maintenance, protection, and use of solid waste collection, transfer, disposal, recycling, or resource recovery facilities;
- governing a program to inspect out-of-state waste; and
- exempting an owner or operator of a solid waste facility from compliance with local zoning requirements.

APPENDIX R

BLANK SURVEY FORMS AND RELATED INFORMATON



Greetings,

Each year we reach out to you, the business, that without you helping us get the information we need by completing this material questionnaire, we would not be able to properly report and identify the areas in which we need help with the most. Thank you in advance for taking the time to fill in this important data. The information you provide for your business is crucial to monitoring the Ross, Pickaway, Highland, Fayette (RPHF) Solid Waste Management District's progress towards achieving Ohio's recycling goals.

Your information will be combined with information submitted by other businesses and used to calculate the amount of material commercial businesses recycled in the Ross, Pickaway, Highland, Fayette Solid Waste Management District and Ohio in 2021. Your responses <u>will not</u> be reported individually; all data will be summarized by the North American Industry Classification System (NAICS) category.

For assistance completing this form or any questions related to the questionnaire, please contact the Ross, Pickaway, Highland, Fayette Solid Waste Management District's Director, Erica Tucker at etucker@pickawaycountyohio.gov or (740) 420-5452.

Please complete and submit this questionnaire no later than 4/22/2022.

Options for Returning the Completed Questionnaire:

- Scan & Email directly to: Erica Tucker, etucker@pickawaycountyohio.gov Subject Line: 2021 Business Questionnaire
- NEW Online survey: <u>https://forms.office.com/r/UqL3fXpE4f</u>
- Mail to: RPHF SWD, PO Box 1124 Circleville, Ohio 43113

Instructions for Table A:

Please provide all information requested in *Table A* below. Even if your business does not currently recycle or is unable to report quantities of materials recycled, please complete *Table A*. Doing so will allow the Ross, Pickaway, Highland, Fayette Solid Waste Management District to contact you in the future to discuss your recycling needs.

Table A: Company Information						
Name:		County: Store I.D.				
Address:		City:		Zip:		
Contact Person:	Title:					
Email:	Telephone Number (include area code): () —					
Primary NAICS: Secondary NAICS:		Number of full-time employees:				
Would you like to be contacted by your local solid waste management district for recycling assistance? 🗌 Yes 🗌 No						

Instructions for completing Table B:

Table B provides a list of common materials that are recycled by commercial businesses in Ohio. Please indicate the unit of each quantity of material that is reported (pounds, tons, or cubic yards). Provide any comments related to each material, as necessary. Please do not report any liquid waste, hazardous waste, or construction & demolition debris.

The list in *Table B* is not all-inclusive. If your business recycles a material that is not listed in *Table B*, please enter the name and quantity of that material on a line labeled "Other." Some materials may not apply to your operation.

Some of the listed materials are broad categories. For example, "Plastics" includes plastics #1-7, plastic films etc. Please refer to the *"Materials Cheat Sheet"* attached to this document for examples of materials and definitions.

If you do not currently track this information internally, your solid waste hauler or recycling processor may be able to provide it upon request. The Ross, Pickaway, Highland, Fayette Solid Waste Management District may also be able to provide you with assistance.

Table B: Quantities of	Recycled Material	s	
Recyclable Material Category	Amount Recycled in 2021	Units	Name of hauler or processor that takes the material/ other Comments
Lead-Acid Batteries		Ibs. tons yd ³	
Food		Ibs. tons yd ³	
Glass		Ibs. tons yd ³	
Ferrous Metals		Ibs. Itons yd ³	
Non-Ferrous Metals		Ibs. tons yd ³	
Corrugated		Ibs. tons yd ³	
All Other Paper		Ibs. tons yd ³	
Plastics		Ibs. Itons yd ³	
Textiles		Ibs. Itons yd ³	
Wood		Ibs. Itons yd ³	
Rubber		Ibs. tons yd ³	
Commingled		Ibs. tons yd ³	
Yard Waste		Ibs. tons yd ³	
Other:		Ibs. tons yd ³	
Other:		☐ lbs. ☐tons ☐ yd ³	
Other:		Ibs. tons yd ³	
Other:		Ibs. tons yd ³	
Other:		Ibs. tons yd ³	
Other:		Ibs. tons yd ³	
Other:		Ibs. tons yd ³	
Other:		Ibs. tons yd ³	

Table C: Please provide any additional information, comments, suggestions, questions etc.

Thank you again for taking the time to complete this questionnaire. Please contact us with any questions.

Erica Tucker, District Director Ross, Pickaway, Highland, Fayette Solid Waste Management District PO Box 1124 | Circleville, OH 43113 Phone: 740.420.5452 Email: etucker@pickawaycountyohio.gov

Materials Cheat Sheet

Food

- Compostable food waste
- Food donations

Glass

- Bottles (any color)
- Jars
- Ferrous Metals
 - Mild Steel
 - Carbon Steel
 - Stainless Steel
 - Cast Iron
 - Wrought Iron

Non-Ferrous Metals

- Aluminum
- Copper
- Brass
- Silver
- Lead
- Misc. Scrap Metals

All Other Paper

- Office paper
- Paperboard
- Newspapers
- Folders
- Telephone Books
- Magazines
- Catalogs
- Junk Mail

Plastics

- Plastics #1-7
- Plastic Bottles
- Plastic Jugs
- Shrink Wrap
- Plastic Films
- Coat Hangers

Textiles

- Fabrics
- Clothes
- Carpet

Wood

- Bark
- Woodchips
- Sawdust
- Scrap Wood
- Shipping Pallets
- Boards

Commingled Recyclables

 This is a mix of several different materials that are placed into one container and hauled for recycling. It can include all or a combination of the materials listed above.

Examples of materials that fall under "Other"

- Appliances
- Household Hazardous Waste
- Used Motor Oil
- Electronics
- Scrap Tires
- Dry Cell Batteries
- Any other solid waste that is recycled at your facility

Estimating recycling tonnages – if you are not able to obtain exact tonnages of materials recycled, there are numerous ways to estimate the amount of material recycled in any given year. Below are some common conversion factors that may assist you with your estimations:

MATERIAL TYPE	DENSITY (LB/CU YARD)
MIXED PAPER RECYCLING	484
BOTTLES & CANS	200
SINGLE STREAM RECYCLING	139
CARDBOARD	100

- (size of container (in cubic yards) X number of collections per month X 12) X density (see table above) = Total Pounds per Year
- 2,000 pounds = 1 ton

For more assistance, contact your local solid waste management district. RPHF SOLID WASTE MANAGEMENT DISTRICT 740-420-5452


Greetings,

Each year we reach out to you, the business, that without you helping us get the information we need by completing this material questionnaire, we would not be able to properly report and identify the areas in which we need help with the most. Thank you in advance for taking the time to fill in this important data. The information you provide for your business is crucial to monitoring the Ross, Pickaway, Highland, Fayette (RPHF) Solid Waste Management District's progress towards achieving Ohio's recycling goals.

Your information will be combined with information submitted by other businesses and used to calculate the amount of material industrial businesses recycled in the Ross, Pickaway, Highland, Fayette Solid Waste Management District and Ohio, in 2021. Your responses <u>will not</u> be reported individually; all data will be summarized by each North American Industry Classification System (NAICS) category.

For assistance completing this form or any questions related to the survey, please contact the Ross, Pickaway, Highland, Fayette Solid Waste Management District's Coordinator, Erica Tucker at etucker@pickawaycountyohio.gov or (740) 420-5452.

Please complete and submit this survey no later than 4/22/2022.

Options for Returning the Completed Questionnaire:

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- NEW Online survey: https://forms.office.com/r/UqL3fXpE4f
- Mail to: RPHF SWD, PO Box 1124 Circleville, Ohio 43113

Instructions for Table A:

Please provide all information requested in *Table A* below. Even if your business does not currently recycle or is unable to report quantities of materials recycled, please complete *Table A*. Doing so will allow the Ross, Pickaway, Highland, Fayette Solid Waste Management District to contact you in the future to discuss your recycling needs.

Table A: Company Information				
Name:		County:		
Address:		City:		Zip:
Contact Person:		Title:		
Email:		Telephone Number (include area code): () —		
Primary NAICS:	Secondary NAICS:		Number of full-time employ	yees:
Would you like to be contacted by you	r local solid waste manage	ement district fo	or recycling assistance?	Yes 🗌 No

Instructions for completing Table B:

Table B provides a list of common materials that are recycled by industrial facilities in Ohio. Please indicate the unit of each quantity of material that is reported (pounds, tons, or cubic yards). Provide any comments related to each material, as necessary. Please do not report any liquid waste, hazardous waste, or construction & demolition debris.

The list in *Table B* is not all-inclusive. If your facility recycles a material that is not listed in *Table B*, please enter the name and quantity of that material on a line labeled **"Other."** Some materials may not apply to your operation; simply enter "0" for

those materials. Some of the materials are listed in broad categories. For example, "Plastics" include plastics #1-7, plastic films, etc. Please refer to the *"Materials Cheat Sheet"* attached to the end of this document for examples of materials and definitions.

If you do not currently track this information internally, your solid waste hauler or recycling processor may be able to provide it upon request. The Ross, Pickaway, Highland, Fayette Solid Waste Management District may also be able to provide you with assistance.

Table B: Quantities of Rec	ycled Materials		
Recyclable Material Category	Amount Recycled in 2021	Units	Name of hauler or processor that takes the material/other comments
Food		Ibs. tons yd ³	
Glass		☐ lbs. ☐tons ☐ yd ³	
Ferrous Metals		☐ lbs. ☐tons ☐ yd ³	
Non-Ferrous Metals		☐ lbs. ☐tons ☐ yd³	
Corrugated Cardboard		Ibs. tons yd ³	
All Other Paper		Ibs. tons yd ³	
Plastics		☐ lbs. ☐tons ☐ yd ³	
Textiles		☐ lbs. ☐tons ☐ yd ³	
Wood		Ibs. tons yd ³	
Rubber		☐ lbs. ☐tons ☐ yd ³	
Commingled Recyclables		☐ lbs. ☐tons ☐ yd ³	
Ash (recycled ash only)		☐ lbs. ☐tons ☐ yd ³	
Non-Excluded Foundry		☐ lbs. ☐tons ☐ yd ³	
Flue Gas Desulfurization		☐ lbs. ☐tons ☐ yd ³	
Other:		☐ lbs. ☐tons ☐ yd ³	
Other:		☐ lbs. ☐tons ☐ yd ³	
Other:		☐ lbs. ☐tons ☐ yd³	
Other:		☐ lbs. ☐tons ☐ yd ³	
Other:		☐ lbs. ☐tons ☐ yd ³	
Other:		☐ lbs. ☐tons ☐ yd ³	
Other:		Ibs. tons yd ³	

Table C: Please provide any additional information, comments, suggestions, questions etc.

Thank you again for taking the time to complete this questionnaire. Please contact us with any questions.

Erica Tucker, Director Ross, Pickaway, Highland, Fayette Solid Waste Management District PO Box 1124 | Circleville, OH 43113 Phone: (740) 420-5452 Email: etucker@pickawaycountyohio.gov

Materials Cheat Sheet

Food

- Compostable food waste
- Food donations
- Glass
 - Bottles (any color)
 - Jars

Ferrous Metals

- Mild Steel
- Carbon Steel
- Stainless Steel
- Cast Iron
- Wrought Iron

Non-Ferrous Metals

- Aluminum - Copper
- Coppe
- Brass - Silver
- Lead
- Misc. Scrap Metals
- All Other Paper
 - Office paper
 - Paperboard
 - Newspapers
 - Folders
 - Telephone Books
 - Magazines
 - Catalogs
 - Junk Mail

Plastics

- Plastics #1-7
- Plastic Bottles
- Plastic Jugs
- Shrink Wrap
- Plastic Films
- Coat Hangers

Textiles

- Fabrics
- Clothes
- Carpet

Wood

- Bark
- Woodchips
- Sawdust
- Scrap Wood
- Shipping Pallets
- Boards

Commingled Recyclables

- This is a mix of several different materials that are placed into one container and hauled for recycling. It can include all or a combination of the materials listed above.

Examples of materials that fall under "Other"

- Appliances
- Electronics
- Non-hazardous chemicals (solids only)
- Stone/Clay/Sand
- Yard Waste
- Sludge
- Tires
- Any other solid waste that is recycled at your facility

Estimating recycling tonnages – if you are not able to obtain exact tonnages of materials recycled, there are numerous ways to estimate the amount of material recycled in any given year. Below are some common conversion factors that may assist you with your estimations:

MATERIAL TYPE	DENSITY (LB/CU YARD)
MIXED PAPER RECYCLING	484
BOTTLES & CANS	200
SINGLE STREAM RECYCLING	139
CARDBOARD	100

(size of container (in cubic yards) X number of collections per month X 12) X density (see table above) = Total Pounds per Year

- 2,000 pounds = 1 ton

For more assistance, contact your solid waste management district.

RPHF SOLID WASTE MANAGEMENT DISTRICT 740-420-5452

APPENDIX S

SITING STRATEGY

APPENDIX S. Siting Strategy

The District's Siting Strategy includes the following:

Submission and Review of Plans and Specifications and Application of Siting Strategy to Proposed Solid Waste Facilities, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste, Maximum Feasible Utilization and Exemption of Existing in-District Solid Waste Facilities.

Definitions

For the purposes of this Section, the following definitions shall apply:

- a. Solid Waste Facilities means all solid waste collection, storage, disposal, transfer, recycling, processing, and resource recovery facilities.
- b. Siting Strategy means the process by which the Board of Directors (Board) shall review proposals for the construction or modification of any Solid Waste Facility and determine whether such proposal complies with the Plan Update.
- c. General Plans and Specifications means that information required to be submitted to the Board for review for the construction or modification of any proposed Solid Waste Facility and includes, but is not limited to, a site plan for the proposed facility, architectural drawings or artists renderings of the proposed facility, the projected size and capacity of the proposed facility and all other information identified in this Siting Strategy.
- d. Applicant means a person, municipal corporation, township, or other political subdivision proposing to construct or modify a Solid Waste Facility within the District.
- e. Modify means a significant change in the operation of an existing in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation, or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

Purpose and Objective

The District's Siting Strategy for Solid Waste Facilities ensures that proposals to construct a new Solid Waste Facility within the District or modify an existing Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste within the District are in compliance with the Plan Update. The Board shall not approve General Plans and Specifications for any proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste or the modification of any existing in-District Solid Waste Facility where the construction and operation of the proposed facility, as determined by the Board, will:

- 1) Have significant adverse impacts upon the Board's ability to finance and implement the Plan Update; or
- Not conform with the design, construction, operating and/or siting requirements of the Ohio EPA solid waste rules in Ohio Administrative Code (OAC) Chapter 3745-27.

Except as otherwise provided herein, all Solid Waste and Recycling Facilities, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste, proposed by or on behalf of any person, municipal corporation, township, or other political subdivision, except for Solid Waste and Recycling Facilities proposed by the District, shall be subject to this Siting Strategy and shall comply with the requirement to submit General Plans and Specifications to the District.

A. Siting Procedure Limited Exemption:

Notwithstanding the foregoing requirement, existing in-District Solid Waste Facilities specifically identified in this Siting Strategy are not subject to this Siting Strategy unless the owner or operator of any such in-District Solid Waste Facility, resource recovery facilities, waste-to-energy facilities, resource recovery facilities or other facilities that manage solid waste proposes a modification to the operation of the in-District Solid Waste Facility:

- 1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or
- 2) that involves a change in the type of material, manner of operation or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).
- B. Maximum Feasible Utilization of Existing In-District Solid Waste Facilities:
- The Board has determined that the owners and operators of existing in-District Solid Waste Facilities, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste rely on market factors in the determination of whether to expand or modify the facilities or current operations and activities at such existing facilities. The private corporate decisions of those owners and operators determine and establish the maximum feasible utilization of those existing in-District Solid Waste Facilities, resource recovery facilities, waste-toenergy facilities or other facilities that manage solid waste and the limited exemption for such existing in District Solid Waste Facilities from the application of this Siting Strategy permits the owners and operators of those facilities to determine the maximum feasible utilization of those facilities. Other than the limited exemption from the application of this Siting Strategy, the Board has no additional obligation with respect to the continuing operation or modification of those facilities.

Requirements

The District requires that General Plans and Specifications for all proposals to construct any new Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste within the District or modify any existing in-District Solid Waste Facility be submitted for a determination by the Board of whether such General Plans and Specifications and the proposals comply with the Plan Update.

Procedure implementing Siting Strategy

Unless otherwise provided herein, or an exemption or waiver from this requirement has been granted by the Board, the following procedure and process shall be followed in the event the construction of a new Solid Waste Facility, resource recovery facilities, wasteto-energy facilities or other facilities that manage solid waste or the modification of an existing in-District Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste is proposed within the District:

Step 1: Submittal Plans and Specifications

Any person, municipal corporation, township, or other political subdivision proposing to construct a new Solid Waste Facility or modify an existing in-District Solid Waste Facility, resource recovery facilities, waste-to energy facilities or other facilities that manage solid waste shall:

- 1) Provide General Plans and Specifications of the proposed facility to the Board. Such General Plans and Specifications shall include, but may not be limited to, the following documents and information:
 - a) A site plan for the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste.
 - b) Architectural drawings or artists renderings of the proposed Solid Waste Facility, resource recovery facilities, waste-to energy facilities or other facilities that manage solid waste.
 - c) Availability of necessary utilities.
 - Projected size and capacity of the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste.
 - e) Hours of operation
 - f) anticipated source of solid waste or recyclable materials to be received at the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste. If recycling activities will be conducted at the proposed facility, a detailed description of the recycling activity including materials to be recycled, technology to be utilized to accomplish the separation and processing of the recyclable materials, the anticipated percentage of waste reduction anticipated from the operation of the facility and the identification of the market for the sale of the recyclable materials recovered at the facility must be submitted.
 - g) Types and anticipated number of vehicles utilizing the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste on an hourly and daily basis.
 - h) Routes to be used by vehicles utilizing the facility and methods of ingress and egress to the facility.

- i) Any other information necessary for the Board to evaluate whether the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste complies with each of the criteria listed below.
- 2) Adequately demonstrate to the Board that the construction or modification and subsequent operation of the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste will:
 - a) Be consistent with the goals, objectives, projections, and strategies contained in the Plan Update.
 - b) Not adversely affect financing for the implementation of the Plan Update.
 - c) Be installed, operated, and maintained to be harmonious and appropriate in appearance and use with the existing or intended character of the area.
 - d) Be adequately served by essential public facilities and services.
 - e) Not create excessive additional requirements at public cost for public facilities or services.
 - f) Not be detrimental to the economic welfare of the community.
 - g) Not involve the excessive production of traffic, noise, smoke, fumes, or odors; have vehicular approaches to the property that are designed not to create an interference with traffic.
 - h) Not result in the destruction, loss, or damage of a natural, scenic, or historic feature of major importance.
 - i) Not adversely affect property values within the surrounding community.
- 3) The applicant shall submit any additional information as the Board requests to establish, to the reasonable satisfaction of the Board, that the construction or modification and subsequent operation of the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste or proposed modification of an existing in District Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste will comply with the Plan Update.

Step 2: Board Review

The Board shall conduct a review of the information submitted for the proposed Solid Waste Facility to determine whether the Applicant has adequately demonstrated that the proposed Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste will be constructed or modified and subsequently operated in compliance with the Plan Update and demonstrated that the impacts listed in Step I do not adversely affect the District, its residents and businesses. The Board may expend District funds to employ a consultant or consultants familiar with Solid Waste Facility construction and operation, land use planning and solid waste planning to assist the Board in implementing this Siting Strategy and in its determination of whether a proposed Solid Waste Facility or modification of an existing in District Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste complies with the Plan Update. Within sixty days of receiving the General Plans and Specifications from an applicant, the Board shall decide as to whether the General

Plans and Specifications submitted by the applicant contain sufficient information for the Board to complete its review of the proposal. In the event the Board determines that more information is necessary to complete its review of the proposal, the Board shall notify the Applicant of such request in writing within ten days. Within ninety days of determining that the Applicant has submitted a complete set of General Plans and Specifications, the Board shall determine whether the proposal complies with the Plan Update and the criteria identified in Step 1 herein. The Board shall notify the Applicant of its decision in writing. While the Board has broad discretion regarding the approval of General Plans and Specifications for a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility, it is the intent of this Siting Strategy that the Board shall not approve General Plans and Specifications for a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the Plan Update and the soard determines that the proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the Plan Update and the criteria identified in Step 1 herein.

Step 3: Development Agreement

In the event the Board determines that the proposed construction or modification and subsequent operation of a Solid Waste Facility complies with the Plan Update, the person, municipal corporation, township or other political subdivision proposing to construct or modify the Solid Waste Facility, resource recovery facilities, waste-to-energy facilities or other facilities that manage solid waste shall enter into a development agreement with the District which memorializes the obligations that are the basis of the Board's conclusion that the General Plans and Specifications demonstrate that the proposed facility or its modification complies with the Plan Update. The party proposing to construct a Solid Waste Facility, resource recovery facilities, waste-to-energy facilities that manage solid waste shall have an ongoing obligation to comply with the Plan Update and the development agreement.

Waiver

The Board reserves the right to waive application of the requirement for the submission and Board approval of General Plans and Specifications, and any portion or all of the Siting Strategy or otherwise grant exceptions to the rules of the District, or unilaterally modify or amend the Siting Strategy if the Board concludes such waiver, modification or amendment is in the best interest of the District, its residents and businesses and will assist the Board in the successful implementation of the Plan Update and further District goals with respect to solid waste and waste reduction activities. A determination by the Board to construct or modify any District owned Solid Waste Facility shall be deemed to follow the Plan Update and the other requirements of these rules without additional review.

APPENDIX T

MISCELLANEOUS PLAN DOCUMENTS

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 4.1.
- 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 Format 4.1.

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)

Certification Statement

Certification Statement for the Draft Plan

We as members of Ross Pickaway Highland Fayette SWMD 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 (2024-2038), 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 District Solid Waste Management Plan Format, version 4.0.

ROSS COUNTY

Representing the County Commissioners	Date Signed
Representing the Largest City	Date Signed
Janelle McMain	5/18/23
Representing the Health Department	Date Signed
Jan Stufe	5/18/23
Representing Townships	Date Signed
Representing Industrial Generators	Date Signed
Stt. annl	5/18/ 2023
Representing the Public	Date Signed

5/18/2023

Representing Citizen

Date Signed

Pickaway County 7-11-23 Date Signed Representing the County Commissioners 5/18/23 Date Signed Representing the pargest Cit 7-11-23 Repr ing the Health Department Date Signed **Representing Townships** Date Signed Allie J. Kroeger 7/11/23 Date Signed Representing Industrial Generators **Representing the Public** Date Signed **Representing Citizen** Date Signed **Highland County Representing the County Commissioners** Date Signed **Representing the Largest City** Date Signed Representing the Health Department Date Signed

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Representing the Public	Date Signed
Representing Citizen	Date Signed
Fayette County	
Buy Anderson	5-18-23
Representing the County Commissioners	Date Signed
Representing the Largest City	Date Signed
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Representing the Largest City Representing the Health Department Representing Townships Representing Industrial Generators	Date Signed 5-19-23 Date Signed Date Signed Signed Date Signed
Representing the Largest City Representing the Health Department Representing Townships Representing Industrial Generators	Date Signed 5 - 19 - 23 Date Signed Date Signed 5 (8 23) Date Signed 5 - (P - 23)
Representing the Largest City Representing the Health Department Representing Townships Representing Industrial Generators	Date Signed 5 - 19 - 23 Date Signed Date Signed 5 / 18 / 23 Date Signed 5 - (8 - 23) Date Signed
Representing the Largest City Representing the Health Department Representing Townships Representing Industrial Generators Com Ut Representing the Public Ma Lata	Date Signed 5 - 18 - 23 Date Signed Date Signed $5^{1}(8 _{23})$ Date Signed 5 - (8 - 23) Date Signed 5 - (8 - 23)
Representing the Largest City Representing the Health Department Representing Townships Representing Industrial Generators Annout Representing the Public Annout Representing the Public Annout Representing Citizen	Date Signed 5 - 18 - 23 Date Signed Date Signed 5 - (8 - 23) Date Signed 5 - (8 - 23) Date Signed

Public at Large

Date Signed

APPENDIX U

RATIFICATION RESULTS

APPENDIX V

INVENTORY OF OPEN DUMPS AND OTHER DISPOSAL FACILITIES

APPENDIX V Inventory of Open Dumps and Other Disposal Facilities

In accordance with Ohio Revised Code 3734.53(A)(2) and (A)(6) provide an inventory of the following in the District:

The District did not have any known open dump sites in the reference year but was made aware of a scrap tire remediation project in June of 2023. The memo is attached below.

APPENDIX W

DISTRICT MAP

APPENDIX W District Maps

In accordance with Ohio Revised Code 3734.53(A)(2) and (A)(6) provide a map that shows the locations of the disposal and diversion activities in the reference year.







Figure W-2: Curbside Services Provided Reference Year

W-2



Figure W-3: Drop-Off Locations Reference Year





W-4



