



SOLID WASTE MANAGEMENT DISTRICT

**SOLID WASTE
APPROVED**
OHIO ENVIRONMENTAL PROTECTION AGENCY
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AS EVIDENCED BY COPY OF
LETTER OF APPROVAL
ATTACHED HERETO

2024 – 2039 RATIFIED SOLID WASTE MANAGEMENT PLAN UPDATE

July 2024

Prepared by:



TABLE OF CONTENTS

SECTIONS

Section i – Solid Waste Management District Information	i-1
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CHAPTERS

Chapter 1 – Introduction	1-1
Chapter 2 – District Profile	2-1
Chapter 3 – Waste Generation	3-1
Chapter 4 – Waste Management	4-1
Chapter 5 – Waste Reduction and Recycling	5-1
Chapter 6 – Budget	6-1

APPENDICES

Appendix A – Reference Year, Planning Period, Goal Statement, Material Change in Circumstances, Explanations of Differences in Data	A-1
Appendix B – Recycling Infrastructure Inventory	B-1
Appendix C – Population Data	C-1
Appendix D – Disposal Data	D-1
Appendix E – Residential/Commercial Reduction and Recycling Data	E-1
Appendix F – Industrial Sector Reference Year Recycling	F-1
Appendix G – Waste Generation	G-1
Appendix H – Strategic Evaluation	H-1
Appendix I – Conclusions, Priorities, and Program Descriptions	I-1
Appendix J – Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1	J-1

Appendix K – Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2	K-1
Appendix L – Minimum Required Education Programs: Outreach and Marketing Plan and General Education Requirements	L-1
Appendix M – Waste Management Capacity Analysis.....	M-1
Appendix N – Evaluating Greenhouse Gas Emissions	N-1
Appendix O – Financial Data.....	O-1
Appendix P – Designation.....	P-1
Appendix Q – District Rules.....	Q-1
Appendix R – Blank Survey Forms and Related Information	R-1
Appendix S – Siting Strategy	S-1
Appendix T – Miscellaneous Plan Documents	T-1
Appendix U – Ratification Results.....	U-1
Appendix V – Inventory of Open Dumps and Other Disposal Facilities	V-1
Appendix W – District Map.....	W-1
Appendix X – Settlement Agreement	X-1
Appendix Y – Resolutions Pertaining to Designation	Y-1

Section i. Solid Waste Management District Information

Table i-1. Solid Waste Management District Information

SWMD Name	Lucas County Solid Waste Management District
Member Counties	Lucas County Solid Waste Management District
Coordinator's Name (main contact)	Julie Riley
Job Title	Solid Waste District Manager
Street Address	1011 Matzinger Rd
City, State, Zip Code	Toledo, OH 43612
Phone	419-213-2230
Fax	419-213-2201
E-mail address	jriley@co.lucas.oh.us
Webpage	https://www.co.lucas.oh.us/749/Solid-Waste-Management

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

Member Name	Representing
Lucas County	
Pete Gerken	County Commissioners
Ryan Murphy	Municipal Corporations
Michael Hampton	Townships
Karim Baroudi	Health District
Greg Morris	Generators
Jerry Mayfield	Lucas County Citizens
Matthew Franchetti	Public Interests

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

Name	Pete Gerken
Street Address	One Government Center, Suite 800
City, State, Zip Code	Toledo, OH 43604
Phone	419-213-4500
Fax	
E-mail address	pgerken@co.lucas.oh.us

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

Commissioner Name	County
Pete Gerken	Lucas

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

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

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

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.

C. **District Overview**

On March 6, 1989, the Lucas County Board of Commissioners created the Lucas County Solid Waste Management District. The District was created to provide for

the management of solid waste in a safe, environmentally sound, and effective manner. The District's administration consists of one centralized office, which is located at 1011 Matzinger Road in Toledo, Ohio. Keep Toledo/Lucas County Beautiful, Inc., also operates at the same address.

The Lucas County SWMD's waste management strategy implores a variety of programs and approaches to divert waste away from landfills. The District landfills waste but makes considerable effort to recycle and compost any acceptable waste. A large network of public and private sector programs, activities, and facilities provides waste reduction and recycling capacity within Lucas County. The District serves as both a program administrator and direct service provider in this network.

In the reference year, the District operated, maintained, and serviced 33 public (24 urban and nine rural), 98 private, and 60 school drop off recycling locations. There are 19 political jurisdictions with privately hauled and one with publicly hauled curbside recycling programs. The District also provides all County residents with a permanent year-round drop-off site for disposing and recycling of specialty wastes including household hazardous wastes, scrap tires, electronics and batteries.

A 2021 calculated diversion rate of 36% is above the State of Ohio's goal of 25% residential/commercial waste diversion. With the current strategies and opportunities mentioned within the plan, projections show the District's diversion rate will increase over time. The focus of the 2024 Plan will look to develop and enhance programs which enable residents to easily recycle common household wastes as well as to assist business and industry with the implementation of waste reduction and recycling programs, with programs/services to reduce, reuse and recycle. This plan update focuses on long-term sustainability and addresses current challenges and gaps that may inhibit this.

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.
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.
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*

As its name suggests, the Lucas County Solid Waste Management District is a single-county district comprised of Lucas County.

2. *County Overview*

Lucas County is the sixth most populous county in Ohio after Cuyahoga, Franklin, Hamilton, Summit, and Montgomery Counties. It is the fourth-smallest county in Ohio by land area. Lucas County consists of the following notable communities:

- Toledo is the largest city. In 2021, it had a population of 268,508 people which comprised approximately 63 percent of the county's population.
- Oregon had a population of 19,865 in 2021.
- Sylvania had a population of 19,034 in 2021.
- Waterville had a population of 6,019 in 2021.
- There are five villages (excluding Swanton) ranging in population from 100 people to 5,025 people.
- There are eleven townships ranging in population from 725 people to 31,794 people.

B. Population

1. *Reference Year Population*

An adjustment was made to Lucas County's population to subtract the Village of Swanton. The Village of Swanton straddles the border between Lucas County Solid Waste Management District and the Defiance-Fulton-Paulding-Williams Joint Solid Waste Management District. Since the majority of the population of the Village of Swanton resides in Defiance-Fulton-Paulding-Williams Joint Solid Waste Management District¹ the portion of the population in Lucas County was subtracted from Lucas County's population. After subtracting the population of Swanton, the District's total adjusted population is 428,996 persons in 2021.

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:

Table 2-1. Population of Lucas County SWMD in 2021

County		Largest Political Jurisdiction		
Name	Population	Community Name	Population	Percent of County Population
Lucas	428,996	City of Toledo	268,508	63%

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

¹ When a community's population resides in more than one SWMD, the entire community's population is added to the SWMD where the majority of the community's population is located. The SWMD where the minority of the population lives subtracts the community's population when calculating the total SWMD's population.

2. ***Population Distribution***

Table 2-2 below presents the distribution of Lucas County's population in cities, villages, and unincorporated areas.

Table 2-2. Population Distribution

County	Percent of Population in:		
	Cities	Villages	Unincorporated Townships
Lucas	76%	3%	21%

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

Large portions of the county's population are concentrated around the Toledo metropolitan area.

3. ***Population Change***

The District's population is expected to decrease by 1.4% from 2021 through the fifth year of the planning period (2028) and increase by 2% by the end of the planning period.

4. ***Implications for Solid Waste Management***

Lucas County is one of the more densely populated counties in Ohio (approximately 720 persons per square mile). Large portions of the District's population are concentrated in the City of Toledo and surrounding areas. Data trends indicate that, while the population in the Toledo-Metropolitan area is decreasing slowly, residents are moving from the City of Toledo to surrounding neighborhoods, thus dispersing the population over a greater geographical area.

The District manages waste in an integrated system approach that supports the population. The planned growth in population is not expected to outpace the midstream and downstream strategies and infrastructure to manage the generated waste. As populations increase in cities, villages, and townships surrounding Toledo, the District will be pursuing more opportunities to implement or expand residential recycling programs.

D. **Profile of Commercial and Institutional Sector**

Lucas County has a well-developed commercial and institutional sector. Lucas County is home to three colleges and universities, including the University of Toledo, Mercy College of Northwest Ohio, and Lourdes College. Lucas County's eastern border is formed by Lake Erie. Fishing, wineries, and other water sports bring tourists to the coastal area during summer months. Cultural points of interest include the Toledo Museum of Art, the Valentine Theatre (a 901-seat facility operated by the Toledo Cultural Arts Center), the Toledo Zoo, Toledo Metroparks, and Imagination Station (a hands-on science museum).

The following table presents the major commercial/institutional sector employers in Lucas County that employ 1,000 or more people.

Major Commercial/Institutional Sector Employers in District

Employer	Nature of Activity	2021 Location Employees
Libbey Glass LLC	All Other Home Furnishings Retailers	1,200
Promedica Flower Hospital	General Medical And Surgical Hospitals	1,210
McLaren St. Luke's Hospital*	General Medical And Surgical Hospitals	1,400
University Of Toledo	Colleges, Universities, And Professional Schools	2,000
Mercy Health-St Vincent Med	General Medical And Surgical Hospitals	2,625
University Of Toledo Med Ctr	General Medical And Surgical Hospitals	3,000
Chrysler Toledo Assembly	Automobile Assembly	4,000
Promedica Toledo Hospital	General Medical And Surgical Hospitals	11,337

Source: U.S. Business Database

*McLaren St. Luke's Hospital is closing in 2023 and transferring ownership to Mercy Health.

Lucas County's commercial/institutional sector is diverse, which contributes to the sector's stability. The healthcare/social assistance industry is the biggest employer in Lucas County, which employs more residents than the automotive industry. Healthcare/social assistance employs 16.4 percent of all people employed in Lucas County, which is greater than the average for Ohio (13.0 percent). Other types of commercial/institutional sector jobs that employ a significant portion of all Lucas County employees include retail trade (16.2 percent) and accommodation/food service (12.3 percent).

Approximately 16,524 businesses were located in Lucas County in 2021. Since 2013, the number of commercial businesses in Lucas County decreased by nearly

2 percent. Over that same time, employment in the commercial sector decreased by 0.5 percent.²

Employment in the commercial/institutional sector (service-providing industries) is projected to increase by 1.1 percent from 2018 to 2028 in the Toledo MSA³. Therefore, it is likely that the District will experience an increase in the amount of waste generated by the commercial sector in the upcoming planning period.

E. Profile of Industrial Sector

There are approximately 866 industries operating in Lucas County. Many businesses are concentrated in the City of Toledo. The following table presents the major industrial sector employers in Lucas County that employ 500 or more people. The major manufacturing industry in Lucas County is the automotive industry.

Table 2.5-Top Industrial Sector Employers

Company	NAICS Code	City	Location Employee Size
Chrysler Assembly	33	Toledo, OH	4,000
GM Powertrain	33	Toledo, OH	1,722
Daimler Chrysler Corporation	33	Toledo, OH	1,399
Owens Corning Inc.	32	Toledo, OH	1,201
Dana Inc	33	Maumee, OH	800
BP Toledo Refinery*	32	Oregon, OH	550
Toledo Refining Co LLC	32	Oregon, OH	500

Source: U.S. Business Database

*BP Toledo Refinery was acquired by Cenovus Energy Inc. in 2023.

According to the Department of Job and Family Services' publication *2021 Job Outlook for the Toledo Metropolitan Statistical Area (MSA)*, employment in manufacturing is projected to decrease by 2.1 percent from 2018 to 2028. The small change in annual manufacturing employment will likely be imperceptible in terms of the effect on industrial sector waste generation. It is likely that the District will experience a plateau in the amount of waste generated by the industrial sector in the upcoming planning period.

F. Other Characteristics

² Ohio Development Services Agency, "Ohio County Profiles," <https://devresearch.ohio.gov/files/research/C1049.pdf>

³ Ohio Department of Job and Family Services, "Ohio Job Outlook 2018-2028 – Toledo MSA." <http://ohiolmi.com/proj/OhioJobOutlook.htm>

Lucas County is host to the University of Toledo (UT) which has an undergraduate student population of 16,192. Approximately 19 percent, or 3,076 students live in college-owned, operated, or affiliated housing. The students comprise a transitory population that is not included in the count of Lucas County residents for the census. However, the waste generated by the students is included in the amount of waste generated by the residential/commercial sector and in the per capita generation rate for that sector.

Essentially, the waste that is generated by the students at UT becomes attributed to the permanent residents of Lucas County. The waste created by the university increases total generation by the residential/commercial sector, which in turn decreases the District's waste reduction and recycling rate, to the extent that this material is disposed of rather than recycled. Thus, providing opportunities for students to reduce waste and recycle is an important issue for the Lucas County SWMD, and an issue which is not faced by many other SWMDs in Ohio without a major university.

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 Lucas County.

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 shows the amount of residential/commercial (R/C) and industrial waste generated within the District during 2021 (the reference year). The amount

generated is calculated by adding the tons disposed of in landfills plus the tons recycled, composted, and otherwise diverted from landfill disposal.

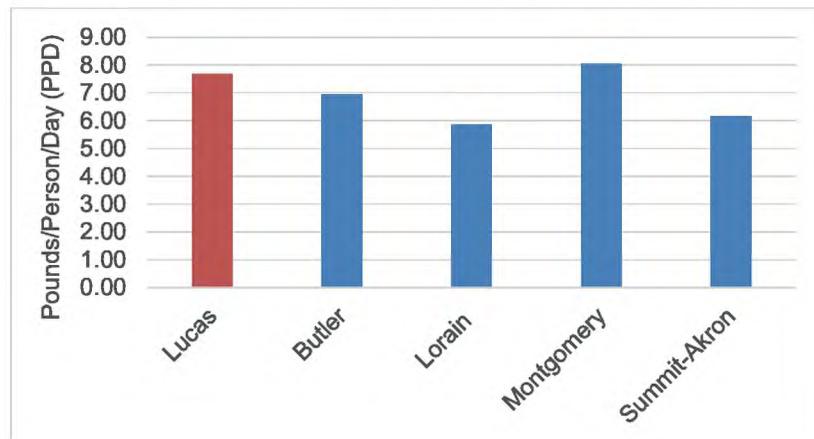
Table 3-1. Solid Waste Generated in the Reference Year

Type of Waste	Tons Generated
Residential/Commercial	601,789
Industrial	236,034
Excluded	0
Total	837,823

1. **Residential/Commercial Waste Generated in Reference Year**

The Residential/Commercial sector generated 601,789 tons of solid waste during the reference year. This estimated generation shows that each person generates approximately 7.68 pounds per person per day (PPD). **Figure 3-1** below compares to other Solid Waste District's of similar sized population.

Figure 3-1. R/C PPD Comparison to SWMDs



The statewide residential/commercial generation for 2021 was approximately 7.12 PPD, while the average generation rate for all SWMDs was 6.95 PPD. The benchmarked District's vary between 5.88 and 8.06 PPD.

As discussed in Chapter 2, the District is home to the University of Toledo which potentially contributes substantial amounts of waste from the residential/commercial sector. The waste generated by the University also has the potential to fluctuate quite significantly throughout the year due to changes in the student population as the school year begins and ends.

2. ***Industrial Waste Generated in Reference Year***

The industrial sector generated a total of 236,034 tons during 2021, which was 28% of the total waste generation across all sectors. The industrial sector's total recycling rate was 78%.

3. ***Excluded Waste Generated in Reference Year***

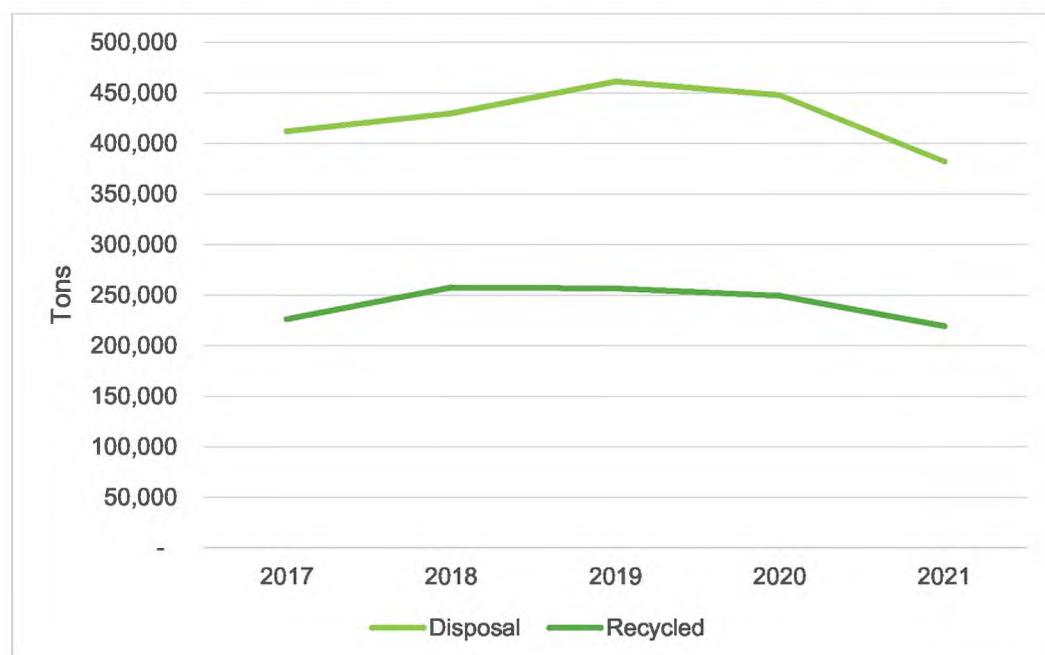
The excluded waste generated in the reference year was 41,338 tons. This represented 9% of total waste generated, which is less than 10% of the total waste stream. Ohio EPA Format 4.1 directs Districts to remove excluded waste from the calculation if it is less than 10% of total waste generated. Excluded waste is not included in the analysis.

B. **Historical Waste Generated**

1. ***Historical Residential/Commercial Waste Generated***

Although it has fluctuated some over the past four years, the generation of residential/commercial waste in the District decreased slightly since 2019. Recycling trends decreased on average by 1%. Recycling trends were consistent from 2018 through 2019, with a slight decrease in 2020 followed by an additional decline in 2021. (See Figure 3-2.)

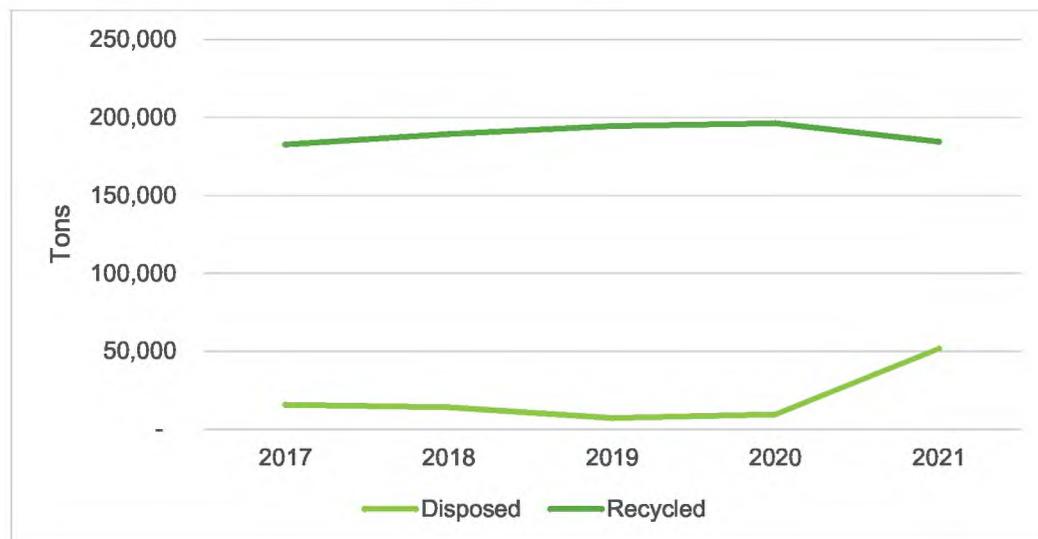
Figure 3-2. Lucas County Historical R/C Generation: 2017 – 2021



2. Historical Industrial Waste Generated

Figure 3-3 shows the historical industrial disposal and recycling tonnages. In 2021, this sector measured higher than historical disposal which elevated the total waste generation.

Figure 3-3. Lucas County's Historical Industrial Generation: 2017 – 2021



3. Waste Generation Projections

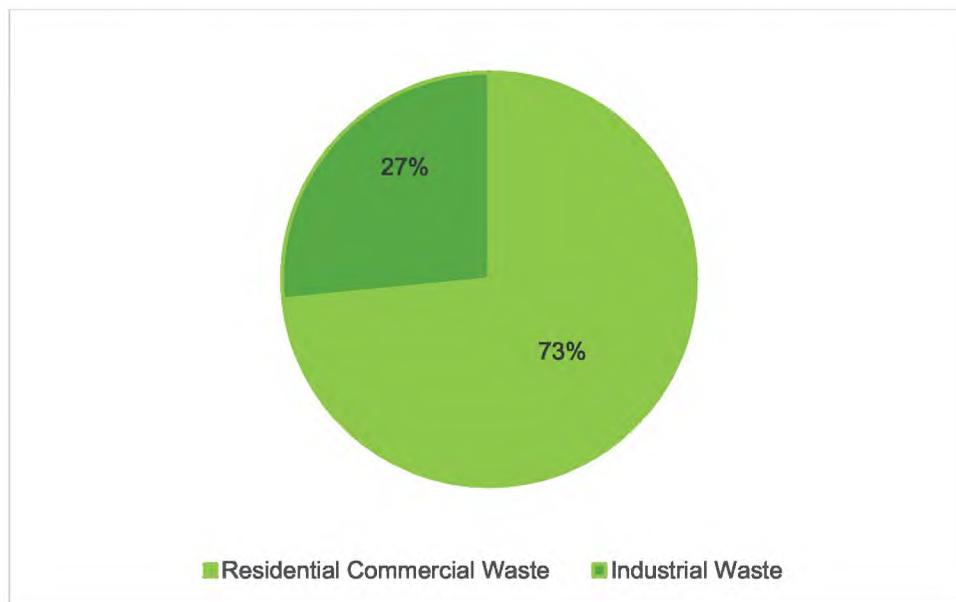
Table 3-2 shows projected waste generation during the first six years of the planning period. Total waste generation is projected to increase.

Table 3-2. Waste Generation Projections

Year	Residential Commercial Waste (tons)	Industrial Waste (tons)	Total
2024	648,384	234,470	882,854
2025	653,092	233,880	886,971
2026	664,298	233,294	897,592
2027	668,995	232,711	901,706
2028	673,888	232,132	906,020
2029	678,985	231,557	910,542

Figure 3-4 shows the percentage of solid waste generated in the residential/commercial sector compared to the industrial sector (2024 CY projected). Projections for both of these sectors were developed by first analyzing historical disposal data, determining trends for the historical data, and then estimating future disposal amounts by incorporating any known changes which may affect the tons landfilled. The same process was used to establish the projections for waste reduction and recycling.

Figure 3-4. Residential/Commercial vs. Industrial Waste Generation: 2024



CHAPTER 4. Waste Management

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

Chapter 3 provided a summary of how much waste the SWMD generated in the reference year and how much waste the Policy Committee estimates the SWMD will generate during the planning period. This Chapter summarizes the Policy Committee's strategy for how the SWMD will manage that waste during the planning period.

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

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

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

Ohio has more than 40 years of remaining landfill capacity. That is more than enough capacity to dispose of all of Ohio's waste. However, landfills are not distributed equally around the state. Therefore, there is still the potential for a regional shortage of available landfill capacity, particularly if an existing landfill closes. If that happens, then the SWMDs in that region would likely rely on transfer facilities to transport waste to an existing landfill instead of building a new landfill.

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

A. Waste Management Overview

The solid waste generated within Lucas County is managed through four major categories: recycling, composting, processing at transfer facilities, and landfilling. (The waste delivered to transfer facilities is ultimately sent to landfills for disposal.) These methods of waste management are anticipated to continue handling the District's solid wastes throughout the planning period. **Table 4-1** shows the projections for each management method for the reference year and the first six years of the planning period.

Table 4-1. Methods for Managing Waste

Year	Generate ¹	Recycle ²	Compost	Transfer ³	Landfill ⁴
2021	837,616	349,730	56,336	17,931	433,867
2024	880,732	350,160	57,550	19,543	453,478
2025	884,078	352,301	59,989	19,492	452,295
2026	893,894	360,803	62,533	19,442	451,117
2027	897,168	362,651	65,184	19,391	449,943
2028	900,605	364,544	67,947	19,341	448,773

¹ "Generate" represents the total of the other four columns.

² "Recycle" is the total amount reduced and recycled minus composting.

³ "Transfer" is the amount sent to transfer stations, prior to delivery to a landfill.

⁴ "Landfill" plus the "Transfer" amount equals the total disposal.

The proportion of each method used to manage Lucas County's waste during the first six years of the planning period are predicted to change very little. **Figure 4-1** shows that landfilling holds at about 54% and diversion methods are roughly 46% of total generation.

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

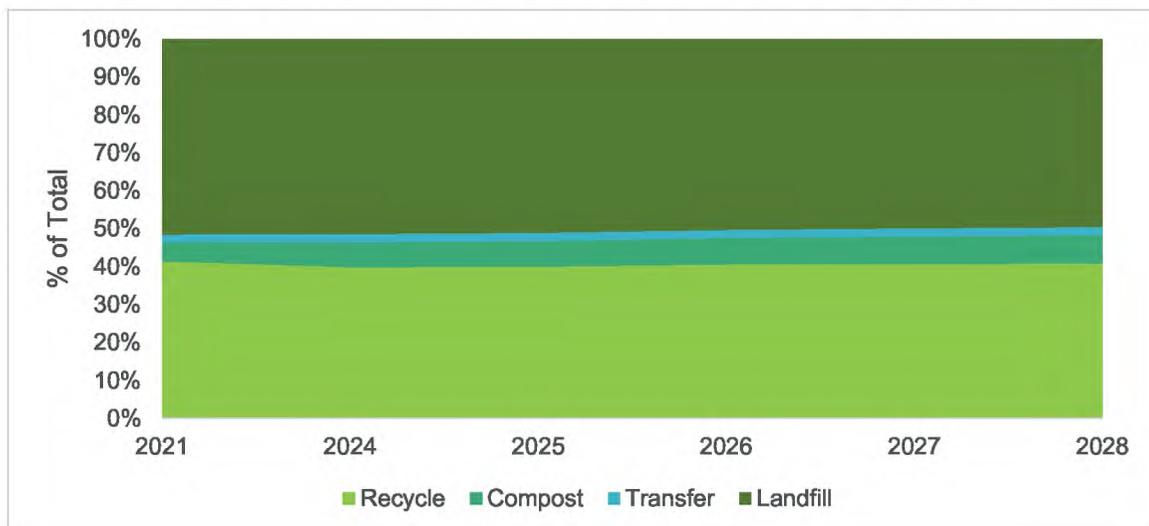
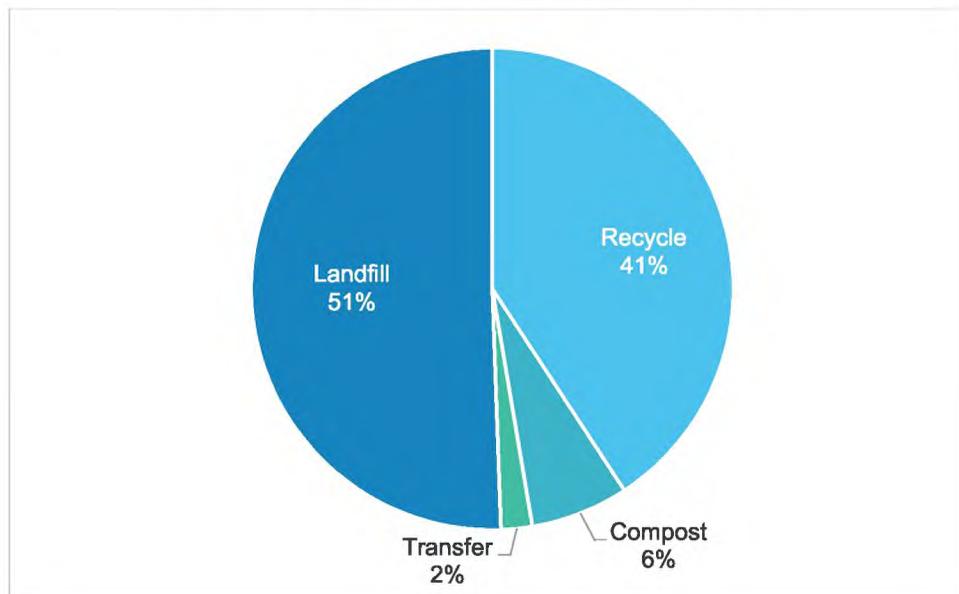


Figure 4-2. Waste Management Methods

B. Profile of Waste Management Infrastructure

1. Landfill Facilities

All the landfills which received waste directly (without first being processed at a transfer station) from the District during the reference year of 2021 are shown in **Table 4-2** below. More than 86% of the direct-hauled waste was disposed at the Hoffman Road Sanitary Landfill and the Vienna Junction Landfill. Both of these facilities are publicly-available, with the Hoffman Road facility owned by the City of Toledo and Vienna Junction owned by Republic Waste Services, a private company.

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

Facility Name	Location		Tons Accepted from SWMD	Percent of all SWMD Waste Disposed	Remaining Capacity (years)
	County	State			
<i>In-District</i>					
Hoffman Road Landfill	Lucas	OH	162,789	36%	80
<i>Out-of-District</i>					
Defiance County Sanitary Landfill	Defiance	OH	57	0%	51

Facility Name	Location		Tons Accepted from SWMD	Percent of all SWMD Waste Disposed	Remaining Capacity (years)
	County	State			
Evergreen Recycling & Disposal	Wood	OH	56,956	12%	33
Hancock County Landfill	Hancock	OH	24	0%	DNR
Pine Grove Regional Facility	Fairfield	OH	0.3	0%	88
Port Clinton Landfill Inc	Ottawa	OH	547	0%	120
Rumpke of Northern Ohio Inc Noble Road Landfill	Richland	OH	864	0%	16
Stony Hollow Landfill Inc	Montgomery	OH	7	0%	4
Wood County Landfill	Wood	OH	3,798	1%	114
Out-of-State					
County Line Landfill		IN	5	0%	DNR
Earthmovers Landfill		IN	0.2	0%	DNR
National Serv-All Landfill (Now Closed)		IN	110	0%	DNR
Medassure of Indiana Treatment Facility		IN	3	0%	DNR
Tradebe Treatment & Recycling LLC		IN	25	0%	DNR
Merrell Brothers Inc Indy Disposal Solutions		IN	17	0%	DNR
EQ Industrial Services Processing		IN	1	0%	DNR
Covanta Environmental		IN	2	0%	DNR
Vienna Junction Landfill, Republic Services		MI	232,018	51%	7
Total			457,222	100%	513

Note: The "tons accepted from SWMD" represents only the amount of waste which was directly hauled to landfills. It does not include the tonnage, which was sent to transfer stations, then delivered to a landfill.

2. Transfer and Processing Facilities

The transfer facilities receiving District waste during 2021 are listed in **Table 4-3**. A small percentage of the total waste ultimately sent for disposal was processed by transfer stations, with the Stevens Disposal Transfer Station in Michigan receiving 89% of transferred waste.

Table 4-3. Transfer and Processing Facilities Used by the District in the Reference Year

Facility Name	Location		Tons Accepted from SWMD	Percent of all District Waste Transferred	Landfill Where Waste was Taken to be Disposed
	County	State			
<i>In-District</i>					
None					
<i>Out-of-District</i>					
Archbold Refuse Service Solid Waste Transfer Facility	Fulton	OH	1,938	11%	Defiance & Williams County Landfill
Fulton County Solid Waste Facility	Fulton	OH	5	0%	Williams County Landfill
Huron County Solid Waste Facility	Huron	OH	0	0%	Noble Road Landfill
<i>Out-of-State</i>					
Stevens Disposal Transfer Station	Monroe	MI	15,988	89%	Riverview Landfill
Total			17,931	100%	

3. **Composting Facilities**

Table 4-4 shows the composting facilities which received yard waste and food waste from the District in 2021. Clean Wood Recycling (CWR) and Riverside Disposal Facility processed more than 72% of the total composted waste.

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

Facility Name	Location (County)	Material Composted (tons)	Percent of all Material Composted
<i>In District</i>			
The Toledo Zoo	Lucas	31	0%
Oregon City Compost	Lucas	0	0%
City of Toledo	Lucas	5,613	14%

Facility Name	Location (County)	Material Composted (tons)	Percent of all Material Composted
Riverside Disposal Facility	Lucas	7,835	19%
CWR Inc Recycling Facility	Lucas	21,533	53%
Floralandscape	Lucas	18	0%
Allgreen Inc	Lucas	296	1%
Sylvania Compost & Recycling LLC	Lucas	2,729	7%
Down 2 Earth	Lucas	317	1%
Toledo Top Soil & Mulch	Lucas	1,415	3%
Blue Creek	Lucas	0	0%
Out-of-District			
Andre Farms LLC	Fulton	31	0%
Hirzel Farms	Wood	359	1%
Woodville Road Nursery LTD	Wood	287	1%
Envirocare Lawn and Landscape	Wood	176	0%
Total		40,640	100%

Note: This table does not include the 1,084 tons of food which was reported by haulers, Kroger, and Walmart, and listed in Ohio EPA's composting report.

4. Processing Facilities

Table 4-5 lists the processing facilities receiving materials from Lucas County in the reference year.

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

Name of Facility	Location		Facility Type	Recyclables Accepted from District (tons)
	County	State		
In-District				
None				
Out-of-District				
Lorain County Resource Complex	Lorain	OH	Single-Stream MRF	15,651
Rumpke Recycling-Dayton	Montgomery	OH	Single-Stream MRF	50
Out-of-State				

Name of Facility	Location		Facility Type	Recyclables Accepted from District (tons)
	County	State		
None				
			Total	15,701

5. Other Waste Management

Table 4-6 lists the “other” food and yard waste facilities and programs in Lucas County during the reference year.

Table 4-6: “Other” Food and Yard Waste Management in the Reference Year

Facility or Activity Name	Activity Type	Location	Food Waste (tons)	Yard Waste (tons)
City of Toledo	Leaf Collection	Lucas	0	28,446
City of Waterville	Leaf Collection, Yard Waste Drop- Off	Lucas	0	5,787
City of Sylvania	Leaf Collection, Yard Waste Drop- Off	Lucas	0	840
City of Oregon	Leaf Collection	Lucas	0	363
City of Maumee	Leaf Collection, Yard Waste Drop- Off	Lucas	0	1,252
Springfield Twp.	Leaf Collection	Lucas	0	2,847
Spencer Twp.	Leaf Collection	Lucas	0	38
Sylvania Twp.	Leaf Collection, Yard Waste Drop- Off	Lucas	0	2,057
Village of Whitehouse	Leaf Collection	Lucas	0	332
Ottawa Hills Village	Leaf Collection	Lucas	0	Unable to estimate volume
Washington Twp.	Leaf Collection	Lucas	0	Unable to estimate volume
Village of Holland	Leaf Collection	Lucas	0	Unable to estimate volume
Lucas County Water Resource Recovery Facility	Anaerobic Digester	Lucas	876	0
Total			876	41,961

C. Use of Solid Waste Facilities During the Planning Period

In general, the District anticipates that facilities which were used to manage District-generated waste during the reference year will continue to be available throughout the planning period, and in aggregate, will continue to provide adequate capacity for the District's needs.

Transfer stations have served minor roles in managing the District's waste management strategy in past years, and that situation is not expected to change during the planning period.

The amount of materials composted throughout the planning period is not expected to change significantly. As the number of operating composting facilities processing the majority of yard waste from the District is not expected to change, composting facility capacity should be adequate throughout the planning period.

The District is anticipating the establishment of a new facility which will provide additional processing capacity for recyclables within Lucas County, and the development of this facility is projected to be developed within the first couple years of the planning period or sooner. This facility is anticipated to be designed to handle single-stream recyclables currently generated within the District.

D. Siting Strategy

Purpose of Siting Strategy

If the SWMD will not have access to enough landfills to dispose of all waste the SWMD will need to dispose of. If existing facilities cannot provide that capacity, then the policy committee must develop a plan for obtaining additional disposal capacity.

Although unlikely, the policy committee can decide that it is in the SWMD's best interest to construct a new solid waste landfill facility to secure disposal capacity. In that situation, Ohio law requires the policy committee to develop a strategy for identifying a suitable location for the facility. That requirement is found in [Ohio Revised Code Section 3734.53\(A\)\(8\)](#). This strategy is referred to as a siting strategy. The policy committee must include its siting strategy in the solid waste management plan. If this solid waste management plan includes a siting strategy, then that strategy is summarized in this chapter and presented in full in Appendix S.

The District's siting strategy has been developed to provide a process for evaluating proposed solid waste facilities and the sites upon which they may be constructed. This strategy is not meant to replace current review and evaluation processes conducted by Ohio Environmental Protection Agency, local zoning and

planning commissioner, or other state or local agencies. Rather the District's siting strategy is meant to supplement those reviews by evaluating a proposed facility's conformity with the goals and objectives of the District Solid Waste Management Plan and providing a forum for public participation in the siting process. The District may alter this strategy to assure that it consistently meets these objectives. Such changes in the strategy will be published as part of the District's Siting Evaluation and Ranking document. The evaluation and siting strategy applies to all facilities regardless of ownership, except solid waste facilities sited within the district prior to plan approval. The strategy consists of three components:

- Preliminary site survey;
- Evaluation of proposed sites and requests for designation; and
- Resolving site impasses through mediation.

The preliminary site survey involves identifying those areas within the District which are unsuitable for solid waste facilities due to environmental sensitivity. The evaluation of proposed sites includes compliance with all state and local requirements for establishing a solid waste facility, as well as complying with the District's goals and objectives contained in the Lucas County Solid Waste Management Plan and the District's siting criteria. A formal mediation process will be used for instances in which differences between the entity proposing the facility and the District cannot be resolved. (See Appendix S for a complete discussion of the District's siting strategy.)

E. Designation

Purpose of Designation

Ohio law gives each SWMD the ability to control where waste generated from within the SWMD can be taken. Such control is generally referred to as flow control. In Ohio, SWMDs establish flow control by designating facilities. SWMDs can designate any type of solid waste facility, including recycling, transfer, and landfill facilities.¹

The policy committee decides whether the board of directors has the authority to designate facilities. The policy committee does this in the solid waste management plan.

Even if the policy committee gives the board of directors the authority to designate facilities, the board decides whether to act on that authority. If it chooses to use its authority to designate facilities, then the board of directors must follow the process that is prescribed in ORC Section 343.014. If it chooses not to designate facilities, then the board of directors doesn't act on its authority.

¹ Source-separated recyclables delivered to a "legitimate recycling facility" as defined in Ohio law are not subject to the requirements of designation. (A legitimate recycling facility is loosely defined as a facility which consistently recycles a majority of the materials processed on-site.)

Once the board of directors designates facilities, only designated facilities can receive the SWMD's waste. In more explicit terms, no one can legally take waste from the SWMD to undesignated facilities and undesignated facilities cannot legally accept waste from the SWMD. The only exception is when the board of directors grants a waiver to allow an undesignated facility to take the SWMD's waste. Ohio law prescribes the criteria that the board must consider when deciding whether to grant a waiver and the time period available to the board for making a decision on a waiver request.

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

1. *Description of the SWMD's Designation Process*

Decisions regarding designation or the granting of a designation waiver shall be made by the District, following a review of the request by the Policy Committee. Copies of applicable resolutions for the District's most recent designation process are included in Appendix Y.

Where the District designates facilities, it may grant a waiver to a non-designated entity to provide solid waste disposal, transfer or resource recovery facilities or activities at any time after the plan update is approved and in accordance with the criteria specified in ORC 343.01(I)(2). The Policy Committee will evaluate each request for designation or waiver based upon, at least, the following general criteria:

- The facility's compatibility with the District's Solid Waste Management Plan.
- The facility's compliance with all rules promulgated by the District and the District's Solid Waste Management Plan.

The full procedure for granting a designation waiver is included in the District's *Designation Procedure and Evaluation Document*, found in Appendix Y.

For this plan update, the District is hereby authorized to establish facility designations in accordance with ORC Section 343.013, 343.014 and 343.015.

2. *List of Designated Facilities*

The currently designated facilities for the solid waste generators are shown in **Table 4-6** below. These facilities were designated in 2021.

Table 4-6. Facilities Currently Designated

Facility Name	Location		Facility Type	Year Designated
	County	State		
<i>In-District</i>				
Hoffman Road Landfill	Lucas	OH	Landfill	2013
<i>Out-of-District</i>				
Port Clinton Landfill	Ottawa	OH	Landfill	2013
Wood County Landfill	Wood	OH	Landfill	2013
Erie County Sanitary Landfill	Erie	OH	Landfill	2013
County Environmental of Wyandot	Wyandot	OH	Landfill	2013
Williams County Landfill	Williams	OH	Landfill	2013
Hancock County Landfill	Hancock	OH	Landfill	2013
Evergreen Landfill	Wood	OH	Landfill	2013
ARS Refuse Service	Fulton	OH	Transfer Station	2013
Defiance County Landfill	Defiance	OH	Landfill	2015
Rumpke Noble Road Landfill	Richland	OH	Landfill	2016
Stony Hollow Landfill	Montgomery	OH	Landfill	2015
Sunny Farms Landfill	Seneca	OH	Landfill	2013
WMI Suburban Landfill	Perry	OH	Landfill	2013
Henry County Landfill	Henry	OH	Landfill	2013
WMI American Landfill	Stark	OH	Landfill	2013
<i>Out-of-State</i>				
Adrian Landfill	Lenawee	MI	Landfill	2013
Vienna Junction Landfill	Monroe	MI	Landfill	2013
Steven's Disposal and Transfer Facility	Monroe	MI	Transfer Station	2013

CHAPTER 5. Waste Reduction and Recycling

Purpose of Chapter 5

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 must also ensure 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.

Through 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. Programs and services collectively represent the SWMD's strategy for furthering reduction and recycling within its jurisdiction.

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 District's existing programs and services, recycling infrastructure, recovery efforts, finances, and overall operations. This review consisted of a series of 13 analyses that allowed the Policy Committee to obtain a holistic understanding of the District by answering questions such as:

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

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

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

A. Solid Waste Management District Priorities

Priority areas to focus efforts in the 2024 Plan include:

Short Term	Action
Curbside	Expand non-subscription curbside programs.
Drop-off	Complete signage improvements.
Commercial/Institutional	Continue focus on commercial businesses, develop list for type size, and outreach, work with businesses to find out barriers to recycling and how recycling can be implemented. Complete school equipment inventory.
Material Recovery Facility	Seek public-private partnerships for design, construction, and operations. Continue to seek grants.
Education	Continue with Correct Recycling Campaign and analyze metrics for impacts and behavior change.
Food Waste	Expand collection opportunities in District. Develop a food waste strategy for county to follow food waste management hierarchy
Mid Term	
Curbside	Explore stronger PAYT for those communities with PAYT programs.
Drop-off	Continue collecting data to build the utilization study to right-size the program.
Commercial/Institutional	Continue to expand into school cafeteria waste.
Education	Boost participation in curbside programs via education/outreach. <i>Outreach Priorities: Correct Recycling Campaign and MRF Launch</i>
District Grant	Create a grant program to support infrastructure gaps (collection, processing, end markets).
Market Development	Engage (possibly lead) in market development for scrap tire recovery in this part of state. Possible co-location at the District site.
Long-Term	
County Wide Zero Waste	Explore county wide Zero Waste program
Landfill Bans	Explore policy such as landfill bans
Extended Producer Responsibly (EPR)	Explore Extended Producer Responsibility (EPR)

B. Program Descriptions

1. Residential Recycling Infrastructure

Curbside Recycling Services

The existing non-subscription curbside recycling services available to residents of the District in the reference year are expected to continue.

These programs are shown below in Table 5-3. Nine of these communities are served by non-subscription curbside, while the remaining 11 are subscription programs. While some variation exists, most of the non-subscription programs collect newspaper, plastics, magazines, aluminum and steel cans, cardboard, paperboard, mixed paper, and glass. Each community or residents within those communities pay for the curbside service. For additional details regarding these programs, see Appendix B.

Table 5.3. Curbside Recycling Services

ID#	Name of Curbside Service	Type of Curbside ¹		Service Provider
		NS	S	
NSC1	City of Maumee	✓		Contract between City and Republic
NSC2	City of Sylvania	✓		Contract between City and Republic
NSC3	City of Toledo	✓		Contract between City and Republic
NSC4	City of Waterville	✓		Contract between City and Republic
NSC5	Holland Village	✓		Contract between City and Republic
NSC6	Ottawa Hills Village	✓		City service department
NSC7	Whitehouse Village	✓		Contract between Village and ARS Refuse Service
NSC8	Waterville Twp.	✓		Contract between Twp. and Klumm Bros
NSC9	Monclova Twp.	✓		Contract between Twp. and Republic
SC1	Berkey Village		✓	DNR
SC2	Harbor View Village		✓	DNR
SC3	Harding Township		✓	DNR
SC4	Jerusalem Township		✓	DNR
SC5	Spencer Township		✓	DNR
SC6	Springfield Township		✓	Private haulers
SC7	Swanton Township		✓	DNR
SC8	Sylvania Township		✓	DNR
SC9	Washington Township		✓	DNR
SC10	Providence Township		✓	DNR
SC11	Richfield Township		✓	DNR

Drop-off Recycling: Publicly-Available Sites

The drop-off recycling program for publicly-available sites will continue. Table 5-4 shows a listing of the existing drop-off locations within the District.

Map of Drop-Off Recycling Sites

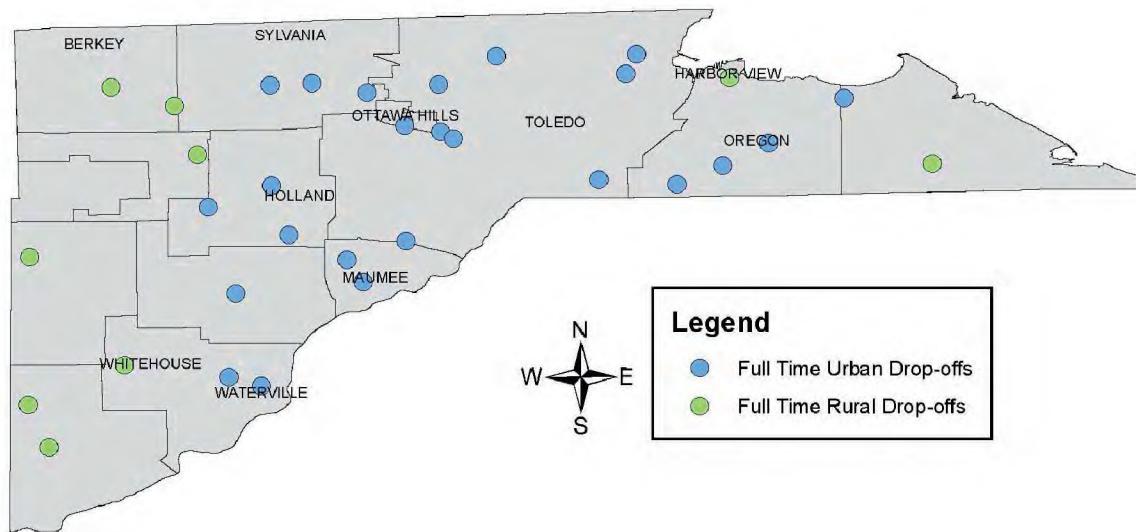


Table 5-4. Drop-Off Recycling Locations

ID#	Name of Drop-off/Community Served	Service Provider
FTU1	City of Oregon Municipal Complex	Lucas County SWMD
FTU2	City of Oregon, Maumee Bay State Park	Lucas County SWMD
FTU3	Eastern YMCA	Lucas County SWMD
FTU4	Maumee, Lakewood Greenhouse	Lucas County SWMD
FTU5	Oregon City, Pearson Metropark	Lucas County SWMD
FTU6	Ottawa Hills Village	Lucas County SWMD
FTU7	Springfield Township, Fire Station 2	Lucas County SWMD
FTU8	Springfield Township, Fire Station 3	Lucas County SWMD
FTU9	Springfield Township, Township Hall	Lucas County SWMD
FTU10	Sylvania - Kroger	Lucas County SWMD
FTU11	Toledo - Fassett St.	Lucas County SWMD
FTU12	Toledo, Arrowhead Fire Station	Lucas County SWMD
FTU13	Toledo, Hoffman Rd Landfill	Lucas County SWMD
FTU14	Toledo, Jewish Community Center/YMCA	Lucas County SWMD
FTU15	Toledo, Kroger	Lucas County SWMD
FTU16	Toledo, Kroger	Lucas County SWMD
FTU17	Toledo, Kroger, Suder Ave.	Lucas County SWMD
FTU18	Toledo, Wildwood Metro Park	Lucas County SWMD
FTU19	UT Medical College	Lucas County SWMD
FTU20	UT Plant Operations	Lucas County SWMD
FTU21	Waterville City	Lucas County SWMD
FTU22	Waterville City, Kroger	Lucas County SWMD

ID#	Name of Drop-off/Community Served	Service Provider
FTR1	Harbor View Village	Lucas County SWMD
FTR2	Jerusalem Township	Lucas County SWMD
FTR3	Providence Fire Dept.	Lucas County SWMD
FTR4	Providence Township	Lucas County SWMD
FTR5	Richfield Township	Lucas County SWMD
FTR6	Secor Metro Park (Sylvania)	Lucas County SWMD
FTR7	Spencer Township	Lucas County SWMD
FTR8	Swanton Township	Lucas County SWMD
FTR9	Whitehouse Village	Lucas County SWMD

The District provides containers, collection and processing to have available single-stream recycling drop-off containers. Containers are 6-cubic yards and available for use 24/7. The District services a total of 31 drop-off locations and collect materials in a single stream. Materials accepted include:

- Mixed paper
- Cardboard
- Plastic bottles and jugs
- Metal cans
- Glass bottles and cans

Priority Area: Complete drop-off location utilization study:

- Site Visits: The District manager will drive to each drop-off site and physically inspect the location. During these visits, they will observe the drop-off process, note the conditions of the site, and evaluate any potential issues that may affect utilization.
- Inventory and Data Collection: The manager will conduct an inventory of the materials and items present at each site. This includes recording the types and quantities of waste or recyclables, available containers or bins, and any relevant equipment or facilities.
- Usage Assessment: The manager will also gather data on the site's utilization. This may include measuring the frequency and volume of drop-offs, analyzing peak usage times, and identifying any trends or patterns.

2. Residential Sector Reduction and Recycling Programs

Name	Description
Curbside Recycling Technical Assistance	The District provides assistance to municipalities which includes Pay-As-You-Throw, contract assistance, consortium, RFP development assistance, contract development assistance, contract management

	assistance, etc. The District provides technical assistance to any community upon request.
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Name	Description
Engage Private Sector to Develop MFH Recycling Solutions	The District may contact private haulers serving Lucas County and solicit input regarding the obstacles to providing greater recycling services for this sector. The District may also solicit input from property management companies regarding recycling services at their locations based on the targeted survey results discussed above.

Name	Description
Drop-Off Recycling: Publicly Available Sites	Determine appropriate quantity and location of drop-off sites. Evaluate cost containment options. Minimize contamination and littering. Minimize theft of recyclables.

3. ***Commercial/Institutional Sector Reduction and Recycling Programs***

Name	Description
Waste Assessments/Waste Audits	The waste assessment/waste audit program is a collaboration between the District and the University of Toledo. The District provides funding for this program and the University conducts the on-site waste assessments, waste audits, and energy audits.

Name	Description
Market Development Grant Technical Assistance	The District assists local businesses with completing Ohio EPA grant applications for the development of recycled products. Grants support projects for research and development of products utilizing recycled materials in their products.

Name	Description
School Recycling Collection	The District provides and services mixed paper recycling dumpsters for schools throughout the County. A portion of the schools also collect cardboard and/or commingled bottles and cans.

Name	Description

Drop-Off Recycling: Non-Public Sites	The District's drop-off collection services small businesses and government offices. The District provides drop-off containers and serviced recycling dumpsters for 98 separate entities throughout the County.
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Name	Description
Special Event Container Loan Program	KT/LCB partners with the Andersons on the Trash Toss Program to distribute boxes to groups to collect waste and recycling from special events. When applicable, the District assists with the large-scale events of collection of recyclables.

4. ***Industrial Sector Reduction and Recycling Programs***

Name	Description
Waste Assessments/Waste Audits	The waste assessment/waste audit program discussed above under the commercial/institutional sector provides those same services to the industrial sector and will continue to do so.

Name	Description
Market Development Grant Technical Assistance	The market development grant technical assistance program discussed above under the commercial/institutional sector provides those same services to the industrial sector and will continue to do so.

Name	Description
Toledo-Lucas County Sustainability Commission	The market development grant technical assistance program discussed above under the commercial/institutional sector provides those same services to the industrial sector and will continue to do so.

Name	Description

Ohio Materials Marketplace	The District promotes the Ohio Materials Marketplace on its website. The Ohio Materials Marketplace serves as an innovative platform that brings together businesses, organizations, and entrepreneurs, facilitating the exchange of hard-to-recycle wastes and by-products, which can be repurposed as valuable raw materials by others within the network.
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5. **Restricted/Difficult to Manage Wastes**

Name	Description
Yard Waste	Please refer to Appendix I for a list of leaf collection programs, yard waste collection programs, and technical assistance provided by the District.

Name	Description
Scrap Tires	The District offers education and outreach to the public through its website and other means regarding the proper management of scrap tires.

Name	Description
Household Hazardous Waste	The District provides education and an outlet to the public regarding the proper disposal of household hazardous wastes.

Name	Description
Household Hazardous Waste	The District provides education and an outlet to the public regarding the proper disposal of household hazardous wastes.

Name	Description
Electronic Equipment	The District publicizes the collection of electronic equipment through various events held each year within Lucas County. The District also summarizes the local and regional private sector and non-profit organizations that accept electronic waste and TVs for recycling.

Name	Description

Lead-Acid Batteries	The District provides information on its website and flyers which list numerous businesses that accept lead-acid batteries.
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Name	Description
Appliances	The District maintains a list of companies which accept small appliances and Freon removal services on their website.

Name	Description
Pharmaceuticals	KT/LCB partners with Toledo Police Department to provide multiple prescription drug drop-off boxes 24/7. The District also advertises for the National Drug Take-Back day.

6. ***Other Material Specific Programs***

Food Waste

Name	Description
Food Waste Management	The District will continue to evaluate and support cost effective options for collecting food waste. The Lucas County Water Resource Recovery Facility is an option as is development of a larger Class II compost facility or supported decentralized small-scale operations.

7. ***Funding/Grants***

Incentive-Based Grants

Name	Description
Community Recycling Incentive Grant	The District created a Community Recycling Incentive Grant in 2005 to provide an incentive for greater recycling in the District. The grant was designed to assist the District in meeting the Solid Waste Plan objectives and goals. Grant funds were awarded to communities who completed an application and met District criteria, upon District approval. Due to lack of funding grants were suspended in 2008. The grant will become available in the first year of the planning period, 2024.

8. ***Economic Incentives***

Economic Incentive Based Trash Collection

Name	Description

PAYT Collection	Currently, there are three economic incentive based non-subscription curbside collection programs in Lucas County.
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The District will consider implementing the following initiative associated with this program:

- a. Facilitate implementation of economic incentive programs. The District will encourage more communities to implement an economic incentive based program.
- b. Explore stronger PAYT for those communities with PAYT programs. The District will explore and refresh PAYT structure to enhance effectiveness. Additionally, the District will work with Waterville Township to switch to carts.

9. *Market Development Programs*

Name	Description
Business Grant Assistance	For many years, the District has helped local businesses obtain market development grants from Ohio EPA to improve recycling opportunities.

10. *District Facilities*

Materials Recovery Facilities/Recycling Centers

Name	Description
Matzinger Road Facility	The District offices are set up as a special collection drop-off location. The facility continues to develop into a "mega drop-off" serving as a drop-off for other hard to recycle materials. At special times of each year yard and campaign signs are accepted as well as other items.

Name	Description
Lucas County Material Recovery Facility	The District plans to initiate the development of a Material Recovery Facility for processing single-stream recyclables. Development of the facility plans to be fully operational by 2026.

11. *Data Collection*

Name	Description

Data Collection Efforts	The District collects diversion data each year from entities located both within Lucas County and outside the county. This data is important to helping the District meet the 25% waste reduction rate goal.
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12. **Other Programs**

Name	Description
Policy Planning and Steering	The Policy Committee supports the concept of Zero Waste and Circular Economy. Over this next planning period the District will engage with stakeholders to further the conversation of Zero Waste, Circular Economy and Extended Producer Responsibility.

13. **Outreach, Education, Awareness, and Technical Assistance**

Minimum education requirements prescribed by Goal 3:

- District maintains a website at www.lucascountyrecycles.org.
- District's webpage serves as a resource guide.
- Solid Waste Management Plan and website serve as an infrastructure inventory.
- District partners with KT/LCB to perform education and outreach activities.

The District will continue to offer a number of programs designed to provide education, technical assistance, and raise awareness of solid waste and recycling issues. New initiatives and programs will be developed as well.

District Website

The District has maintained a website since 1999, providing many different types of information to the public. The website will continue, and the District will develop one initiative designed to improve the ease of using the site and enable evaluation of its use:

- a. Developing user metrics. The District will select a number of metrics (such as visits to the website) which will be utilized to evaluate the use of the site. Analysis of the metrics should allow the District to make more informed improvements to the website.

Resource Guide

The District's "Recycler's List" is a comprehensive compilation of all the locations accepting various types of recyclable and reusable materials within Lucas County. The "Recycler's List" is no longer updated as of 2020, instead, everyone is directed to the Waste Wizard.

The District's Waste Wizard is an interactive tool for the most up-to-date information regarding recycling outlets for materials such as televisions, Styrofoam, mattresses, microwaves, etc. The online tool offers the ability to search or navigate through an alphabetical list of materials for proper disposal of materials not accepted in curbside or drop-off collection. This list is updated frequently and located on the District's website, KT/LCB's webpage and as an app "LC Recycles" located in the app store.

Education Provider

During the reference year, the District continued its partnership with Keep Toledo/Lucas County Beautiful, Inc. (KT/LCB) to perform education and outreach activities. KT/LCB's mission is to establish greener communities through environmental education, litter prevention and voluntary partnerships.

KT/LCB employs a full-time Education Specialist that conducts classroom presentations for students of all ages and teachers in accordance with the State of Ohio's educational standards.

The Education Specialist and other staff from KT/LCB participate in local events such as the Toledo Zoo Party for the Planet and other events. KT/LCB typically maintains a booth that contains educational information and brochures for residents, such as the District's Recycler's List. Their staff is present at the events to engage residents, increase awareness, promote recycling/waste reduction opportunities and programs, and answer questions. KT/LCB also maintains detailed information on its website about environmental field trips that can be scheduled with other local organizations or facilities.

Infrastructure Inventory

A copy of the District's approved Plan is posted on the website, which includes the infrastructure inventory as compiled during the Plan's reference year.

Table 5-5. Outreach and Marketing Plan: Existing Programs

Education/Outreach Programs	Target Audience				
	Residents	Schools	Industries	Institutions & Commercial Businesses	Communities & Elected Officials
District Website	√	√	√	√	√
Distributing Publications at Community Events	√	√			√
Social Networking	√				
Presentations	√	√		√	√

Education/Outreach Programs	Target Audience				
	Residents	Schools	Industries	Institutions & Commercial Businesses	Communities & Elected Officials
Outreach (Tours, KT/LCB Events)	√	√			
Toledo-Lucas County Sustainability Commission	√	√	√	√	√
Market Development Grant Technical Assistance			√		
Community Curbside Solid Waste and Recyclables Technical Assistance					√
Waste Assessment Program		√	√	√	
School Paper Recycling Program		√			
Total Program per Group	6	8	4	4	5

Outreach Priority

The goal of the District's outreach priority is to change resident behavior to improve recycling efforts in Lucas County. In addition to providing messages to residents in water bills, the District is using a multi-faceted approach to reaching the target audience by providing messages about proper recycling on social media, on the website, and in printed publications. The City of Toledo is reinforcing these efforts by using "OOPS tags" to notify residents when the incorrect materials are placed in curbside recycling containers.

Correct Recycling Campaign

The District has identified reducing contamination in District drop-offs and curbside recycling programs as an outreach priority. The District is using a multi-faceted approach to reach the target audience by providing messages about proper recycling on social media, on the website, and in printed publications. The primary purpose of the outreach campaign is to educate and inform community members in Lucas County about the correct recycling practices, emphasizing the types of materials acceptable for recycling both at the curb and designated drop-off locations. The goal is to reduce recycling contamination and increase the recovery of acceptable materials.

Material Recovery Facility (MRF) Launch

As the MRF launches, the District is planning extensive outreach and education surrounding the MRF facility. Outreach campaign to the residents will consist of development of an outreach and communications plan. The outreach and communication plan will define 1) target audience 2) call to action. 3) measurable communication objectives, and 4) tactics and timeline. The District anticipates this will include a media launch with creation of media flyers and brochures promoting the District's office and the collection services provided. The use of a utility bill mailer designed and sent out for more visibility. Press release and social media posts. Facebook will use a quarterly campaign to highlight the Recycling Center and collection services provided. Additionally, the District may create a collaborative video. All content will be District branded.

For more information on the outreach priorities, please refer to Appendix L.

C. Waste Reduction and Recycling Rates

The SWMD met the 25% residential/commercial waste reduction rate goal in the reference year, 2021, and the SWMD is projected to continue to meet that goal throughout the planning period.

Table 5-6. Residential/Commercial Waste Reduction and Recycling Rate

Year	Projected Tons Collected	Residential/ Commercial Waste Reduction Rate
2024	223,651	35%
2025	228,423	35%
2026	239,659	36%
2027	244,349	37%
2028	249,195	37%
2029	254,204	38%

Table 5-7. Industrial Waste Reduction and Recycling Rate

Year	Projected Tons Collected	Industrial Waste Reduction and Recycling Rate
2024	184,059	79%
2025	183,867	79%
2026	183,676	79%
2027	183,486	79%
2028	183,296	79%
2029	183,106	79%

CHAPTER 6. BUDGET

Purpose of Chapter 6

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

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

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

This Chapter of the solid waste management plan provides an overview of the SWMD's budget. Detailed information about the budget and District budget policies are provided in Appendix O.

A. Overview of the District's Budget

The activities and services described in Chapter 5 are supported through generation fees, designation/contract fees, rates and charges, and miscellaneous other revenues. The District projects to receive an annual average of \$3.86 million in revenues over the first six years of the planning period (2024-2029). The first six years of District expenses are projected to average an annual of \$3.84 million.

Figure 6-1 Projected Revenues and Expenses



B. Revenue

Overview of How Solid Waste Management Districts Earn Revenue

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

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

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

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

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

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

Generation Fees (see Ohio Revised Code Section 3734.573)

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

Rates and Charges (see Ohio Revised Code Section 343.08)

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

Contracts (see Ohio Revised Code Sections 343.02 and 343.03)

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

Other Sources of Revenue

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

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

The following summarizes the actual funding sources for the District:

1. Generation Fees

The District receives \$2.20 per ton on all solid waste that is generated in the District.

2. Designation Fees

The District levies a contract disposal designation fee to all solid waste facilities, either in-state or out-of-state that are designated by the District to receive District solid waste. The fee is \$3.00 per ton for Ohio landfills and \$5.20 per ton for out-of-state landfills. This fee was set in 2012. The District may evaluate the amount of that fee, as part of its annual budgeting cycle, and may consider decreasing/increasing it, depending on the economic conditions facing the District throughout the planning period. Any changes to the designation fee would follow all required procedures of the Ohio Revised Code for establishing and adjusting solid waste management district fees for openness, transparency, inclusiveness, and public input and approval. At this time, there are no plans to change the designation fee.

3. Loans

The District obtained a \$1.2 million loan from the Ohio Water Development Authority in 2009 to purchase a facility located at 1011 Matzinger Road. Financing this over 20 years, the annual payment is \$100,913. Semiannual payments are made of \$50,456.49. The District began making payments on

the loan in January of 2009. The 20-year loan is scheduled to retire in July of 2028.

The District is planning a major facility project to build a material recovery facility in this planning period. A loan for \$11 million is expected to be secured in 2024 for development and building costs. Annualizing this over 20 years the District is expecting a \$810,000 annual debt service.

4. Other Sources of Revenue

Other sources of revenue include:

- **Rates & Charges** – Residents with improved property parcels in Lucas County cities, villages, and townships began paying \$2.50 per half fixed fee (\$5 per year). The rate and charge is shown on property tax documents since 2014.
- **Reimbursements** – The District serves as a pass-through entity for the City of Toledo's curbside collection services contract. The District makes payments on behalf of the City to the program contractor. The City of Toledo reimburses the District for costs incurred for performing this service. A couple other political jurisdictions also have similar arrangements.
- **Funding from Health Department** – The Toledo-Lucas County Health Department pays the District for disposal of construction and demolition waste.
- **Grants** – Grants obtained by the District are competitive and therefore not a guaranteed source of revenue. Potential revenue from future grants are excluded.
- **Recycling Revenue** – Some District operations generate revenue from the sale of recyclable commodities. Cardboard only route collection and operations revenue fluctuated annually and averaged roughly \$146,415 from 2017 to 2022. Commodity markets fluctuate and can be volatile.
- **Other (Miscellaneous) Revenue** – Miscellaneous revenue represents revenue resulting from untraditional and unforeseen sources.
- **User Fees** – The District accepts HHW for a fee of \$1 per pound of material pound for materials that are costly to manage. Material is collected at the permanent HHW facility located at the District's facility on Matzinger Road.

- **MRF Tipping Fees** – The District anticipates that the new single stream MRF will be operating in 2026. For budgetary purposes, the MRF tipping fee is projecting tipping fee revenue at roughly \$525,000 annually. The MRF tipping fee is estimated to be \$20.00 for each ton of single stream recyclable material delivered to the facility by the City of Toledo (estimated to be 20,000 tons) and \$25.00 for each ton delivered by others (estimated to be 5,000 tons). The District may adjust tip fees based on market conditions regarding the operation of the MRF. Agreements for receipt of recyclable tons are anticipated and negotiations may alter the terms of these tip fee estimates.
- **MRF Recycling Revenue** – Based on regional low market value scenarios the annual estimated revenue for commodity sales is \$2.6 million. The District anticipates a revenue share arrangement with the selected operator. This could be a share of the net revenues (gross revenue minus service fees), a flat or scaled per ton rate, a combination with floor pricing, etc.

Revenue from other sources excluding reimbursement revenue increases from \$1.2 million in 2021 to \$1.9 million in 2039. The large increase is the result of the operation of the material recovery facility.

5. **Summary of Revenue**

Table 6-1 shows the reference year and the projected revenues for the first six years of the planning period.

Table 6-1 Summary of Revenue

Year	Generation Fees	Designation Fees	Other Revenue	Total Revenue
2021	\$461,352	\$1,920,456	\$1,253,403	\$3,635,211
2024	\$436,497	\$1,833,567	\$906,800	\$3,176,864
2025	\$435,275	\$1,828,437	\$906,800	\$3,170,511
2026	\$434,058	\$1,823,326	\$1,956,800	\$4,214,184
2027	\$432,847	\$1,818,235	\$1,956,800	\$4,207,881
2028	\$431,639	\$1,813,163	\$1,956,800	\$4,201,603
2029	\$430,437	\$1,808,112	\$1,956,800	\$4,195,348

Source(s) of information: Plan Tables O-2A, O-3A and O-5A

C. Expenses

Overview of How Solid Waste Management Districts Spend Money

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

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

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

- Salaries and benefits;
- Purchasing and operating equipment (such as collection vehicles and drop-off containers);
- Operating facilities (such as recycling centers, solid waste transfer facilities, and composting facilities);
- Offering collection programs (such as for yard waste, HHW and scrap tires);
- Providing outreach and education;
- Providing services (such as curbside recycling services); and
- Paying for community clean-up programs.

Table 6-2 presents a summary of expenses for the 2021 reference year and for the first 6 years of the planning period (2021 to 2029) broken into specific expense categories.

Table 6-2. Summary of Expenses

Expense Category	Year						
	Reference	Planning Period					
		2021	2024	2025	2026	2027	2029
Plan Preparation / Monitoring	\$10,388	\$40,863	\$42,715	\$44,023	\$45,384	\$76,500	\$48,272
District Admin.	\$1,219,224	\$1,199,011	\$1,270,952	\$1,321,790	\$1,374,661	\$1,429,648	\$1,486,834
Facility Operation	\$164	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399
Recycling Collection	\$802,774	\$1,049,797	\$1,112,784	\$1,157,296	\$1,203,588	\$1,251,731	\$1,301,800
HHW and Special Collections	\$23,997	\$21,239	\$21,314	\$21,366	\$21,421	\$21,478	\$21,537
Education/ Awareness	\$164,945	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000
Waste Assessments, Audits, and Feasibility Studies	\$85,872	\$90,000	\$90,000	\$90,000	\$90,000	\$90,000	\$90,000
Loan Repayment	\$100,913	\$100,913	\$100,913	\$100,913	\$100,913	\$100,913	\$0
County Assistance	\$0	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Total Expenses	\$2,408,277	\$3,571,222	\$3,708,077	\$3,804,787	\$3,905,366	\$4,039,669	\$4,017,842

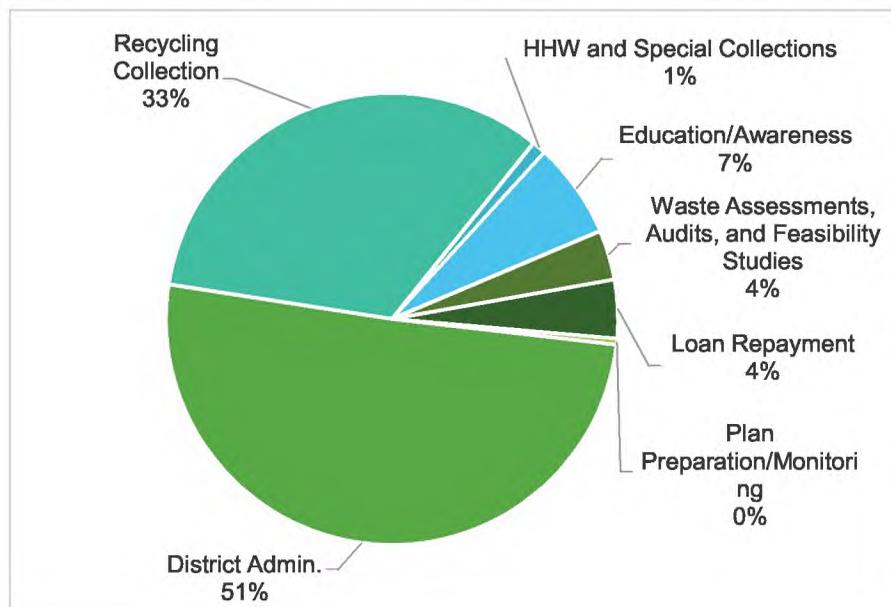
Source(s) of information: Plan Table O-7A

Expense categories in Table 6-2 include the following:

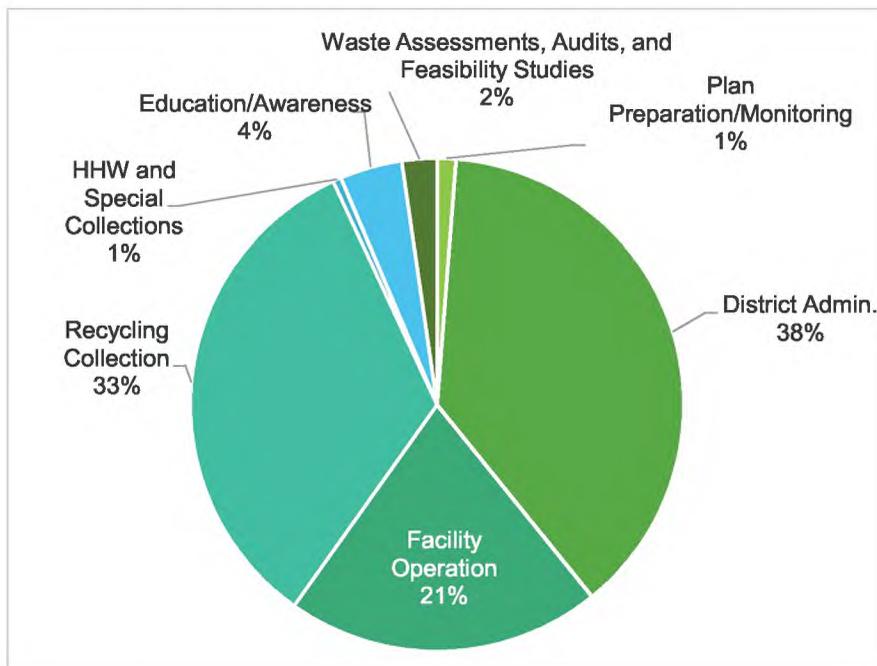
- **Plan Preparation/Monitoring** – Represents expenditures for working with consultants to develop solid waste plan updates, expenses for assistance with annual reporting and plan implementation monitoring, and expenses for legal assistance and an annual waste audit.
- **Direct Administration** – Budget includes expenditures for salaries, OPERS, FICA, unemployment compensation, workers' compensation, health insurance, and office overhead such as drug testing, postage, office rent, utilities, telecommunications, staff training, trade organization memberships, industry-specific subscriptions, and asset insurance.
- **Facility Operation** – Reflects expenditures to design, develop, and construct the full-service single-stream material recovery facility (MRF).
- **Recycling Collection** – Expenses reflect the drop-off recycling program and other drop-off collections.

- **HHW and Special Collections** – Includes expenses for the HHW program and the scrap-tire collection program.
- **Education/Awareness** – Reflects expenditures for a service agreement between the District and KT/LCB, advertisement and promotion costs.
- **County Assistance** – Includes a flat annual budget of \$100,000 for the Toledo-Lucas County Sustainability Commission.
- **Waste Assessments/Audits** – This line item reflects the budget for waste assessments and audits performed by the University of Toledo (UT) on behalf of the District.
- **Loan Repayment** – This budget includes debt retirement for the District's loans.

Figure 6-2 Distribution of Expenses by Category: 2021



Throughout the first five years of the planning period, the distribution of expenses among categories varies. In 2029, the sixth year of the planning period, the top three expense categories include district administration at 38%, recycling collection at 33% and facility operation at 21%, shown in Figure 6-3 below.

Figure 6-3 Distribution of Expenses by Category: 2029

D. Budget Summary

Table 6-3 presents a summary of the budget for the 2021 reference year and the first 6 years of the planning period (2021 to 2029). The summary includes revenue, expenditures, net balance, and year-end fund balance. Revenue is projected to increase from \$3.6 million in 2021 to \$4.1 in 2029; expenses increase from \$2.4 million in 2021 to \$4.0 million in 2029. The District's ending balance during the first 6 years of the planning period ranges from \$9.6 million to \$8.5 million. Ample funding should be available to operate the programs outlined throughout this plan.

Table 6-3 Budget Summary

Year	Revenue	Expenses	Net Difference	Ending Balance
Reference Year				
2021	\$3,635,211	\$2,408,277	\$1,226,934	\$9,666,042
Planning Period				
2024	\$3,176,864	\$3,571,222	(\$394,359)	\$8,013,218
2025	\$3,170,511	\$3,708,077	(\$537,565)	\$7,475,652
2026	\$4,214,184	\$3,804,787	\$409,397	\$7,885,049
2027	\$4,207,881	\$3,905,366	\$302,515	\$8,187,563
2028	\$4,201,603	\$4,039,669	\$161,934	\$8,349,497
2029	\$4,195,348	\$4,017,842	\$177,506	\$8,527,004



APPENDIX A

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



Appendix A. Miscellaneous Information

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: **2024-2039**.

C. Goal Statement

The SWMD will achieve the following Goal(s): **Both Goal 1 and Goal 2**

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

Material	Quantity (tons)	2021 ADR (tons)	Difference (tons)
Appliances/ "White Goods"	12,275	12,275	-
Household Hazardous Waste	33	33	-
Used Motor Oil	0.05	0.05	-
Electronics	344	344	-
Scrap Tires	3,756	3,756	-
Dry Cell Batteries	3	3	-
Lead-Acid Batteries	1,562	1,562	-
Food	2,386	1,511	(875.60)
Glass	3	3	-
Ferrous Metals	64,611	64,611	-
Non-Ferrous Metals	873	873	-
Corrugated Cardboard	17,316	17,316	-
All Other Paper	18,983	18,983	-
Plastics	2,459	2,459	-
Textiles	-	-	-
Wood	585	585	-
Rubber	-	-	-
Commingled Recyclables (Mixed)	39,349	39,349	-
Yard Waste	54,009	54,009	-
Other (Aggregated)	790	790	-
Total	219,339	218,464	(875)

The reason there are data differences between the annual district report (ADR) and this Plan is because food diversion sent to the County's anaerobic digester and was not captured in the annual district report. "Food" category, is due to the District's Anaerobic Digester. The District program through GoZero was not reported at the time of completion of the 2021 ADR. As a result, there is a difference of 875 tons between the ADR and the Plan.

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

The links in the District's formatting were broken and allocated in different line items and do not match Ohio EPA quarterly fee reports. The correct revenue and expense tables are shown below and outlined in Appendix O.

Source	2018				
	Q1	Q2	Q3	Q4	TOTAL
Revenue					
Disposal Fees - Tier 1					\$0
Disposal Fees - Tier 2					\$0
Disposal Fees - Tier 3					\$0
Generation Fees	\$73,601	\$146,204	\$131,037	\$77,078	\$427,920
Rates and Charges	\$399,739		\$379,356		\$779,095
Contracts	\$387,765	\$629,089	\$381,004	\$408,169	\$1,806,027
Recycling Revenue	\$28,377	\$23,564	\$21,246	\$12,070	\$85,258
User Fee	\$5,077	\$13,277	\$7,277	\$5,715	\$31,346
Reimbursements	\$2,741,856	\$2,379,362	\$2,385,667	\$2,465,424	\$9,972,309
Grants			\$92,500		\$92,500
Other				\$14,435	\$14,435
Total	\$3,636,415	\$3,191,496	\$3,398,087	\$2,982,892	\$13,208,889
Expenses					
Plan Prep	\$4,038	\$1,096		\$1,451	\$6,585
Plan Monitoring	\$1,904	\$7,320	\$9,285	\$595	\$19,104
Plan P&M - Other			\$12,870	\$4,980	\$17,850
Personnel	\$200,515	\$216,312	\$179,986	\$210,618	\$807,430
Office Overhead	\$15,607	\$117,631	\$17,256	\$23,371	\$173,866
Admin - Other					\$0
MRF/Recycling Center					\$0
Compost					\$0
Transfer					\$0
Special Waste					\$0
Landfill Closure/Post-Closure					\$0
Curbside					\$0
Drop-off	\$130,411	\$48,062	\$101,300	\$60,871	\$340,644
Combined					
Curbside/Drop-off	\$2,340,849	\$1,577,488	\$3,173,778	\$1,637,654	\$8,729,769
Multi-family					\$0
Business/Institutional					\$0
Other					\$0
Tire Collection					\$0
HHW Collection	\$1,844	\$100	\$2,844	\$10,060	\$14,849
Electronics Collection					\$0
Appliance Collection					\$0
Other Collection Drives					\$0

2018					
f. Yard Waste/Other Organics					\$0
Education Staff	\$34,997	\$35,001	\$36,667	\$37,500	\$144,165
Advertisement/Promotion	\$425	\$7,061	\$17,562	\$49,337	\$74,385
Other		\$90			\$90
General Market Development Activities					\$0
ODNR pass-through grant					\$0
i. Service Contracts					\$0
j. Feasibility Studies					\$0
k. Waste Assessments/Audits	\$17,286	\$19,024	\$26,814	\$20,121	\$83,245
l. Dump Cleanup					\$0
m. Litter Collection/Education					\$0
n. Emergency Debris Management					\$0
o. Loan Payment		\$50,456		\$50,456	\$100,913
p. Other					\$0
Health Dept. Enforcement					\$0
County Assistance	\$11,000	\$80,000			\$91,000
Well Testing					\$0
Out-of-State Waste Inspection					\$0
Heath Departments					\$0
Local Law Enforcement					\$0
Other					\$0
Health Department Training					\$0
Municipal/Township Assistance					\$0
Total	\$2,758,876	\$2,159,640	\$3,578,361	\$2,107,016	\$10,603,894

2019					
Source	Q1	Q2	Q3	Q4	TOTAL
Revenue					
Disposal Fees - Tier 1					\$0
Disposal Fees - Tier 2					\$0
Disposal Fees - Tier 3					\$0
Generation Fees	\$119,308	\$128,155	\$90,843	\$150,955	\$489,261
Rates and Charges	\$392,503		\$384,178		\$776,681
Contracts	\$323,461	\$604,905	\$527,131	\$420,252	\$1,875,749
Recycling Revenue	\$25,332	\$19,048	\$12,612	\$17,406	\$74,397
User Fee	\$6,951	\$5,514	\$7,913	\$6,017	\$26,395
Reimbursements	\$2,706,357	\$2,446,568	\$2,458,297	\$2,525,162	\$10,136,385
Grants	\$29,809		\$92,500		\$122,309
Other	\$13,540	\$14	\$1	\$776	\$14,332
Total	\$3,617,262	\$3,204,204	\$3,573,474	\$3,120,568	\$13,515,509
Expenses					
Plan Prep			\$4,882		\$4,882
Plan Monitoring	\$2,677	\$648	\$4,882		\$8,206
Plan P&M - Other	\$740	\$967	\$4,236	\$1,775	\$7,718
Personnel	\$208,058	\$184,719	\$170,806	\$193,681	\$757,263
Office Overhead	\$20,777	\$101,999	\$10,421	\$773,428	\$906,626
Admin - Other	\$0				\$0
MRF/Recycling Center				\$3,103	\$3,103

	2019				
Compost					\$0
Transfer		\$304,216			\$304,216
Special Waste					\$0
Landfill Closure/Post-Closure					\$0
Curbside					\$0
Drop-off	\$101,430	\$510,166	\$288,995	\$496,855	\$1,397,446
Combined Curbside/Drop-off	\$3,275,308	\$2,687,801	\$2,451,781	\$1,681,839	\$10,096,729
Multi-family					\$0
Business/Institutional					\$0
Other					\$0
Tire Collection					\$0
HHW Collection	\$659	\$906	\$5,667	\$1,460	\$8,692
Electronics Collection					\$0
Appliance Collection					\$0
Other Collection Drives					\$0
f. Yard Waste/Other Organics					\$0
Education Staff	\$37,500	\$37,500	\$37,500	\$50,000	\$162,500
Advertisement/Promotion				\$200	\$200
Other		\$3,650	\$136,004		\$139,654
General Market Development Activities					\$0
ODNR pass-through grant					\$0
i. Service Contracts				\$2,375	\$2,375
j. Feasibility Studies					\$0
k. Waste					\$0
Assessments/Audits	\$26,959	\$8,012	\$21,566	\$60,421	\$116,958
l. Dump Cleanup					\$0
m. Litter Collection/Education					\$0
n. Emergency Debris Management					\$0
o. Loan Payment		\$50,456		\$50,456	\$100,913
p. Other					\$0
Health Dept. Enforcement					\$0
County Assistance					\$0
Well Testing					\$0
Out-of-State Waste Inspection					\$0
Health Departments					\$0
Local Law Enforcement					\$0
Other					\$0
Heath Department Training					\$0
Municipal/Township Assistance					\$0
Total	\$3,674,108	\$3,891,039	\$3,136,740	\$3,315,594	\$14,017,481

Source	2020				
	Q1	Q2	Q3	Q4	TOTAL
Revenue					
Disposal Fees - Tier 1					\$0
Disposal Fees - Tier 2					\$0
Disposal Fees - Tier 3					\$0
Generation Fees	\$102,560	\$114,371	\$96,367	\$122,487	\$435,785
Rates and Charges	\$388,644		\$394,174		\$782,818
Contracts	\$462,981	\$497,369	\$350,626	\$566,551	\$1,877,527
Recycling Revenue	\$18,810	\$24,285	\$18,462	\$11,490	\$73,048
User Fee	\$3,076	\$5,927	\$12,960	\$10,855	\$32,818
Reimbursements	\$2,813,003	\$2,504,426	\$2,727,600	\$1,663,767	\$9,708,796
Grants					\$0
Other	\$246	\$150	\$5,850	\$4,928	\$11,173
Total	\$3,789,320	\$3,146,528	\$3,606,038	\$2,380,077	\$12,921,964
Expenses					
Plan Prep					\$0
Plan Monitoring	\$1,470	\$7,803			\$9,273
Plan P&M - Other	\$1,295	\$2,775	\$370		\$4,440
Personnel	\$207,131	\$206,009	\$208,827	\$223,976	\$845,942
Office Overhead	\$10,167	\$100,384	\$45,461	\$22,048	\$178,060
Admin - Other					\$0
MRF/Recycling Center					\$0
Compost					\$0
Transfer					\$0
Special Waste					\$0
Landfill Closure/Post-Closure					\$0
Curbside					\$0
Drop-off	\$84,247	\$85,049	\$165,159	\$416,715	\$751,170
Combined Curbside/Drop-off	\$3,615,502	\$2,788,560	\$1,640,475	\$2,745,607	\$10,790,143
Multi-family					\$0
Business/Institutional					\$0
Other					\$0
Tire Collection					\$0
HHW Collection	\$1,305	\$2,068	\$2,133	\$2,133	\$7,638
Electronics Collection					\$0
Appliance Collection					\$0
Other Collection					\$0
Drives					\$0
f. Yard Waste/Other Organics					\$0
Education Staff	\$25,000	\$37,500	\$37,900	\$37,620	\$138,020
Advertisement/Promotion					\$0
Other					\$0
General Market Development Activities					\$0
ODNR pass-through grant					\$0
i. Service Contracts					\$0
j. Feasibility Studies					\$0
k. Waste Assessments/Audits		\$19,661	\$27,265	\$26,712	\$73,638

	2020				
I. Dump Cleanup					\$0
m. Litter Collection/Education					\$0
n. Emergency Debris Management					\$0
o. Loan Payment		\$50,456		\$50,456	\$100,913
p. Other					\$0
Health Dept. Enforcement					\$0
County Assistance					\$0
Well Testing					\$0
Out-of-State Waste Inspection					\$0
Heath Departments					\$0
Local Law Enforcement					\$0
Other					\$0
Heath Department Training					\$0
Municipal/Township Assistance					\$0
Total	\$3,946,116	\$3,300,266	\$2,127,588	\$3,525,266	\$12,899,236

Source	2021				TOTAL
	Q1	Q2	Q3	Q4	
Revenue					
Disposal Fees - Tier 1					\$0
Disposal Fees - Tier 2					\$0
Disposal Fees - Tier 3					\$0
Generation Fees	\$120,845	\$123,262	\$111,592	\$105,653	\$461,352
Rates and Charges	\$389,510		\$392,198		\$781,707
Contracts	\$418,609	\$478,053	\$514,185	\$509,608	\$1,920,456
Recycling Revenue	\$27,146	\$36,015	\$114,740	\$134,920	\$312,820
User Fee	\$7,300	\$7,941	\$4,961	\$16,072	\$36,274
Reimbursements	\$3,614,329	\$1,690,621	\$2,866,203	\$2,656,723	\$10,827,876
Grants			\$100,000		\$100,000
Other			\$376		\$376
Total	\$4,577,739	\$2,335,893	\$4,104,254	\$3,422,975	\$14,440,862
Expenses					
Plan Prep					\$0
Plan Monitoring	\$2,949	\$5,476			\$8,425
Plan P&M - Other	\$1,463		\$500		\$1,963
Personnel	\$285,207	\$218,017	\$196,538	\$208,095	\$907,857
Office Overhead	\$190,696	\$98,087	\$7,779	\$14,806	\$311,368
Admin - Other					\$0
MRF/Recycling Center			\$164		\$164
Compost					\$0
Transfer					\$0
Special Waste					\$0
Landfill Closure/Post-Closure					\$0
Curbside					\$0
Drop-off	\$120,522	\$81,251	\$523,270	\$77,730	\$802,774
Combined Curbside/Drop-off	\$2,484,455	\$2,799,574	\$2,609,895	\$2,911,784	\$10,805,708
Multi-family					\$0
Business/Institutional					\$0
Other					\$0
Tire Collection					\$0
HHW Collection	\$12,571	\$927	\$5,680	\$1,305	\$20,483
Electronics Collection		\$2,344		\$1,170	\$3,514

	2021				
Appliance Collection					\$0
Other Collection Drives					\$0
f. Yard Waste/Other Organics					\$0
Education Staff	\$52,445	\$37,500	\$37,500	\$37,500	\$164,945
Advertisement/Promotion					\$0
Other					\$0
General Market Development Activities					\$0
ODNR pass-through grant					\$0
i. Service Contracts					\$0
j. Feasibility Studies					\$0
k. Waste Assessments/Audits	\$35,017	\$10,489	\$18,854	\$21,512	\$85,872
l. Dump Cleanup					\$0
m. Litter Collection/Education					\$0
n. Emergency Debris Management					\$0
o. Loan Payment		\$50,456		\$50,456	\$100,913
p. Other					\$0
Health Dept. Enforcement					\$0
County Assistance					\$0
Well Testing					\$0
Out-of-State Waste Inspection					\$0
Health Departments					\$0
Local Law Enforcement					\$0
Other					\$0
Health Department Training					\$0
Municipal/Township Assistance					\$0
Total	\$3,185,325	\$3,304,120	\$3,400,180	\$3,324,359	\$13,213,985

E. Material Change in Circumstances/Contingencies

The District will use the Plan as a tool to achieve the goals and standards established by the Ohio Environmental Protection Agency, thereby leaving the implementation flexible enough as to allow investigations, strategies, and program the latitude to be responsive to the changing conditions within the District and the solid waste management industry.

1. Criteria for Determining Material Change

In accordance with ORC Section 3734.56(D), the Plan must be revised if the District has determined that "circumstances have materially changed from those addressed in the approved initial or amended plan of the District." The District will use the following process and criteria to determine when a material change in circumstance has occurred in the District, and as a result, requires a plan amendment.

The policy committee has defined the circumstances that could necessitate a plan update. These include:

- Facility Designations. The designated facilities identified in this Plan will remain in effect during the planning period unless added to or deleted through the procedures established by ORC Sections 343.013, 343.014, and/or 343.015 and as outlined in the District's "Designation Procedure and Evaluation Document" (Appendix Y). An addition to or deletion from the list of designated facilities will not be considered a material change in circumstances unless capacity availability, revenues for plan implementation or program availability is adversely affected.
- Waste Generation. The District will monitor the volume of Lucas County generated solid waste accepted at designated landfills and other solid waste facilities. In Section 5, the District has identified the amounts of waste generated by the residential, commercial and industrial sectors. The District relies on annual surveys and records from processing facilities to calculate waste reduction and actual disposal reports provided monthly for District fees and annual Ohio Environmental Protection Agency Ohio Facility Data Reports to calculate tonnages disposed. Therefore, the District will not consider changes in the estimated annual amount of waste generated in the District to be a material change. The District will provide updates through the Ohio Environmental Protection Agency's Annual District Report process and when the five-year update is required, make the appropriate adjustments.
- Capacity Availability. Current contracts with solid waste landfills, transfer, composting and recycling facilities ensure proper disposal, processing and management of solid waste generated within the District. Landfill capacity assurance has been guaranteed by contract through the year 2030. The District will consider ensuring capacity by renegotiating contracts when there is less than three years of capacity remaining under existing contracts. The District will use a Request for Proposal process to secure the "lowest and best" bid for solid waste management facilities. It is not anticipated that solid waste disposal capacity will change enough to result in a material change of circumstance.
- Strategies for Waste Reduction and Recycling. The District has proposed programs that maintain or slightly increase the amounts of recyclables retrieved from the waste stream. The District will, through the Board of County Commissioners and the Policy Committee, review its operations and plan implementation annually. Through this review, deviations from this Plan shall be reviewed to determine materiality contained in this document as part of the District's Annual District Report process. If, during the annual

tabulation of data from the District, decreases in recycling and source reduction are identified in excess of 30% of the current (2008) rate, the District will follow appropriate reporting procedures to inform Ohio Environmental Protection Agency-Department of Solid and Infectious Waste Management office of a material change in circumstance.

- Availability of Revenues for Plan Implementation. In coordination with "Waste Generation", above, the District will monitor the budgetary solvency with respect to financing the facilities and programs identified in this plan. The District reserves the right to adjust the amount of funds allocated to individual programs, without resulting in a material change in circumstance, in order to maintain budget solvency surpluses and deficits. The District, will, through the Board of County Commissioners and the Policy Committee, review its operations and plan implementation annually. Through this review, deviations from this Plan shall be reviewed to determine materiality (the threshold above which missing or incorrect information is considered to have an impact on the decision making of users) contained in this document as part of the District's Annual District Report process. If the revenues for the District should result in negative cash flow after line item budget adjustments, the District will notify the Ohio Environmental Protection Agency, Division of Materials and Waste Management that the District will perform a feasibility study as outlined in Appendix O subsection C. If adjustments cannot be made that correct the negative cash flow, the feasibility study shall provide corrective actions to be taken and the timeline for implementation. Only, if the District's fee schedule is changed or programs have to be adjusted and the District is no longer able to maintain compliance with the State of Ohio's Solid Waste Management Plan, shall there be a material change in circumstance.

2. ***Monitoring Procedure***

The District shall review quarterly the progress of its Plan implementation. Data shall be kept so that end of the year statistics can be compiled for the District's Annual District Report. The District's review of its operations and plan implementation will include an assessment of any changes in the procedures and timetable for plan implementation, including the criteria listed above. Should any identified changes result in a determination that the minimum Access and Participation Standards are no longer being met, then the District will find that a material change in circumstances has occurred and take action as described above. The District has presented a list of programs proposed for implementation during the planning period. The District Director and Manager shall review each program for

compliance with applicable State goals and objectives and resultant economic benefits. The District has proposed certain procedures and timetables for facilities and programs identified in the Plan. The availability of these programs is an integral part of the Plan's compliance with the Access and Participation Standards that were used by Ohio Environmental Protection Agency in approving the Plan.

3. *Timetable for Analyzing the Determination and Notification Process*

At the end of each calendar year, the District shall begin the preparation of its Annual District Report for submission to Ohio Environmental Protection Agency. During preparation of the Annual District Report, the District will use the criteria listed in this Section to analyze whether a material change of circumstance has occurred. Prior to submitting the District's Annual District Report to Ohio Environmental Protection Agency, the District shall submit, at least two weeks prior to the required submission date to Ohio Environmental Protection Agency, the Annual District Report to the Board of County Commissioners for approval.

If, during the annual evaluation of programs and other relevant data reveals that a material change in circumstance has occurred, the District Director shall report these findings to the Policy Committee. Once a quorum of the Policy Committee is assembled, the Policy Committee shall pass a resolution declaring that a material change of circumstance has occurred. The resolution shall be submitted to the Board of County Commissioners within one week of its passage. The Board of County Commissioners shall direct the District Director to prepare and submit a report, which shall include recommendations and timetables for revising the Plan due to the material change in circumstance.

The District Director shall then submit the report and recommendations to the Board of County Commissioners for approval prior to sending it to and notifying the Ohio Environmental Protection Agency. The District will proceed with steps as required to complete a Plan Update that addresses all portions of the Plan that need to be modified as a result of the material change including all the required projections, demonstrations, and strategies to manage the District's waste for the succeeding planning period beyond the approval date of the Plan Update.



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 Available in the Reference Year

ID#	Name of Curbside Service	Service Provider	How Service is Provided	Collection Frequency	Materials Collected	Type of Collection	PAYT (Y/N)	Weight of Materials Collected (Tons)	Service will continue throughout planning period (Y/N)
NSC1	City of Maumee	Republic Services	Contract between City and Republic	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-7)	Single Stream	Y	1,314	Y
NSC2	City of Sylvania	Republic Services	Contract between City and Republic	Bi-weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PI (#1, 2, 4, 5, 7), ASP	Single Stream	N	1,164	Y
NSC3	City of Toledo	Republic Services	Contract between City and Republic	Bi-weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PI (#1, 2, 4, 5, 7), ASP	Single Stream	N	14,083	Y
NSC4	City of Waterville	Republic Services	Contract between City and Republic	Weekly	AC, SC, ONP, OCC, GL, PL (#1-#7)	Single Stream	Y	404	Y
NSC5	Holland Village	Republic Services	Contract between Village and Republic	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-7), ASP	Single Stream	Y	135	Y
NSC6	Ottawa Hills Village	Village Department	Village Service Department	Weekly	AC, SC, ONP, OCC, GL, PL (#1-#7), ASP	Dual Stream	N	N/A	Y
NSC7	Monclova Twp	Republic Services	Contract between township and Republic	Bi-weekly	AC, SC, ONP, OCC, GL, PL (#1-#7)	Single Stream	N	995	Y
NSC8	Whitehouse Village	ARS Refuse Service	Contract Between village and ARS	Weekly	AC, SC, ONP, OCC, GL, PL (#1-#2),	Single Stream	N	279	Y
NSC9	Waterville Twp	Klumm Bros	Contract between township and Klumm Bros	Bi-weekly	AC, SC, ONP, OCC, GL, PL (#1-#7)	Single Stream	N	27	Y
Total								18,402	

Source(s) of information: 2021 District data

Notes:

AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, ASP = aseptic containers; Oth = other

Nine political jurisdictions offered non-subscription curbside recycling. **Table B-1a** lists non-subscription curbside recycling data. All programs are serviced by automated collection systems. Three of the nine programs, offer a volume-based system, where households are allotted three bags or containers of trash weighing 50 pounds or less. Households generating additional trash can purchase tags for each additional bag for \$1. In 2021, non-subscription curbside programs recycled 18,402 tons of recyclables. Tonnage reported in **Table B-1a** reflects the most accurate information available, which was reported by cities, villages, townships, and haulers.

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

ID #	Name of Curbside Service	How Service is Provided	Collection Frequency	Materials Collected ⁽¹⁾	Type of Collection	PAYT (Y/N)	Weight of Materials Collected (tons)	Service will Continue Throughout Planning Period (Y/N)
SC1	Berkey Village	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC2	Harbor View Village	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC3	Harding Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC4	Jerusalem Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC5	Spencer Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC6	Springfield Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	29	Y
SC7	Swanton Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC8	Sylvania Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC9	Washington Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
SC10	Providence Township	Subscription	Weekly	AC, SC, ONP, OCC,	Single Stream	N	N/A	Y

ID #	Name of Curbside Service	How Service is Provided	Collection Frequency	Materials Collected ⁽¹⁾	Type of Collection	PAYT (Y/N)	Weight of Materials Collected (tons)	Service will Continue Throughout Planning Period (Y/N)
				Mag, OffP, MxP, GL, PL (#1-#2)				
SC11	Richfield Township	Subscription	Weekly	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Single Stream	N	N/A	Y
Total							29	

Source(s) of information: 2021 District data

Notes:

N/A = not available

AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, ASP = aseptic containers; Oth = other

Eleven political jurisdictions offered subscription curbside recycling. **Table B-1b** lists subscription curbside recycling data. All programs are serviced by automated collection systems. A total of 29 tons was collected in 2021 from Springfield Township. The other subscription communities were not able to provide recycling totals.

2. Drop-off Recycling Locations

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

ID#	Name of Drop-Off	Address	Service Provider	How service is Provided	Days/Hours Available to Public	Materials Collected	Drop-Off Meets all Minimum Standards (Y/N)	Weight of Materials Collected (Tons)	Service will Continue Throughout Planning Period (Y/N)
FTU1	City of Oregon Municipal Complex	5330 Seaman Rd, Oregon	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU2	City of Oregon, Maumee Bay State Park	1556 N. Curtice Rd, Oregon, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU3	Eastern YMCA	2960 Pickle Rd, Oregon	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU4	Maumee, Lakewood Greenhouse	530 Illinois Ave, Maumee, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU5	Oregon City, Pearson Metropark	4600 Starr Ave, Oregon, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y

ID#	Name of Drop-Off	Address	Service Provider	How service is Provided	Days/Hours Available to Public	Materials Collected	Drop-Off Meets all Minimum Standards (Y/N)	Weight of Materials Collected (Tons)	Service will Continue Throughout Planning Period (Y/N)
FTU6	Ottawa Hills Village	2125 Richards Rd, Ottawa Hills, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU7	Springfield Township, Fire Station 2	1534 S. Crissey Rd, Holland, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU8	Springfield Township Fire Station 3	7145 Garden Rd, Maumee Rd	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU9	Springfield Township, Township Hall	7617 Angola Rd, Holland, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU10	Sylvania-Kroger	7545 W. Sylvania Ave, Sylvania, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU11	Toledo-Fassett St.	605 Fassett St, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU12	Toledo, Arrowhead Fire Station	450 W. Dussel Dr, Maumee, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU13	Toledo Hoffman Rd Landfill	3962 Hoffman Rd, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU14	Toledo Jewish Community Center/ YMCA	6465 W. Sylvania Ave, Sylvania, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU15	Toledo, Kroger	4533 Monroe St, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU16	Toledo, Kroger	4925 Jackman Rd, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU17	Toledo Kroger, Suder Ave.	4633 Suder Ave, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU18	Toledo, Wildwood Metropark	5100 Central Ave,	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP,	Y	8,439.08 - total for all Drop-offs combined	Y

ID#	Name of Drop-Off	Address	Service Provider	How service is Provided	Days/Hours Available to Public	Materials Collected	Drop-Off Meets all Minimum Standards (Y/N)	Weight of Materials Collected (Tons)	Service will Continue Throughout Planning Period (Y/N)
		Toledo, OH				MxP, GL, PL (#1-#2)			
FTU19	UT Medical College	0 Main Technology Dr, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU20	UT Plant Operations	2925 E Rocket Dr, Toledo, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU21	Waterville City	25 S. 2 nd St, Waterville, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTU22	Waterville City, Kroger	8730 Waterville Swanton Rd, Waterville, OH	Lucas County SWMD	Lucas County SWMD	24 hours/ 7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y

Source(s) of information: 2021 District data

Notes:

AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, ASP = aseptic containers; Oth = other

Twenty-two full-time urban drop-off recycling locations were available to residents of the District in the reference year (one site was removed in 2018 and another in 2020). The service is collected in a source separated system that requires participants to sort multiple types of recyclables before collection. The 8-cubic yard containers are owned and serviced by the District.

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

ID#	Name of Drop-off Site	Service Provider	County	How Service is Provided	Days and Hours available to the Public	Materials Collected	Drop-off Meets all Minimum Standards	Weight of Materials Collected from the SWMD	Service will continue Throughout planning period
	None								

In 2021, there were no part-time urban drop-offs located in the District.

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

ID#	Name of Drop-off Site	Address	County	How Service is Provided	Days and Hours available to the Public	Materials Collected	Drop-off Meets all Minimum Standards	Weight of Materials Collected from the SWMD	Service will continue Throughout planning period
FTR1	Harbor View Village	4421 Bay Shore Rd, Oregon, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR2	Jerusalem Township	9501 Jerusalem Rd, Curtice OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR3	Providence Fire Dept	8149 Main St, Neapolis, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR4	Providence Township	13257 Perry Rd, Grand Rapids, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR5	Richfield Township	3951 Washburn Rd, Berkey OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR6	Sector Metro Park (Sylvania)	10000 Central Ave, Holland, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR7	Spencer Township	9445 Frankfurt, Holland, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR8	Swanton Township	P. Conway Dr (off airport Hwy) Swanton, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y
FTR9	Whitehouse Village	11295 Waterville St, Whitehouse, OH	Lucas	Lucas County SWMD	24 hours/7 days a week	AC, SC, ONP, OCC, Mag, OffP, MxP, GL, PL (#1-#2)	Y	8,439.08 - total for all Drop-offs combined	Y

Source(s) of information: 2021 District data**Notes:**

AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, ASP = aseptic containers; Oth = other

There was a total of nine full-time rural drop-offs located in the District during 2021. There was approximately 8,439 tons collected through the full-time urban and rural drop-offs.

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

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	Weight of Materials Collected from the SWMD	Service will continue Throughout planning period
None								

There were no part-time rural drop-offs located in the District during 2021.

3. Mixed Municipal Solid Waste Material Recovery Facility

B-3 Mixed Municipal Solid Waste Material Recovery Facility

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

A mixed solid waste materials recovery facility (MRF) gives residents access to recycling opportunities by removing recyclables from trash for residents. The District does not use a mixed waste processing facility to separate recyclables from trash.

B. Curbside Recycling and Trash Collection Service Providers

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

Name of Provider	County Served	Trash Collection Service				Recycling Collection Service		
		PAYT	RES	COM	IND	RES	COM	IND
A.R.S. Refuse Service	Lucas	✓	✓	✓	✓	✓	✓	✓
ABC Roll of Service	Lucas			✓	✓			
Action Disposal	Lucas		✓	✓	✓	✓	✓	✓
Certified Document Destruction	Lucas						✓	
Gateway	Lucas						✓	✓
Great Lakes Waste Services	Lucas						✓	✓
Hauling Anything, Inc. (HAI Dumpsters)	Lucas			✓	✓			
Joe's Hauling & Dumpster Service	Lucas			✓	✓		✓	✓
Klumm Bros	Lucas		✓	✓	✓	✓		
Metal Management of Ohio	Lucas							✓

Name of Provider	County Served	Trash Collection Service				Recycling Collection Service		
		PAYT	RES	COM	IND	RES	COM	IND
N&R&G	Lucas							✓
Redbox+	Lucas		✓	✓	✓			
Republic Services	Lucas		✓	✓	✓	✓	✓	✓
State Paper and Metal	Lucas						✓	✓
Stevens Disposal	Lucas	✓	✓			✓		
Suburban Sanitation	Lucas		✓					
Toledo Handyman	Lucas			✓	✓			
Village of Holland	Lucas	✓	✓			✓		
Village of Ottawa Hills Refuse, Recycling, & Streets Dept	Lucas		✓			✓		
Village of Whitehouse Dept. of Public Service	Lucas		✓					
Waste Management	Lucas		✓	✓	✓	✓	✓	✓

Source(s) of information: web and desktop research

PAYT = Pay-As-You-Throw, RES = Residential, COM = Commercial, IND = Industrial

Table B-4 inventories haulers operating in the District in 2021. This is two more haulers than inventoried in the 2018 Plan.

C. Composting Facilities

Table B-5. Inventory of Composting Facilities Used in Reference Year

Facility Name	Compost Facility Classification	Publicly Accessible (Y/N)	Location	Food Waste (tons)	Yard Waste (tons)	Total
Andre Farms LLC	Class II		Fulton	8	23	31
Hirzel Farms	Class II		Wood	359	0	359
The Toledo Zoo	Class IV	N	Lucas	0	31	31
Oregon City Compost	Class IV	N	Lucas	0	0	0
City of Toledo	Class IV	N	Lucas	0	5,613	5,613
Riverside Disposal Facility	Class IV	N	Lucas	0	7,835	7,835
CWR Inc Recycling Facility	Class IV	Y	Lucas	0	21,533	21,533
Woodville Road Nursery LTD	Class III	N	Wood	0	287	287
Floral landscape	Class IV	N	Lucas	0	18	18
Allgreen Inc	Class IV	N	Lucas	0	296	296
Envirocare Lawn and Landscape	Class IV	N	Wood	0	176	176

Facility Name	Compost Facility Classification	Publicly Accessible (Y/N)	Location	Food Waste (tons)	Yard Waste (tons)	Total
Sylvania Compost & Recycling LLC	Class IV	N	Lucas	0	2,729	2,729
Down 2 Earth	Class IV	N	Lucas	0	317	317
Toledo Top Soil & Mulch	Class IV	N	Lucas	0	1,415	1,415
Blue Creek	Class III	N	Lucas	0	0	0
Hauler/Grocer Food Waste Data	N/A	N/A	N/A	1,084	0	1,084
Total				1,451	40,273	41,724

Source(s) of information: 2021 Ohio EPA Compost Facility Planning Analytical Report

Table B-5 lists the registered compost facilities reporting receiving organic materials from the District in the reference year. Most of the yard waste is managed at in-District compost facilities.

Composting facilities are classified according to the feedstocks they are allowed to accept and are required to obtain a registration, license and/or permit from Ohio EPA, as applicable. The classifications are:

- Class I: Mixed solid waste
- Class II: Yard waste, agricultural plant materials, animal waste, dead animals, raw rendering material and food scraps
- Class III: Yard waste, agricultural plant materials, animal waste, and dead animals, raw rendering material
- Class IV: Yard waste and agricultural plant materials

D. Other Food Waste and Yard Waste Management Programs

Table B-6, Inventory of “Other” Food and Yard Waste Management Activities in the Reference Year

Facility or Activity Name	Activity Type	Location	Food Waste (tons)	Yard Waste (tons)
City of Toledo	Leaf Collection	Lucas	0	28,446
City of Waterville	Leaf Collection, Yard Waste Drop-Off	Lucas	0	5,787
City of Sylvania	Leaf Collection, Yard Waste Drop-Off	Lucas	0	840
City of Oregon	Leaf Collection	Lucas	0	363
City of Maumee	Leaf Collection, Yard Waste Drop-Off	Lucas	0	1,252
Springfield Twp	Leaf Collection	Lucas	0	2,847

Facility or Activity Name	Activity Type	Location	Food Waste (tons)	Yard Waste (tons)
Spencer Twp	Leaf Collection	Lucas	0	38
Sylvania Twp	Leaf Collection, Yard Waste Drop-Off	Lucas	0	2,057
Village of Whitehouse	Leaf Collection	Lucas	0	332
Ottawa Hills Village	Leaf Collection	Lucas	0	Unable to estimate volume
Washington Twp.	Leaf Collection	Lucas	0	Unable to estimate volume
Village of Holland	Leaf Collection	Lucas	0	Unable to estimate volume
Lucas County Water Resource Recovery Facility	Anaerobic Digester	Lucas	876	0
Total			876	41,961

Source(s) of information: 2021 Annual District Report Survey of Communities.

Table B-6 lists other activities for diverting food and / or yard waste. Several political jurisdictions operate a leaf collection or yard waste collection program.

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

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

Facility Name	County	State	Type of Facility	Tons Accepted from SWMD
Lorain County Resource Recovery Complex	Lorain	OH	Single-Stream MRF	15,651
Rumpke Recycling-Dayton	Montgomery	OH	Single-Stream MRF	50
Total				15,701
Source(s) of information: 2021 Ohio EPA Material Recovery Facilities and Commercial Recycling				
Note: MRF = Material Recovery Facility				

Table B-7 lists two material recovery facilities (MRF) reporting handling recyclables from the District in the reference year.



APPENDIX C

POPULATION DATA



APPENDIX C. Population Data

A. Reference Year Population

As of July 1, 2021, the population of the District totaled 429,191. 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 municipality located in more than one solid waste management District.

As shown in **Table C-1**, Swanton Village population is subtracted from Lucas County because a majority of the population is in Fulton County. Estimates for 2021 are based on Ohio Department of Development (ODOD) Office of Strategic Research document, "2021 Population Estimates for Cities, Villages and Townships", published in June 2022.

Table C-1. Population Adjustments and Total Reference Year Population

Community	Lucas
Before Adjustment	429,191
Additions	0
Subtractions	
Swanton Village	195
After Adjustment	428,996
Total District Adjusted Population	428,996

Source of Information:

"2021 Ohio County Population Estimates" prepared by Ohio Development Services Agency, Office of Research.

Population projections for the entire planning period are shown below in **Table C-2**. The reference year 2021 population represent the actual estimates for that year. The District populations calculated for 2020, 2025, 2030, and 2035 have been determined using projection estimates for those years from the Ohio Development Services Agency¹. Straight-line projections have been used to develop the population estimates for years between the five-year intervals.

¹ "2010 to 2040 Projected Population for Ohio Counties: Summary 2010 to 2040 Projected," Ohio Development Services Agency (ODSA) publication, <http://www.development.ohio.gov/files/research/P6090.pdf>

B. Population Projections

Table C-2. Population Projections

Year	Total District Population
2021	428,996
2022	426,650
2023	425,806
2024	424,964
2025	424,123
2026	423,284
2027	422,447
2028	421,612
2029	420,778
2030	419,946
2031	419,115
2032	418,286
2033	417,459
2034	416,633
2035	415,809
2036	414,987
2037	414,166
2038	413,347
2039	412,530

Source(s) of Information: Ohio Development Services Agency 2010 to 2040 Projected Population for Ohio Counties

Projections of the population through the planning period are based on the latest population projections from the Ohio Development Services Agency (ODSA), Office of Research. The ODSA Research office has provided estimates for 2015, 2020, 2025, 2030, 2035, and 2040. To determine the population projections between these years the straight-line interpolation method was used.

The population of Lucas County is expected to decline by roughly 0.2% annually. These are rough projections due to the difficulty of forecasting population trends.



APPENDIX D

DISPOSAL DATA



Appendix D. Disposal Data

Appendix D provides an inventory of where waste was managed in the reference year (2021), calculates the total waste disposed in the reference year, analyzes historical waste disposal quantities and projects waste to be disposed.

A. Reference Year Waste Disposed

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

Waste is collected by public hauler, private haulers, or self-haul. The path of waste to a landfill flows either by direct haul or through a transfer facility. Most of the District's direct-hauled waste for disposal was sent to an out-of-state landfill, Vienna Junction Landfill (see **Table D-1a**). Between Vienna Junction Landfill and Hoffman Road Sanitary Landfill approximately 86% of the direct hauled waste was disposed in these two facilities. Approximately 52% of District waste was disposed in out-of-state facilities (includes transferred waste).

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

Facility Name	Location		Waste Accepted from the SWMD			
	County	State	Residential/Commercial	Industrial	Excluded	Total
<i>In-district facilities</i>						
Hoffman Road Sanitary Landfill	Lucas	OH	142,165	9,171	11,453	162,789
<i>Out-of-district facilities</i>						
Defiance County Sanitary Landfill	Defiance	OH	44		12	57
Evergreen Recycling & Disposal	Wood	OH	34,405	8,815	13,736	56,956
Hancock County Landfill	Hancock	OH	5		19	24
Pine Grove Regional Facility	Fairfield	OH		0.27		0.27
Port Clinton Landfill Inc	Ottawa	OH	547			547
Noble Road Landfill	Richland	OH	864			864
Stony Hollow Landfill Inc	Montgomery	OH	7			7
Wood County Landfill	Wood	OH	3,789		9	3,798
<i>Out-of-State facilities</i>						
Bunn Box		IN	28		24	52
County Line Landfill		IN		5		5

Facility Name	Location		Waste Accepted from the SWMD			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
Earthmovers Landfill		IN		0.21		0.21
National Serv-All Landfill		IN		110		110
Medassure of Indiana Treatment Facility		IN	3			3
Tradebe Treatment & Recycling LLC		IN		25		25
Merrell Brothers Inc Indy Disposal Solutions		IN		17		17
EQ Industrial Services Processing		IN		0.76		0.76
Covanta Environmental		IN		1.57		1.57
Vienna Junction Landfill, Republic Services		MI	182,459	33,480	16,080	232,018
Total Direct Haul Waste Disposed in Landfills			364,317	51,625	41,333	457,274

Source(s) of Information:

Ohio EPA 2021 Ohio Facility Data Report Tables.

Ohio EPA preliminary 2021 Waste Flow Report, June 29, 2022

Lucas County SWMD fee data for 2021

Indiana Source: <https://www.in.gov/dem/waste/resources/solid-waste-reporting/>**Sample Calculations:** Residential/Commercial + Industrial + Excluded= Total

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

Note: The tonnages for Out-of-State waste are based on fee data.

Captive landfills are landfills used to dispose of waste generated exclusively by the manufacturing company that owns the landfill. There are no captive landfills located within the District. No captive landfills were used to manage waste generated within the District.

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

Facility Name	Location		Waste Accepted from the District		
	County	State	Industrial	Excluded	Total
<i>In-district facilities</i>					
None			0	0	0
Total Waste Disposed in Captive Landfills			0	0	0

Source(s) of Information: Ohio Environmental Protection Agency

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

Transfer facilities are conveniently located and are facilities where solid waste, delivered by collection companies and residents, is consolidated, temporarily stored and loaded into semi-trailers for transport. After moving through a transfer facility, solid waste is then delivered to a processing facility or disposal site. In cases where waste is hauled from a transfer facility to a landfill, the county of origin is not recorded at the landfill. This means a load of trash disposed in a landfill from a transfer facility could have waste

mixed from several counties. When a transfer facility hauls to more than one landfill, it becomes difficult to track which landfill received a county's waste.

Transfer facilities play a part in the collection of waste in the District. **Table D-2** shows Stevens Disposal & Recycling in Michigan reported transferring the highest tonnage from the District. Overall, less than 20,000 tons of waste was first sent to transfer stations in 2021.

Table D-2. Reference Year Waste Transferred¹

Facility Name	Location		Waste Received from the SWMD (TPY)			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
<i>In-district facilities</i>						
None						0
<i>Out-of-district facilities</i>						
Archbold Refuse Service Solid Waste Transfer Facility	Fulton	OH	1,938			1,938
Fulton County Solid Waste Facility	Fulton	OH			5	5
Huron County Solid Waste Facility	Huron	OH	0.13			0.13
Stevens Disposal & Recycling	Monroe	MI	15,988			15,988
Total Transferred Waste			17,926	0	5	17,931

Source(s) of Information:

Ohio EPA preliminary 2021 Waste Flow Report, June 29,2022

Lucas County SWMD fee data for 2021

Same Calculations: Residential/Commercial + Industrial + Excluded= Total

¹ The facilities listed in Table D-2 constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

Table D-3 shows waste exported to be incinerated. A total of 125 tons of residential/commercial waste was sent to the Indianapolis Resource Recovery Facility.

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

Facility Name	Location		Waste Received from the SWMD (TPY)			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
Indianapolis Resource Recovery Facility	Marion	IN	125			125
Total			125			125

Source(s) of information: Ohio EPA preliminary 2021 Waste Flow Report, June 29,2022

¹ The facilities listed in Table D-3 constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

Table D-4 shows the total waste disposed in the reference year for the District. According to Ohio EPA Format 4.1, if excluded waste is 10% or less of total disposal in the reference year, then District's are not required to account for excluded waste in the

solid waste management plan. For the District, excluded waste accounts for 9% of total disposal during the reference year (see Supplement to Table D-4) and will not be included. If the quantity of waste managed at incinerators in the reference year is less than 10% of total waste disposed in that year, then the solid waste management plan does not need to account for incinerated waste.

Table D-4. Total Waste Disposed in Reference Year

Disposal Method	Residential/ Commercial	Industrial	Excluded	Total	% of Total Waste Disposed
Direct Hauled	364,317	51,625	0	415,941	96%
Transferred	17,926	0	0	17,926	4%
Incinerated	0	0	0	0	0%
Total	382,243	51,625	0	433,867	100%
Percent of Total	88%	12%	0%	100%	

Source(s) of Information: Ohio EPA "2021 Ohio Facility Data Report Tables". June 29,2022

Supplement to Table D-4. Incinerated and Excluded Wastes as Percentages of Total Waste Disposed

Disposal Method	Residential/ Commercial	Industrial	Excluded	Total	% of Total Waste Disposed
Direct Hauled	364,317	51,625	41,333	457,274	96%
Transferred	17,926	0	5	17,931	4%
Incinerated	125	0	0	125	0%
Total	382,368	51,625	41,338	475,330	100%
Percent of Total	80%	11%	9%	100%	

Source(s) of Information: Ohio EPA "2021 Ohio Facility Data Report Tables". June 29,2022

B. Historical Waste Analysis

The amount of total solid waste disposed from the District since 2017 fluctuated slightly, ranging between a high of 468,368 tons and a low of 427,650 tons. (see Table D-5).

Table D-5. Historical Disposal Data

Year	Population	Residential/Commercial Solid Waste		Industrial Solid Waste	Excluded Waste	Total Waste
		Rate (ppd)	Tons	Tons	Weight	Tons
2017	430,734	5.24	412,078	15,572	0	427,650
2018	429,899	5.48	429,822	13,994	0	443,816
2019	428,458	5.90	461,256	7,112	0	468,368
2020	427,088	5.74	447,693	9,419	0	457,112
2021	429,250	4.88	382,243	51,625	0	433,867

Source(s) of Information: Ohio EPA ADR Review Forms for 2015, 2016, 2017, 2018 and 2019 for population and waste disposal data. The 2019 data is from the 2019 ADR Review Form and 2019 SWMD Exports spreadsheet, which includes the exported waste out of state.

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

Year	Residential/Commercial	Industrial	Excluded	Total
2017				
2018	4%	-10%	0%	4%
2019	7%	-49%	0%	6%
2020	-3%	32%	0%	-2%
2021	-15%	448%	0%	-5%

Table D-5b. Annual Change in Tons Disposed

Year	Residential/Commercial	Industrial	Excluded	Total
2017				
2018	17,744	-1,578	0	16,166
2019	31,435	-6,882	0	24,552
2020	-13,563	2,307	0	-11,256
2021	-65,450	42,206	0	-23,245

Table D-5c. Average Annual Percentage Change

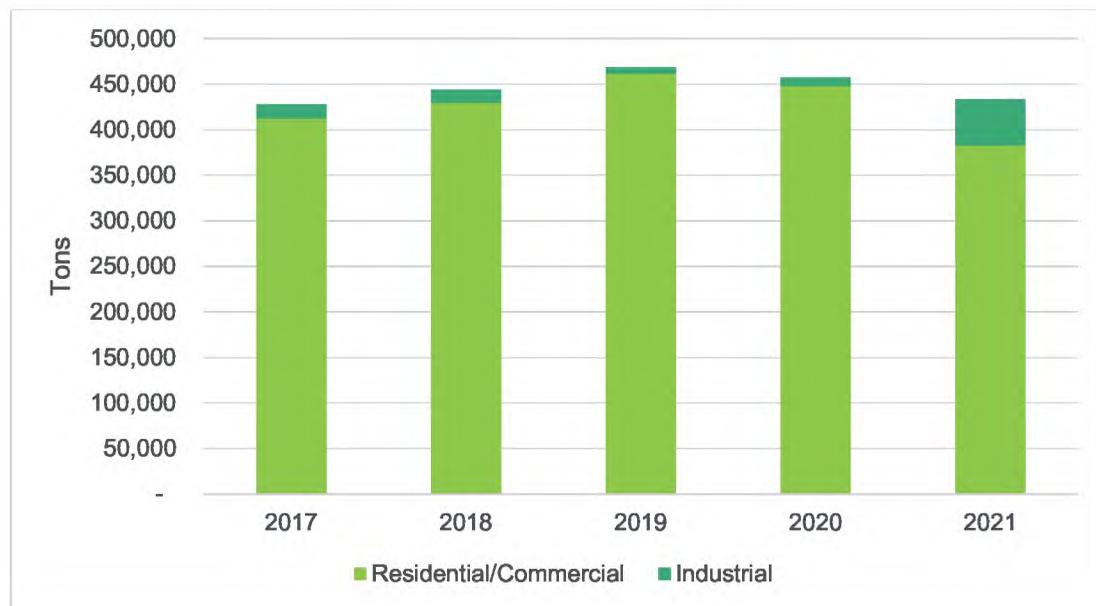
Average Annual Percentage Change	
Residential/Commercial	-1.5%
Industrial	105.3%
Excluded	0%

Table-5d. Average Annual Change in Tons Disposed

Average Annual Percentage Change in Tons Disposed	
Residential/Commercial	-7,459
Industrial	9,013
Excluded	0

Table-5e. Average Per Capita Over Time

Average Per Capita Over Time (5 Years)	
Residential/Commercial	5.45

Figure D-1 Historical Disposal

Note: Figure does not include excluded waste.

Figure D-1 represents the historical trends of waste that were disposed of from each sector from 2017 to 2021. The total waste disposed (not including excluded waste) in 2017 was 427,650 tons. The next two years followed an increasing trajectory until 2019, then decreased to 433,867 in 2021. The average annual percent change of waste disposed from 2017 to 2021 in the residential/commercial sector increased 34.6%. Over this same time, industrial sector waste disposal ebbed and flowed. The following analysis explores these trends in more detail.

1. Residential/Commercial Disposal

Residential/commercial disposal noticed minimal fluctuation through the years. Landfilled tons took a slight increase in 2019 and then gradually fell (**Figure D-2**). The highest per capita disposal rate during the five-year period occurred in 2019 at 5.90 pounds per person per day (ppd) and the lowest disposal rate occurred in 2021 at 4.88 ppd. The average per capita disposal rate from 2017 and 2021 is 5.45 ppd.

Figure D-2. Historical Population and Residential/Commercial Disposal Trends

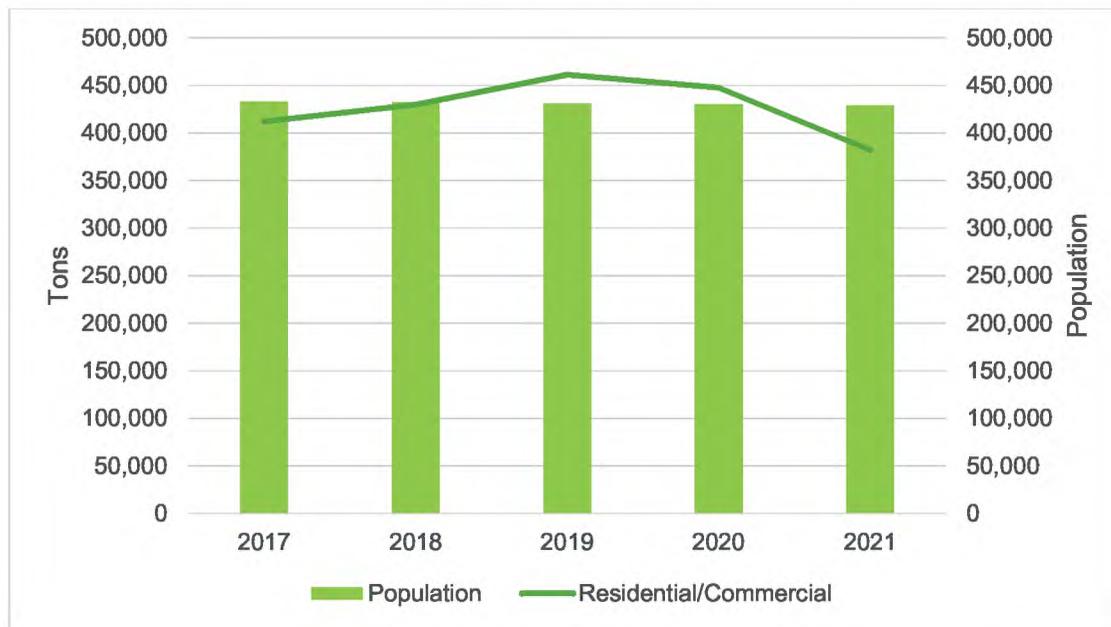


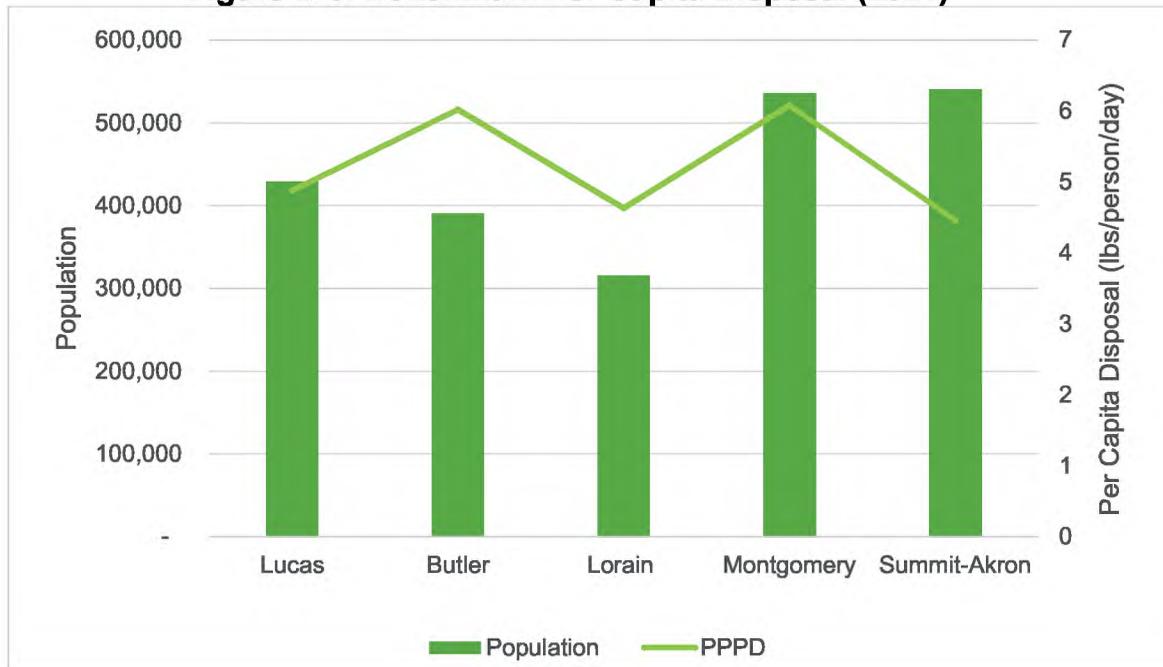
Figure D-2 charts the residential/commercial tons of waste disposed in the District from 2017 through 2021 and the changes in population. The population of the District decreased an average of 0.23%.

The 2018 Plan showed trends from 2006 through 2010 fluctuating between 620,000 tons during 2008 to 380,000 tons during 2010. The 2018 Plan projected a 2.6% increase in annual per capita disposal rate. The projections showed total waste for the residential/commercial sector increasing to roughly 426,000 tons in 2018 and then gradually begin declining after that year. The waste was projected to be around 412,000 tons by 2032. The plan projection estimates were closely within range of the actual tons that were disposed. The actual tonnages were slightly higher during 2019 at 460,000 tons, but then began decreasing again.

The District's residential/commercial per capita disposal was compared to other District's which have similar population sizes. **Figure D-3** compares the District's residential and commercial disposal rate to other districts in Ohio with similar

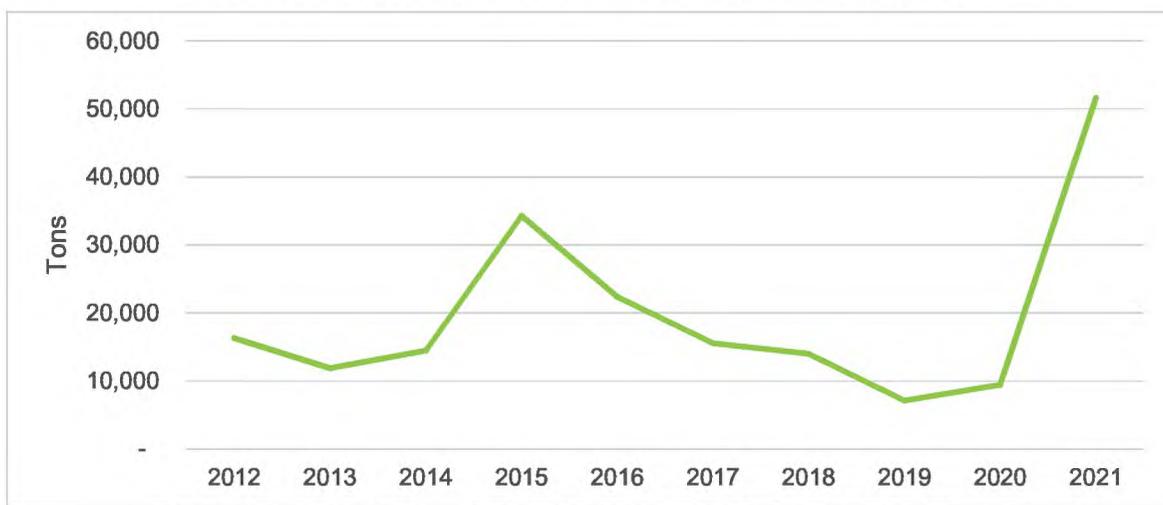
populations in the reference year. The five counties averaged a disposal rate of 5.21 pounds/person/day. The District's disposal rate is below at 4.88 pounds/person/day. Montgomery County reported the highest disposal rate at 6.08 pounds/person/day. Conversely, Lorain County had the lowest disposal rate at 4.63 pounds/person/day. Compared to other counties of similar population sizes, Lucas County performs well and has a lower disposal rate than the average.

Figure D-3. Benchmark Per Capita Disposal (2021)



2. Industrial Disposal

Figure D-4 Historical Industrial Disposal Analysis



Source(s) of information: 2012-2021 Ohio EPA Waste Flow Data Reports

The industrial sector accounts for 12% of the total waste disposed during the reference year. **Figure D-4** shows the trends of the industrial disposal from 2012 to 2021. This figure shows large fluctuations in industrial waste disposal through the years, ranging as low as 7,112 tons and as high as 51,625 in the reference year.

According to Ohio's Office of Research County Profile, there has been an average increase in manufacturing employment of 16.9% between 2013 and 2019. Based on employment increases, increases in disposal correlate, but that doesn't seem to align.

3. Excluded Waste

Excluded waste contributed roughly 9% to total waste disposed during the reference year. Per Ohio EPA, excluded waste is only considered in the analysis if waste is above 10% of the total waste. Excluded waste will not be considered.

Approximately 98% of the excluded waste disposed is from construction and demolition debris (C&DD). From 2013 to 2017, 100% of the excluded waste was categorized as C&DD, and from 2018 to 2021 C&DD was roughly 97% of the total excluded waste. Increases in C&DD could be a direct impact of the Downtown Toledo Master Plan, released in 2017, which called for commercial and residential revitalization projects.

Figure D-5. Comparison of Other SWMD Excluded Waste

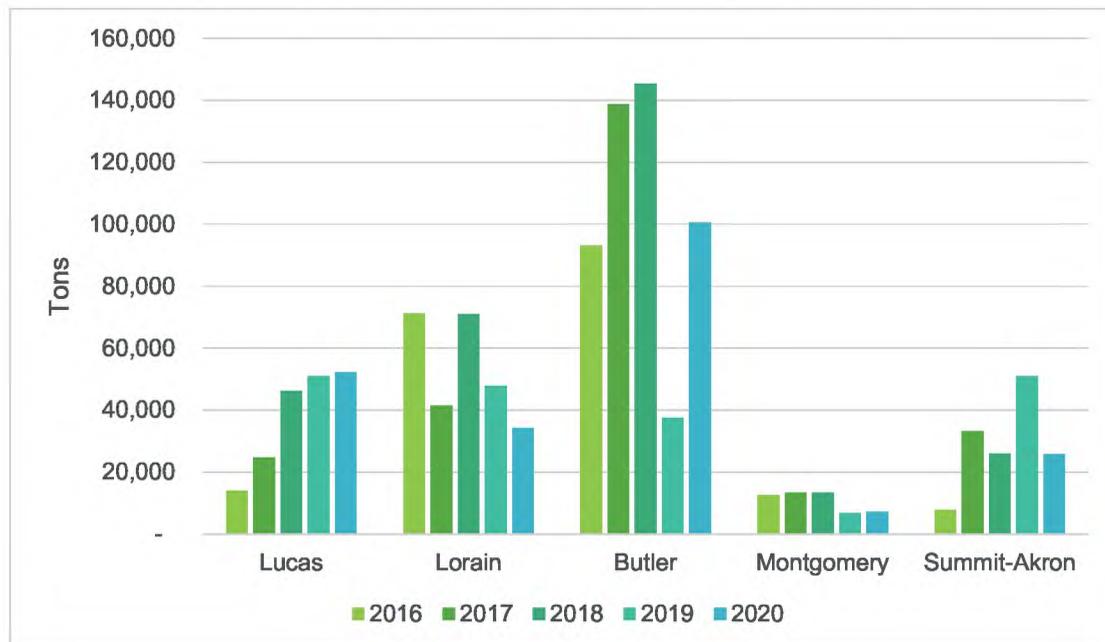


Figure D-5 shows a comparison of other single county solid waste management districts with similar populations excluded waste disposal compared to Lucas County. The graph shows a five-year span from 2016 to 2020. Lucas County ranks

third highest of those solid waste management districts compared. Lorain is second highest, and Butler is the highest overall, with total excluded waste 3 to 4 times higher than the other Districts in comparison.

4. Disposal Projections

There are several methods that can be used to calculate disposal projections through the planning period. After analyzing historical analysis, comparison to the 2018 Plan, and per capita disposal, **Table D-6** shows the projected waste disposal for the planning period.

Table D-6. Waste Disposal Projections

Year	Residential/ Commercial Solid Waste	Industrial Solid Waste	Excluded Waste	Total Waste	Waste Transferred (as part of Total Disposal)
	Weight (tons)	Weight (tons)	Weight (tons)	Weight (tons)	Weight (tons)
2021	382,243	51,625	0	433,867	17,926
2022	424,243	51,217	0	475,459	19,644
2023	423,404	50,812	0	474,216	19,593
2024	422,566	50,411	0	472,977	19,542
2025	421,730	50,013	0	471,743	19,491
2026	420,896	49,617	0	470,514	19,440
2027	420,064	49,225	0	469,289	19,389
2028	419,233	48,837	0	468,070	19,339
2029	418,404	48,451	0	466,855	19,289
2030	417,577	48,068	0	465,645	19,239
2031	416,751	47,688	0	464,439	19,189
2032	416,751	47,688	0	464,439	19,189
2033	416,751	47,688	0	464,439	19,189
2034	416,751	47,688	0	464,439	19,189
2035	416,751	47,688	0	464,439	19,189
2036	416,751	47,688	0	464,439	19,189
2037	416,751	47,688	0	464,439	19,189
2038	416,751	47,688	0	464,439	19,189
2039	416,751	47,688	0	464,439	19,189

Sample Calculations:

Residential/Commercial Solid Waste = (population *PPD * 365 days)/2000 tons.

Industrial Solid Waste= (Previous Year * Annual % change) + previous year

Excluded Solid Waste= Average of 2017 to 2021 tonnage held constant.

Total Waste = Residential/Commercial + Industrial + Excluded

Table D-6 shows the projections for waste disposal for residential/commercial, industrial, and excluded waste sectors. The table also shows the projections for

transferred waste. The transferred waste percentage of the total waste disposed in the reference year was less than 4%.

Residential/Commercial Waste Projections

From the historical analysis between years 2017 and 2021 the total residential/commercial waste ranged from 382,243 to 461,256 tons. The disposal projections were calculated by applying the District's average (between 2017 and 2021) per capita rate of disposal of 5.45 pounds per person per day to the projected population.

Industrial Waste Projections

The historical trends of the industrial analysis show that there have been large variations in tonnages annually. Excluding 2021 as an outlier year, the average annual percentage change declined 0.79%. Industrial waste is projected to decrease through the first seven years of the planning period before holding constant.

Excluded Waste Projections

Most of the excluded waste disposal is from construction, demolition, and debris. After a rise waste disposal took a steep downward turn. The District is aware of revitalization projects in Toledo and surrounding areas that is the most likely contributing factor to the increased disposal. For planning purposes, the District did not include excluded waste.



APPENDIX E

RESIDENTIAL/COMMERCIAL REDUCTION AND RECYCLING DATA



Appendix E. Residential/Commercial Reduction and Recycling Data

This appendix provides an inventory of materials from the residential/commercial sector in the reference year, adjusted quantities counting, total adjusted quantities of material recovered in the reference year, historical quantities recovered and projected quantities to be recovered.

A. Reference Year Recovery Data

The North American Industry Classification System (NAICS) classifies business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. economy. The NAICS industry codes define establishments based on the activities in which they are primarily engaged.

To obtain commercial sector recycling data, the District annually surveys establishments that are classified under the following NAICS codes:

- 42- Wholesale Trade
- 44-45 – Retail Trade
- 48-49- Transportation and Warehousing
- 51-Information
- 52- Finance and Insurance
- 53- Real Estate and Rental and Leasing
- 54-Professional, Scientific, and Technical Services
- 56- Administrative and Support Waste Management and Remediation Services
- 61- Educational Services
- 62- Health Care Services
- 71- Arts, Entertainment, and Recreation
- 72- Accommodation and Food Services
- 81- Other Services (except Public Administration)
- 92- Public Administration

Table E-1. Commercial Survey Results

NAICS ¹	Appliances	Electronics	Lead-Acid Batteries	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Wood	Commingled	Other: Ink Cartridges	Other: Used Motor Oil	Scrap Tires	Other	Reusable-Sharp containers	
42		0.6			1,812	17	305	2.35	15	34	44				0.5		
44		1	0.25		7	1.25	0.5	1.5	0.27	2		0.01					
45	19	4			80		512	0.2	122	3	127			60	1		
49									2								
51		1		0.25			2.64	343.96	0.5		2	0.5					
52							75				8						
54		0.3		0.08	0.08	0.07	110	7.35	1	60	416	0.02	0.5			100	
56					60												
61		1					49	2			197				4	90	
62							117	189	2						4	108	
71							102								1		
72															1		
81							513	11,820		8	2				2		
92							30				404						
Other																	
<i>Unadjusted Total</i>	19	8	0.3	0.3	1,959	18	1816	12,366	144	107	1,200	1	1	60	14	298	18,012
<i>Adjustments</i>		4			147		64	2	1		8			60			-286
<i>Adjusted Total</i>	19	4	0	0	1,812	18	1,752	12,364	143	107	1,192	1	1	0	14	298	17,726

NAICS stands for The North American Industry Classification System.

Source(s) of Information: 2021 District survey data

Data from a total of 68 commercial businesses was used to complete **Table E-1**. Companies reported recycling 17,726 tons of materials in 2021. Approximately 286 tons were adjusted to avoid double-counting.

Table E-2. Data from Other Recycling Facilities

Program and/or Source of Materials/Data	Appliances/White Goods	Electronics	Lead-Acid Batteries	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Commingled Recyclables (Mixed)
Buybacks										
None										
Scrap Yards										

Program and/or Source of Materials/Data	Appliances/White Goods	Electronics	Lead-Acid Batteries	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard	All Other Paper	Plastics	Commingled Recyclables (Mixed)	
SY 1			25		60,000	350					
Brokers											
BR 1	6,256		33		2,178	145					
BR 2			1,503								
Processors/MRF's											
Lorain County Resource Recycling Complex				4,447	119	306	2,496	6,372	1,871	0	
Rumpke Recycling Dayton					1.48		2.47	36.00	5.68	0	
PR 1				0	0	0				11,131	
PR 2		276		0	0	0	1	0	0	0	
PR 3	6,000										
PR 4				3	1.98	1.19	5.87	49.26	2.98		
PR 5										250.5	
<i>Unadjusted Totals</i>	12,256	276	1,561	4,450	62,300	802	2,504	6,457	1,880	11,382	103,869
<i>Adjustments</i>	0	0	0	4,447	0	0	0	0	0	0	4,448
<i>Adjusted Totals</i>	12,256	276	1,561	3	62,300	802	2,504	6,457	1,880	11,382	99,422

Source(s) of Information: 2021 District surveys for buybacks, scrap yards, and brokers. 2021 Ohio EPA Material Recovery Facility and Commercial Recycling Data.

Table E-2 contains materials obtained from buybacks, scrap yards, and processor surveys collected by the District, along with Ohio EPA reports on processors and MRFs. The entities and facilities capture the recyclables and process before sending on to remanufacturing the products. Adjustments were made to the total glass recorded from the Lorain County Resource Recycling Complex, due to the glass recovery process. The system does not adequately clean separated glass materials, and therefore the facility uses glass in their landfill road base. This does not fit the Ohio EPA standard for recycled material, which is why the glass was not included in the total diversion amount.

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

Ohio EPA Data Source	Plastic	Mixed Paper	OCC	Non-Ferrous Metal	Ferrous Metal	Wood	Food: Compost	Commingled	Other
Kohl's	6		158	0.08					1.48
Target	17	3	754	20				7	
Kroger	133		4,383						81
Meijer	186	4	3,120		456				0.2
Walmart	56	4	2,530	0.18					195
Dollar General	4	5	731						
Aldi	6		581				59		
Sam's Club	24	2	358	0.08		151			48
Home Depot	0.93		223			327			37

Ohio EPA Data Source	Plastic	Mixed Paper	OCC	Non-Ferrous Metal	Ferrous Metal	Wood	Food: Compost	Commingled	Other
CVS			51						
Walgreens			25						
Advance Auto Parts	0.19		5		2				54
Big Lots			134						
United Postal Service	2	127	7						
Lowe's Corp.	1			12					60
Unadjusted Total	437	146	13,059	33	458	478	60	7	477
Adjustments									0
Adjusted Total	437	146	13,059	33	458	478	60	7	477
									15,155

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

Table E-3 shows the quantities of materials that were obtained from Ohio EPA reports.

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

Other Sources of Data	HHW	EW	ST	LAB	FS	MxP	GL	FM	NFM	Wood	PL	YT	CoM	Other: Dry Cell	Totals	Adj.	Adj. Totals
Curbside Recycling	7	5		0.25		15		41	20	701			18,329		19,122	701	18,421
Drop-off Recycling													8,439		8,439		8,439
Composting Facilities					1,451							49,358			50,809		50,809
Other Food/ Yard Waste Management					876							27,803			28,679	23,152	5,527
OEPA Scrap Tire Data			3,755.82												3,756		3,756
HHW Collection Event	26														26		26
Electronics Collection Event		59													59		59
Scrap Tire Collection Event			207												207	207	0
Unadjusted Total	33	64	3,936	0.25	2,327	15	0	41	20	701	0	77,161	26,769	3	111,096	24,060	87,037
Adjustments			207							701		23,152			24,060		
Adjusted Total	33	64	3,756	0.25	2,327	14	0	41	20	0	0	54,007	26,769	3	87,037		

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

Source(s) of Information: 2021 Ohio EPA Scrap Tire Report, 2021 Ohio EPA Compost Report, 2021 District program data.

Table E-4, represents other sources or District programs that diverted waste during the reference year. The Ohio EPA Scrap Tire Data report provided information on scrap tire data. Yard waste and food waste were also provided from Ohio EPA Compost data reports. The District curbside and drop-off programs also included tonnages of recycled material. These tonnages were subtracted from data received

from the hauler to adjust for double counting. This analysis was intended to show the total that the district diverted through the curbside, along with special collection events.

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

Material	Quantities (Tons)
Appliances/ "White Goods"	12,275
Household Hazardous Waste	33
Used Motor Oil	0
Electronics	344
Scrap Tires	3,756
Dry Cell Batteries	3
Lead-Acid Batteries	1,562
Food	2,386
Glass	3
Ferrous Metals	64,611
Non-Ferrous Metals	873
Corrugated Cardboard	17,316
All Other Paper	18,983
Plastics	2,459
Textiles	0
Wood	585
Rubber	0
Commingled Recyclables (Mixed)	39,349
Yard Trimmings	54,009
Other (Aggregated)	790
Recycling Subtotals	219,339
Incineration	0
Grand Total	219,339

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

Table E-5 shows the quantities of each material diverted. There was a total of 219,339 tons diverted from the residential/commercial sector in 2021 by the District. The top materials that were diverted were ferrous metal, yard waste, and commingled recyclables.

Table E-6. Quantities Recovered by Program/Source

Source of R/C Recycling Data	Quantities (Tons)
Commercial Survey	17,726
Data from other Recycling Facilities	99,422

Source of R/C Recycling Data	Quantities (Tons)
Ohio EPA Commercial Retail Data	15,155
Curbside Recycling Services	18,421
Drop-Off Recycling Locations	8,439
Composting Facilities	50,809
Other Food/Yard Waste Management Activities	5,527
Ohio EPA Scrap Tire Data	3,756
HHW Collection Event	26
Electronics Collection Event	59
Scrap Tire Collection Event	0
Total	219,339

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

Table E-6, presents a summary of the sources of residential/commercial sector recycling tonnage. Tonnage listed in this table reflects quantities that were adjusted to avoid double-counting.

B. Historical Recovery

Figure E-1, shows how much each source accounted for total tons diverted during 2021. In the reference year, the three largest sources of recycling data came from “other” recycling facilities, such as buybacks, brokers, processors, Ohio EPA Compost data, and curbside recycling services. The “other” recycling facilities and compost data together account for 68% of all material recycled. The remaining recycling information came from District collection events for scrap tires, HHW, and electronics, drop-off recycling, curbside recycling, other food and yard waste collections, and Ohio EPA reports.

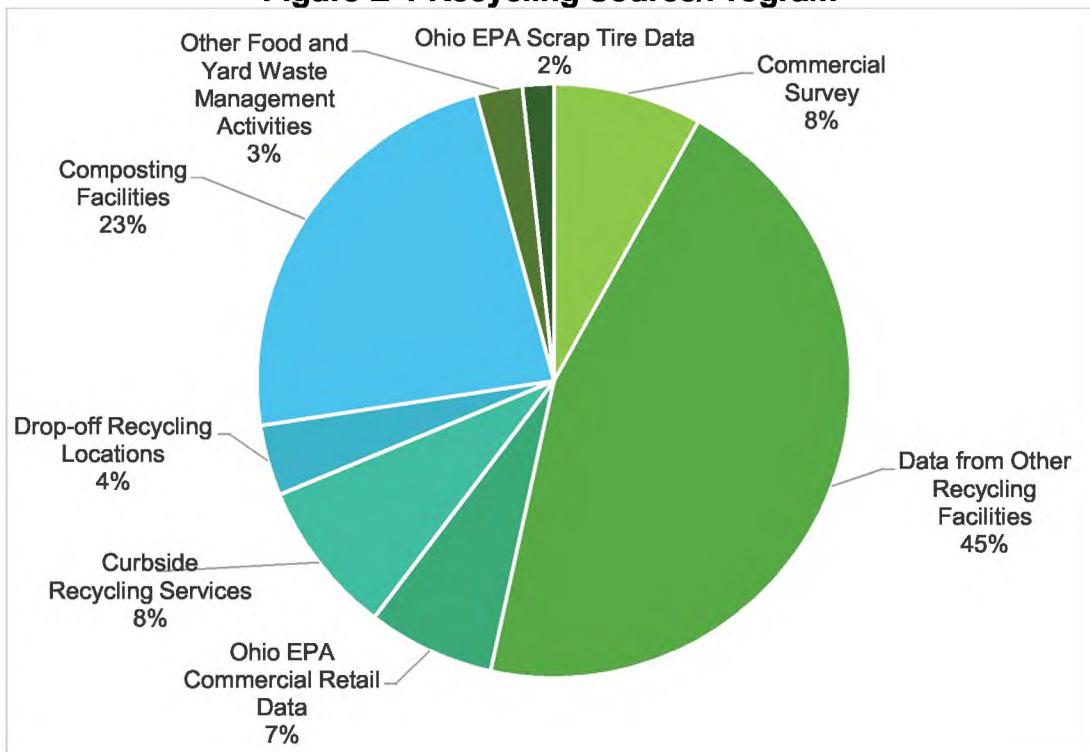
Figure E-1 Recycling Source/Program

Table E-7 examines of the recovery patterns over the five-year period reveals that in 2018, a high of 257,547 tons were recovered and in 2021, a low of 219,339 tons were recovered. Over the five-year period, recovery has fluctuated, the average percentage change has evened out at around -0.4%. There has been a steady total of waste reduction from 2018-2020. During 2021 there was a decline in recycling diversion due to an overall decrease in tons recorded from composting facilities and other recycling facilities.

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

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event
2017	8,284	96,474	12,760	24,899	9,287	63,305	7,657	3,572	10	36	No Event
2018	6,110	127,976	12,767	23,070	6,228	72,782	4,528	3,998	20	68	No Event
2019	4,966	115,909	13,739	21,025	8,163	83,317	5,575	3,714	16	17	199
2020	4,443	113,592	14,714	18,899	8,706	69,381	15,919	3,483	14	31	271
2021	17,726	99,422	15,155	18,422	8,439	50,809	5,526	3,756	26	59	0

Table E-7a1 Annual Percent Change in Tons Recovered

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event
2017											
2018	-26%	33%	0%	-7%	-33%	15%	-41%	12%	105%	90%	N/A
2019	-19%	-9%	8%	-9%	31%	14%	23%	-7%	-19%	-76%	N/A
2020	-11%	-2%	7%	-10%	7%	-17%	186%	-6%	-12%	85%	36%
2021	299%	-12%	3%	-3%	-3%	-27%	-65%	8%	83%	91%	-24%

Table E-7a2 Average Percentage Change in Tons Recovered

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event
	-18%	2%	4%	-7%	0.4%	4%	-28%	2%	39%	34%	6%

Table E-7a3 Annual Change in Tons Recovered

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event
2017											
2018	-2,174	31,502	6	-1,829	-3,060	9,477	-3,129	426	10	32	0
2019	-1,144	-12,067	972	-2,045	1,935	10,535	1,047	-284	-4	-52	199
2020	-523	-2,317	975	-2,126	543	-13,936	10,344	-231	-2	14	72
2021	13,283	-14,170	441	-477	-267	-18,572	-10,393	273	12	28	-64

Table E-7a4 Annual Per Capita Recovery Rate (pounds/person/day)

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event
2017	0.11	1.23	0.16	0.32	0.12	0.81	0.10	0.05	0.00	0.00	0.00
2018	0.08	1.63	0.16	0.29	0.08	0.93	0.06	0.05	0.00	0.00	0.00
2019	0.06	1.48	0.18	0.27	0.10	1.07	0.07	0.04	0.00	0.00	0.00
2020	0.06	1.46	0.19	0.24	0.11	0.89	0.20	0.04	0.00	0.00	0.00
2021	0.23	1.27	0.19	0.24	0.11	0.65	0.07	0.05	0.00	0.00	0.00

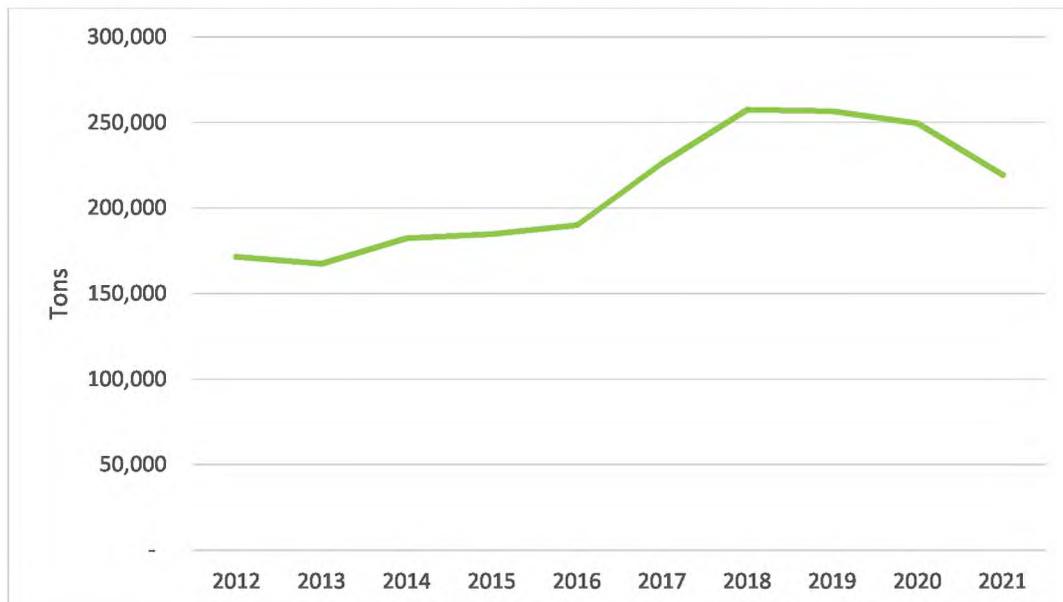
Table E-7a5 Average Per Capita Recovery Rate

Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event	Total
0.11	1.41	0.18	0.27	0.10	0.87	0.10	0.05	0.00	0.00	0.00	3.09

Table E-7a6 Average Tons of Material Recovered

Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling	Drop-Off Recycling Locations	Compost Facilities	Other Food/Yard Waste Activities	Ohio EPA Scrap Tire Data	HHW	E-Waste	Scrap Tire Collection Event	Total
8,306	110,675	13,827	21,263	8,165	67,919	5,821	3,705	17	42	226	241,853

As seen in Tables **E-7 through E-7a6** the five-year average tons of material recovered is approximately 241,853 tons with an average annual decline of 0.4 percent change. The commercial surveys, composting facilities and other food/yard waste management activities are the programs that have the largest variations in data throughout the historical years, and therefore have the largest changes in annual percent change and tons recovered.

Figure E-2 Historical Recycling Analysis: 2012-2021

Source(s) of information: 2012-2021 Annual District Report Data

Figure E-2 shows the historical recycling trends between 2012-2021 to see a broader picture over time. 2016 was the first year that residential/commercial recycling increased beyond 200,000 tons and between 2016 and 2019 recovery continued to increase. The reason for a large increase in recycling from this time frame is due to a large increase in commercial survey responses from the District from due to improved outreach. The District has also increased their curbside recycling for their

communities, during 2013 there were five communities that offered non-subscription recycling, which has increased to nine communities currently, along with increased food/yard waste management activities. There is an average 3% increase in recycling tonnages based on 2012-2021 data.

C. Residential/Commercial Recovery Projections

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

Year	Commercial Survey	Other Recycling Facilities	Ohio EPA Commercial Data	Curbside Recycling Services	Drop-off Recycling Locations	Compost Facilities	Other Food & Yard Waste Management	Ohio EPA Scrap Tire Data	Lucas MRF	HHW Collection	Electronics Collection	Scrap Tire Collection	Food Waste Program	Total
2021	17,726	99,422	15,155	18,421	8,439	50,809	5,527	3,756	0	26	59	0		219,339
2022	8,306	101,597	15,155	18,396	8,475	52,964	5,822	3,756		17	42	226		214,755
2023	8,306	103,819	15,155	18,371	8,512	55,209	5,822	3,756		17	42	226		219,235
2024	8,306	106,090	15,155	18,346	8,548	57,550	5,822	3,756		17	42	226		223,858
2025	8,306	108,411	15,155	18,322	8,585	59,989	5,822	3,756		17	42	226		228,630
2026	8,306	93,036	15,155	22,966	8,622	62,533	5,822	3,756	17,747	17	42	226	1,640	239,866
2027	8,306	95,071	15,155	22,931	8,659	65,184	5,822	3,756	17,747	17	42	226	1,640	244,556
2028	8,306	97,151	15,155	22,897	8,696	67,947	5,822	3,756	17,747	17	42	226	1,640	249,402
2029	8,306	99,276	15,155	22,863	8,734	70,828	5,822	3,756	17,747	17	42	226	1,640	254,411
2030	8,306	101,448	15,155	22,839	8,771	73,831	5,822	3,756	17,747	17	42	226	1,640	259,599
2031	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2032	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2033	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2034	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2035	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2036	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2037	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2038	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961
2039	8,306	103,667	15,155	22,814	8,809	76,961	5,822	3,756	17,747	17	42	226	1,640	264,961

Table E-8 shows the residential/commercial recovery projections for each program//source for the planning period. The projections are separated for each source to create the most accurate projections. There are many factors to consider when projecting recovery for residential/commercial sources during the planning period. Each program source projection will be explained individually.

Commercial Survey

The commercial survey projections were calculated by using the average tons of material recovered over the 5-year period. There were large fluctuations from this source due to adjusting for double counting. During 2017-2020 there were more consistent reporting from processors/brokers. For 2021 there was less data retrieved from processors/brokers

therefore, there was more data credited to commercial surveys. Due to the inconsistencies from annual averages the total tons recovered average was the most accurate data point to use for projections. This total held constant through the entire planning period.

Other Recycling Facilities

The projections for Other Recycling Facilities were based on the average percent change in tons recovered, which is an increase of 2%. The projections begin increasing by 2% each year until 2026. The District is currently planning to have a full scale Material Recovery Facility (MRF) begin operation for the first year during 2026. Lucas County currently sends recyclable material to be processed at the Lorain County Resource Recovery Complex. This projection states that 2026 and after the Lucas County MRF will begin taking all that material and that will be tracked separately, to track the trends for the MRF. The total for Other Recycling Facilities decreases during 2026 because the projection of 17,747 tons of material will now be tracked as a separate source. The projections are held constant after 2031.

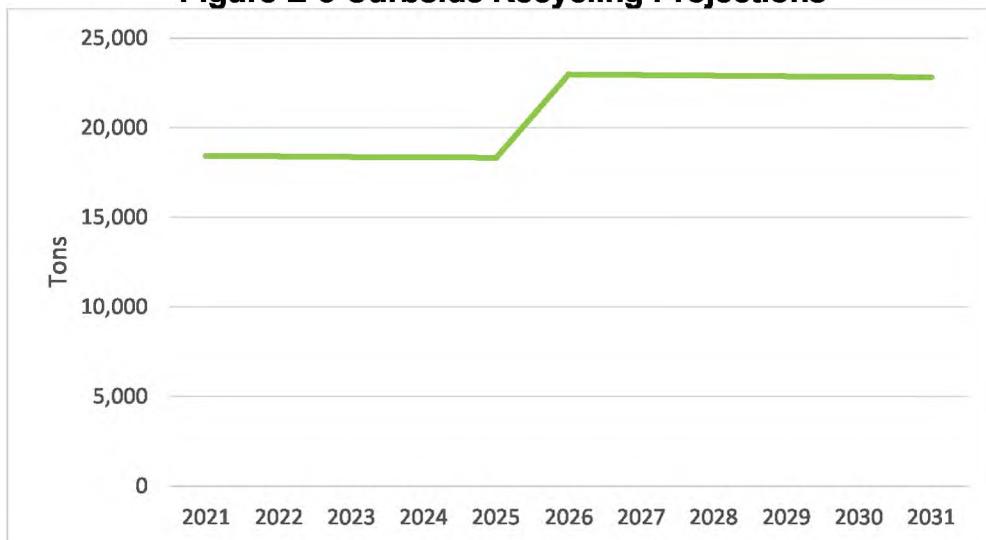
Ohio EPA Commercial Retail Data

These projections were held constant at the 2021 data throughout the planning period since the data is difficult to predict.

Curbside Recycling

The Curbside Recycling services is based on an average percent decrease of 0.1%. This average was calculated by evaluating historical curbside data from 2012 through 2021. The average decrease of 0.1% change is projected through 2025. In 2026, expected startup of three new non-subscription curbside communities (City of Oregon, Springfield, and Sylvania) are modeled on an average 0.07 per capita rate. The projects are flatlined after 2031.

Figure E-3 Curbside Recycling Projections



Drop-Off Recycling Locations

Drop-off projections were made based on the average annual percent change in tons recovered. The average which calculated 2017-2021 percentage changes yielded a 0.4% increase. The annual changes from the Drop-Off locations have had small fluctuations. The 0.4% increase was calculated for each year and flatlined after 2031.

Compost Facilities

The data that represented the compost facilities during the reference year was obtained from Ohio EPA Compost Data facility reports for years 2021 and 2020. The projection for compost facilities was calculated by using the annual percentage change in tons recovered. The year 2021 was not included in this average because it is considered an outlier. The average was calculated at 4% increase. The 4% increase was calculated for each year and then flatlined after 2031.

Other Food/Yard Waste Management Activities

There were discrepancies with the total average percentage change due to large fluctuations in total disposal. The year 2020 was the highest total for Food/Yard Waste Management due to double counting that had occurred. 2020 was excluded from calculating the average tons of material recovered because it was considered an outlier. The average was calculated at 5,821 tons and held constant through the planning period.

Ohio Scrap Tire Data

These projections were held constant at the 2021 data throughout the planning period since the data is difficult to predict.

Lucas County MRF

The District is planning to have their full scale MRF fully operational by 2026. Table E-8 shows the Lucas County MRF tonnages accounted for 2026 and after because until the MRF begins operating the recyclables will continue being sent to the Lorain County MRF. The average material that is sent to the MRF was calculated from the historic trends that were recorded in the Annual District Report. This total is held constant through the planning period.

HHW, Electronics, and Scrap Tire Collection Events

These Collection Events are hosted by the District and show varying trends between each type of material that is collected each year. HHW collection has an average at 17 tons collected per year, electronics averaged 42 tons per year, and scrap tires averaged 226 tons collected per year. There were no scrap tire collection events during 2017 and 2018 due to lack of funding. The average for these events were used to make projections and held constant through the planning period.



APPENDIX F

INDUSTRIAL SECTOR REFERENCE YEAR RECYCLING



Appendix F. Industrial Reduction and Recycling Data

Appendix F presents the reduction and recycling data for the industrial sector in the 2021 reference year. To avoid double-counting tonnage, adjustments made to tonnage reported by different types of entities such as programs, brokers, and scrap yards will be demonstrated. A historic analysis of the industrial sector's recycling and recycling projections for the planning period are included in this appendix.

A. Reference Year Recovery Data

The North American Industry Classification System (NAICS) classifies business establishments for collecting, analyzing, and publishing statistical data related to the U.S. economy. The NAICS industry codes define establishments based on the activities in which they are primarily engaged.

To obtain industrial sector recycling data, the District annually surveys establishments that are classified under the following NAICS codes:

- 22- Utilities
- 31-33- Manufacturing

The following tables present the industrial sector recycling data that was used to calculate the total tons recycled during the reference year. These tables include:

- **Table F-1: Industrial Survey Results**, which presents the total tons recycled by material and by NAICS code.
- **Table F-2: Data from Other Recycling Facilities**, which presents the total tons recycled at buybacks, scrap yards, processors, and material recovery facilities (MRFs).
- **Table F-3: Other Recycling Programs/Other Sources of Data**, which presents data from miscellaneous sources. This table was not applicable to the District.

Table F-1. Industrial Survey Results

NAICS	FW	GL	FM	NFM	OCC	MxP	PL	Tx	W	CoM	FS	Other
22												
31			33		4				48	1.79		
32	5.4	42,319	230	31.96	5,096	1,665	4,652		264	655		0.4
33	3.8	0.28	4,440	2,266.1	590	17	321	1,357	1,874	243		11
Other:												
Total	9	42,319	4,758	2,298	5,690	1,682	4,974	1,358	2,186	900		12 66,185

NAICS	FW	GL	FM	NFM	OCC	MxP	PL	Tx	W	CoM	FS	Other	
Adj.			1,130	118	0.25		307		158	3			
Adj. Total	9	42,319	3,628	2,180	5,690	1,682	4,666	1,358	2,028	896		12	64,469

Source(s) of information: 2019-2021 District Industrial Surveys

Note: FW = food waste, GL = glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = Corrugated Cardboard/Paperboard, MxP = mixed paper, PL = plastics, Tx = Textiles, W = Wood, R = Rubber, CoM = commingled, FS = non-exempt foundry sand, Adj. = adjusted/adjustments

Table F-1 accounts for material credited for waste reduction and recycling as reported by industrial businesses. In some instances, industrial businesses did not respond to the reference year survey but did respond to a previous survey. Adjustments were made to this table to remove any double counting.

Table F-2. Data from Other Recycling Facilities

Program and/or Source of Materials/Data	FM	OCC	MxP	NFM	W	Unadjusted Total	Adjustments	Adjusted Total
Buybacks								
BB 1					7,800	7,800	0	7,800
Scrap Yards								
SY 1	30,000			350		30,350	0	30,350
Broker								
BR 1	43,566					43,566	0	43,566
BR 2	479	11,885				12,365	0	12,365
Processors/ MRFs								
PR 1	25,000	60		800		25,860	0	25,860
Unadjusted Total	99,045	11,945	0.0	1,150	7,800	119,941	0	119,941
Adjustments	0	0	0	0	0	0.0		
Adjusted Total	99,045	11,945	0.0	1,150	7,800	119,941		

Source(s) of information: 2021 Survey data as reported by industrial businesses.

Note: FM = ferrous metals, OCC = Corrugated Cardboard/Paperboard, MxP = mixed paper, PL = plastics, W = Wood, Adj. = adjusted/adjustments

The District annually surveys scrap yards, processors, and brokers that are located in the District or known to accept materials generated in the District. The District maintains a list of scrap yards, processors, and brokers that is regularly updated. The District adds new entities to this list throughout the year as they are identified. Each year during the preparation of the Annual District Report, a list of scrap yards and secondary materials processors and brokers is compiled based on NAICS codes using Reference USA, a business database. New additions to the surveying list are sent a cover letter and survey via mail and when possible, via e-mail. This is performed to gather the necessary information from the new company so they can be added to District survey effort the following year. Follow-up requests are made via telephone and e-mail to entities that do not respond.

Responses are evaluated by comparing data submitted by each entity from previous years. Significant increases or decreases in overall tonnage, or tonnage reported for each sector are investigated using a variety of strategies, which include (1) contacting the respondent, verifying tonnage, and asking for an explanation, (2) identifying fluctuations in the economy/market that could cause tonnage to fluctuate, and (3) researching changes to the survey respondent's establishment such as a company merger, or unexpected events impacting operations such as a facility fire, etc.

Clear instructions are presented on the survey which instruct survey respondents to only include tonnage generated within the District's jurisdiction. Survey respondents are also instructed to refrain from reporting any metals from auto bodies, train boxcars, or construction and demolition debris (C&DD).

Responses are thoughtfully reviewed to ensure materials are not handled by more than one entity surveyed. The data used to compile the industrial sector's annual recycling totals are reported typically by end users, brokers, and processors. Adjustments are not frequently necessary for the industrial sector because program data is not factored in, as it is on the residential/commercial sector totals.

There was no data to report in **Table F-3, "Other Recycling Programs/Other Sources of Data."** Therefore, this table has been omitted.

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

Material	Quantity
Food	9
Glass	42,319
Ferrous Metals	102,673
Non-Ferrous Metals	3,330
Corrugated Cardboard	17,635
All Other Paper	1,682
Plastics	4,666
Textiles	1,357
Wood	9,828
Rubber	0.0
Commingled Recyclables (Mixed)	896
Ash	0.0
Non-Excluded Foundry Sand	0.0
Flue Gas Desulfurization	0.0
Other (Aggregated)	12
Recycling Subtotals	184,409
Incineration	0.0
Grand Total	184,409

Source(s) of Information: 2021 Industrial Surveys

Table F-4 reports quantities for each material diverted in the District as collected from various sources. The District diverted a total of 184,409 tons of industrial waste from the industrial sector in the reference year.

Table F-5. Quantities Recovered by Program/Source

Data Source	Tons
Industrial Survey	64,469
Data from other recycling facilities	119,941
Total	184,409

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

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

B. Historical Recovery

Total recovery includes recycling, composting, and waste reduction from incineration. The District's historical recovery for the industrial sector over a five-year period spanning from 2017 to 2021 is presented in the following table.

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

Year	Industrial survey	Data from other recycling facilities	
2017	74,594	107,990	182,584
2018	72,730	116,634	189,364
2019	66,770	127,687	194,457
2020	68,325	127,879	196,204
2021	64,469	119.941	184,409

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

Year	Industrial Survey	Data from other recycling facilities	Totals
2017			
2018	-2%	8%	4%
2019	-8%	9%	3%
2020	2%	0%	1%
2021	-6%	-6%	-6%
Average	-4%	3%	0%

Table F-6a2 Annual Change in Tons Recovered

Year	Industrial Survey	Data from other recycling facilities	Totals
2017			
2018	-1,864	8,644	6,780
2019	-5,960	11,053	5,093
2020	1,555	192	1,747
2021	-3,856	-7,938	-11,795

Table F-6a3. Average Annual Change in Tons Recovered

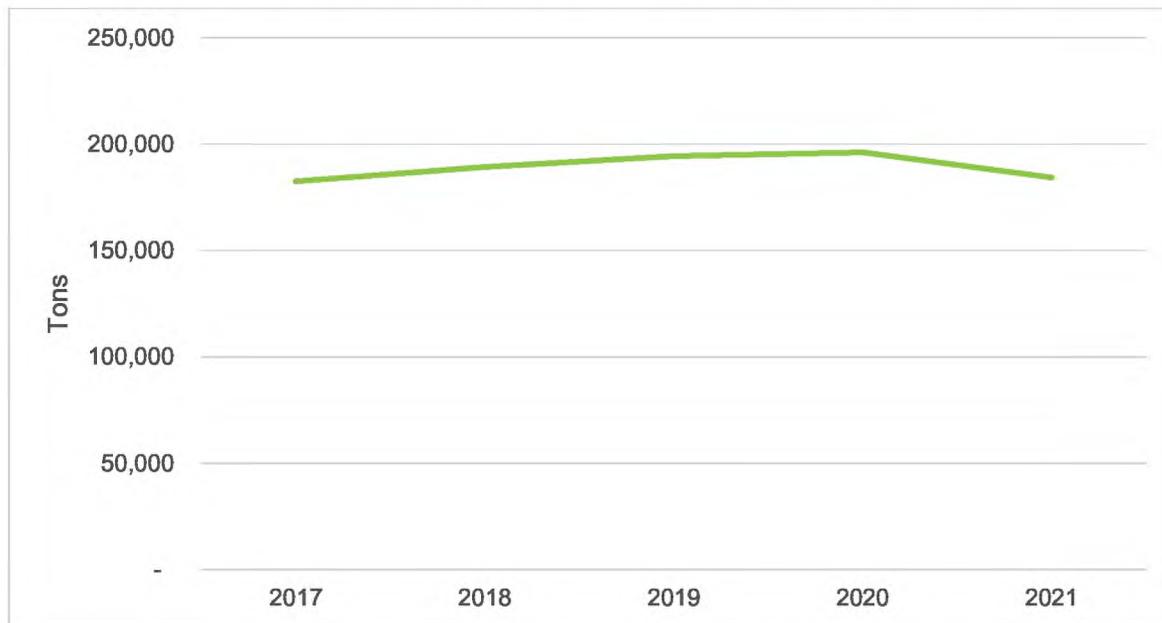
Industrial Survey	Data from other recycling facilities	Totals
-2,531	2,988	456

Table F-6a4 Average Tons of Material Recovered over 5 years

Industrial Survey	Data from other recycling facilities	Totals
69,378	120,026	189,404

After analyzing the recovery of industrial material over the 5-year period the average change does not appear to be substantial. Over the five-year period, the average annual percentage change in tons was -4% decrease for industrial surveys, and 3% increase for other recycling facilities. With these two categories combined for the total we have reached an overall -1% change on average. The trends from the last 5 years have not had any impactful changes. The following figure presents the District's historical industrial recovery totals from 2017 to 2021.

Historical Recycling Analysis: Industrial Sector:(2017-2021)



C. Industrial Recovery Projections

The projections for the planning period were based on the average annual percentage change in tons recovered between both the industrial surveys and other recycling facilities. Considering the average decline from industrial surveys and average increase from other recycling facilities there was a very small trend of increased tons recovered. As shown in table F-6a3, the difference in tons recovered from the industrial surveys and other recycling facilities was 456 tons. The total was split and added into each projection category. The planning period projections were held constant.

Table F-7. Industrial Recovery Projections by Program/Source

Year	Industrial survey	Data from other recycling facilities	Totals
2021	64,469	119,941	184,409
2022	64,275	120,169	184,444
2023	64,083	120,169	184,251
2024	63,890	120,169	184,059
2025	63,699	120,169	183,867
2026	63,508	120,169	183,676
2027	63,317	120,169	183,486
2028	63,127	120,169	183,296

Year	Industrial survey	Data from other recycling facilities	Totals
2029	62,938	120,169	183,106
2030	62,749	120,169	182,917
2031	62,561	120,169	182,729
2032	62,561	120,169	182,729
2033	62,561	120,169	182,729
2034	62,561	120,169	182,729
2035	62,561	120,169	182,729
2036	62,561	120,169	182,729
2037	62,561	120,169	182,729
2038	62,561	120,169	182,729
2039	62,561	120,169	182,729

Source(s) of information: Tables F-6 – F6a4

Table F-7 shows the projected recovery trends for the industrial sector.



APPENDIX G

WASTE GENERATION



APPENDIX G. Waste Generation

A. Historical Year Waste Generated

The historical waste generation for the District (years 2017 to 2021) is shown in **Table G-1** below. Generation has been calculated based upon the sum of reported disposal and recycling for each year. Overall generation has remained somewhat steady. Out of the three sectors, the residential/commercial (R/C) sector has been the most stable. The per capita generation rate has had a slight fluctuation from 8.12 during 2017 to 7.67 during 2021 (PPD).

Table G-1. Reference Year and Historical Waste Generated

Year	Population	Residential/ Commercial				Industrial			Excluded (tons)	Total (tons)
		Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)		
2017	430,734	412,078	226,285	638,363	8.12	15,572	182,584	198,156	0	836,519
2018	429,899	429,822	257,547	687,368	8.76	13,994	189,364	203,358	0	890,726
2019	428,458	461,256	256,640	717,896	9.18	7,112	194,457	201,569	0	919,465
2020	427,088	447,693	249,453	697,146	8.94	9,419	196,204	205,623	0	902,769
2021	428,996	382,243	219,547	601,789	7.68	51,625	184,409	236,034	0	837,823

Source(s) of Information: 2021 Ohio EPA Facility Data Reports, Disposal from Appendix D, Recycled from Appendix E and F, Populations: Annual District Reports.

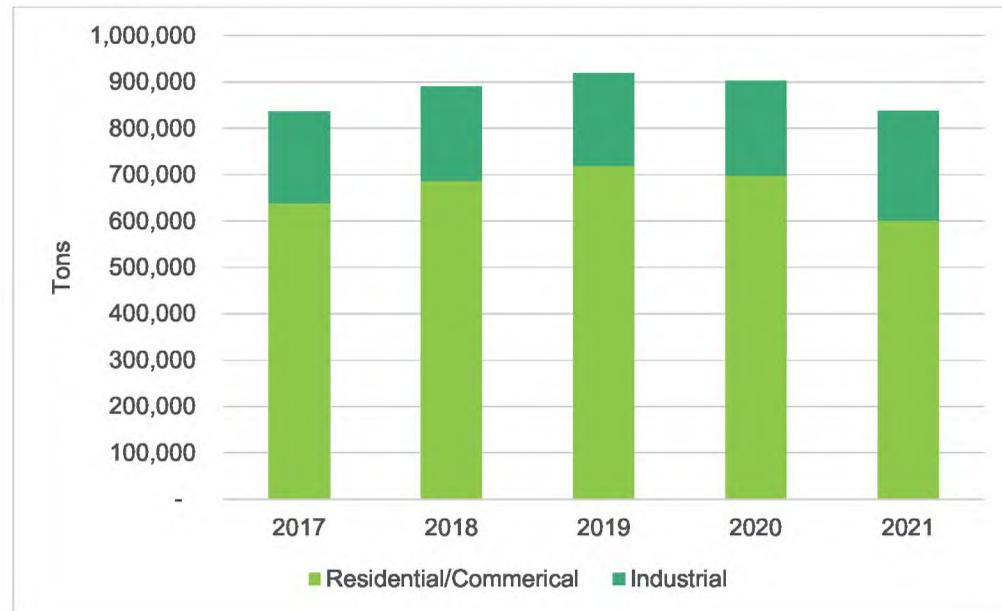
Sample Calculations (2021):

Waste Generation= disposed + recycled = generated

Total=Res/Com generated + Ind generated + excluded = total tons

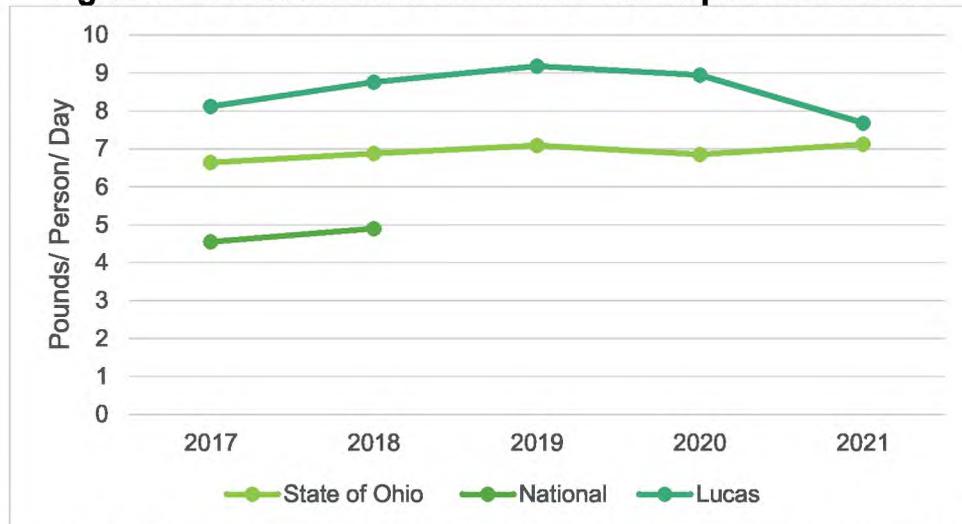
Per capita generation rate = ((tons generated x 2000) + 365) ÷ population)

Table G-1 shows the District's waste generation over a 5-year period (2017-2021). The total waste generated by the District was calculated by adding the quantities of waste disposed from Appendix D and the quantities of waste recycled from Appendices E and F. Quantities resulting from the disposal and recycling as presented in Figure G-1 accurately represent waste generation for the District.

Figure G-1 Historical Waste Generated

Note: Figure does not include excluded waste

Figure G-2 shows the historical trends of waste by the sector. This was calculated by adding the quantities of waste disposed from Appendix D and quantities recycled from Appendices E and F. Waste generation was consistently high from 2018 through 2020 peaking in 2019. The waste generation began to decrease after 2019 from a high of 919,465 tons and decreased to 837,616 tons in 2021. The higher amounts of waste from 2018 to 2020 is due to increased amounts of waste from all three sectors.

Figure G-2. Residential/Commercial Per Capita Generation

Note- National Average Per Capita generation 2019-2012 data was not published as of this report.

Source(s) of information: National Average per Capita Data- EPA National Overview- Facts and Figures on Materials, Wastes and Recycling, https://www.epa.gov/sites/default/files/2021-01/documents/2018_tables_and_figures_dec_2020_fnl_508.pdf
Ohio EPA per Capita Generation Data- Ohio EPA SWMD Disposal, Recycling Generation Reports 2017-2020.

Figure G-3 compares the District's historical residential/commercial per capita generation data to the Ohio EPA's national average and the Ohio EPA's state average. (Note the national average per capita generation data is only available until 2018). The District's per capita generation falls in between the EPA's national average and Ohio EPA's state average. The District's trends show they have started to follow similar trends as Ohio's by beginning to decrease during 2020. The District is showing a faster rate of decline than Ohio. The District's highest rate was during 2019 which was at 9.18 pounds generated per person per day.

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

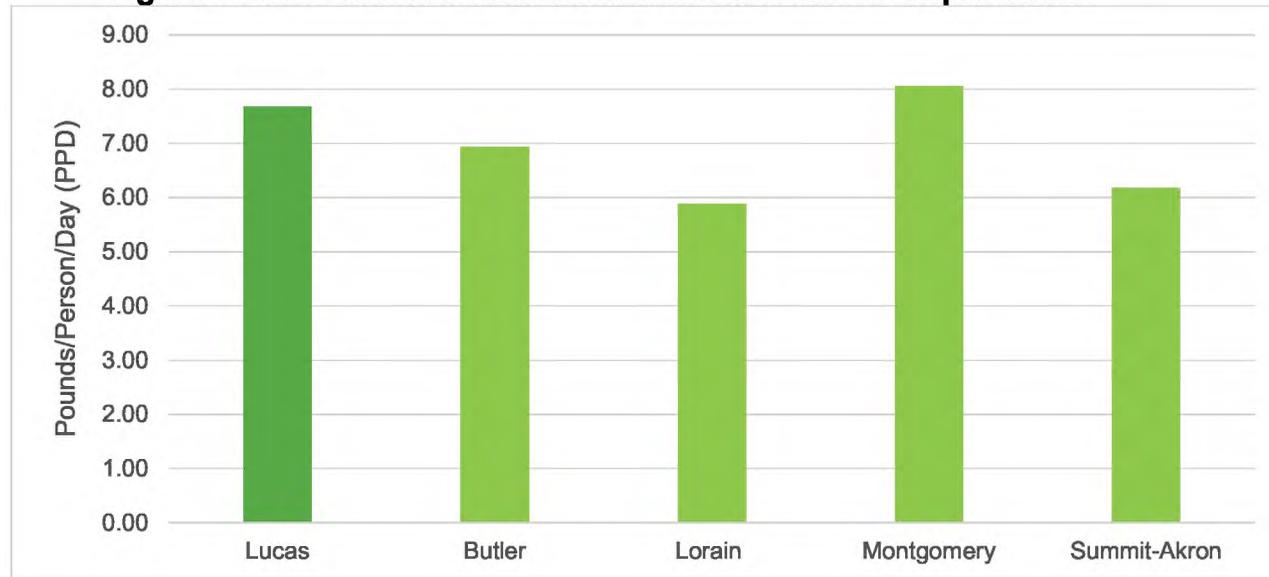
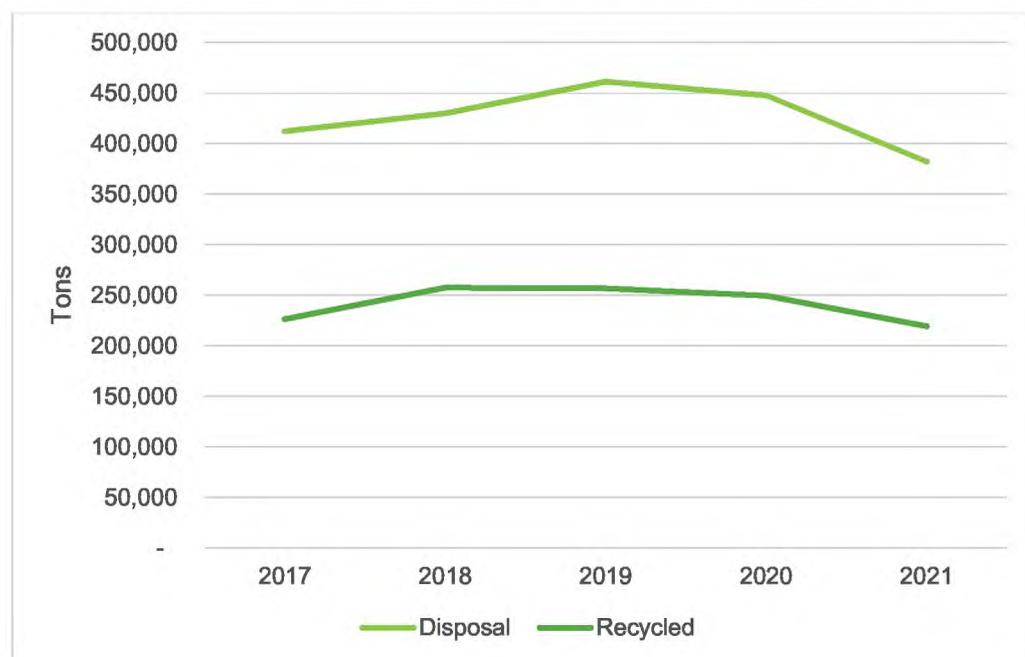


Figure G-3 above details the comparison between the four similar population-sized Districts. As shown, the average of all five districts in 2021 is 6.95 pounds per person per day. Comparing Lucas County with other similar population-sized Districts reveals the District's per capita generation rate is above the average of 6.95 pounds per person per day but not the highest among the districts. Overall, the District is doing well relative to its peers and the State regarding waste generation. However, the District should continue to be proactive in finding ways to reduce their generation and/or reduce waste disposed at landfills.

1. Residential/Commercial Waste

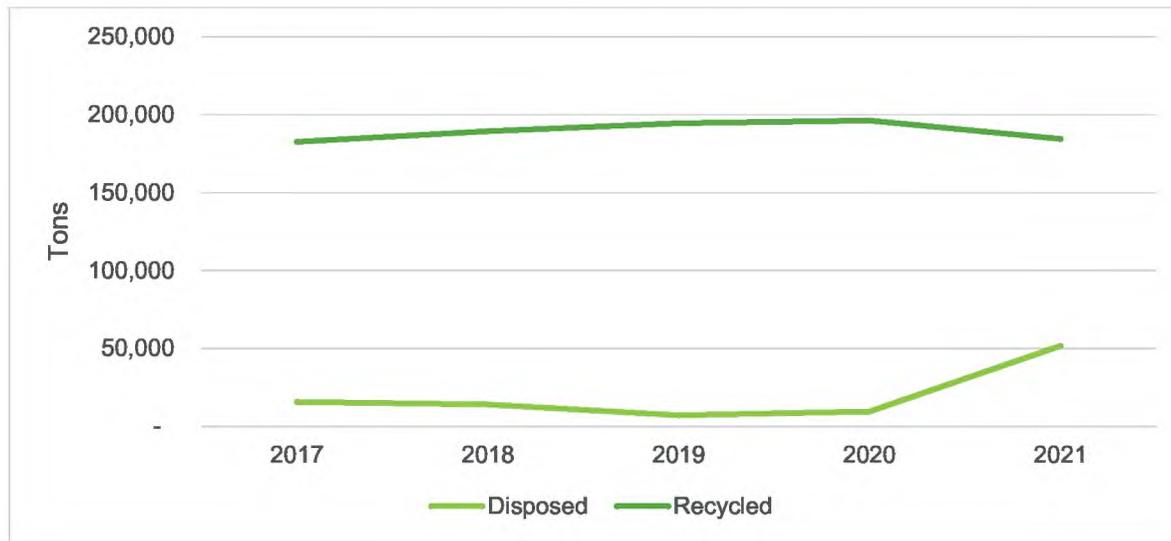
Figure G-4 shows the trends of residential/commercial disposal and recycled materials. Disposal trends over the past 5-years have remained constant, with a high during 2019 and then a slight decrease from 2020 to 2021. Recycling trends have managed to have a slight decrease by 0.4%. Recycling trends were consistent from 2018 through 2020, and during 2021 we see that trend largely decline. This is likely due to total generation also decreasing. Commercial survey responses play a large factor in capturing total recycling. Several commercial businesses reported less total recycled materials during 2021.

Figure G-4. Residential/Commercial Disposal and Recycling Trends



2. Industrial Waste

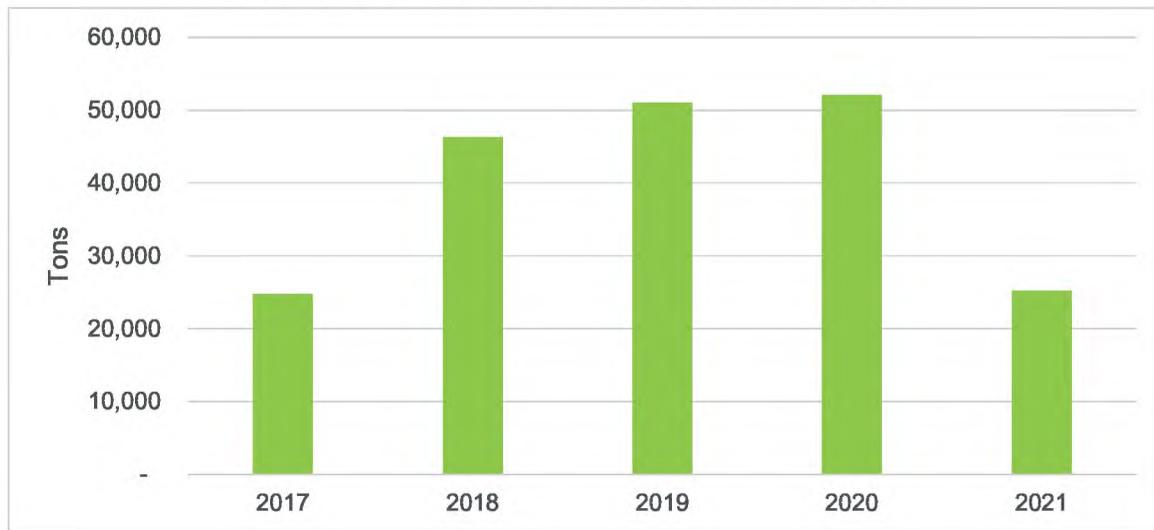
Total industrial waste generation has fluctuated between 2017 and 2021. Overall industrial sector generation has generally been constant. While overall generation is consistent. Some major industries have closed seen fluctuations in employment and product material due to COVID-19 pandemic. As demonstrated in the following figure, disposal totals fluctuated as well, with a low during 2019 and a high during 2021. According to the Ohio Department of Job and Family Services employment projections 2018 through 2028 for the manufacturing sector, Lucas County is projected to have a 3% decrease in jobs. The District does not anticipate for these totals to fluctuate.

Figure G-4. Industrial Waste Generation

3. Excluded Waste

Excluded waste accounted for 9% of the total waste. The following information is a summary of excluded waste trends, but because it is less than 10% it does not need to be analyzed further.

The following figure indicates that the excluded followed an increasing trend through 2020. Appendix D analysis showed that roughly 98-100% of excluded waste in Lucas County has been from construction and demolition debris. The increase in revitalization development during the past 5-years has attributed to the increase in excluded waste. **Figure G-5** shows the trends of excluded waste between 2017 through 2021.

Figure G-5. Excluded Waste Disposal Trends

B. Generation Projections

Generation projections for the District have been developed in Appendices D, E and F for disposal and recycling for the residential/commercial and the industrial sector. These projections which are presented in detail in Appendices D, E and F, are summarized below in **Table G-2**. Residential/commercial disposal tonnages are expected to slowly start to decrease after 2025. Recycling for the residential/commercial sector is projected to increase each year of the planning period.

Industrial disposal is projected to decrease annually throughout the planning period. Industrial recycling is expected to remain constant throughout the planning period because the District does not expect the total generation for industrial tonnages to fluctuate much based on the employment rates for manufacturing.

Table G-2. Generation Projections

Year	Population	Residential/ Commercial				Industrial			Excluded (tons)	Total (tons)
		Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)		
2021	428,996	382,243	219,339	601,582	7.68	51,625	184,409	236,034	0	837,616
2022	426,650	424,288	215,225	639,513	8.21	51,217	184,444	235,661	0	875,174
2023	425,806	423,448	220,412	643,860	8.29	50,812	184,251	235,063	0	878,923
2024	424,964	422,611	225,773	648,384	8.36	50,411	184,059	234,470	0	882,854
2025	424,123	421,775	231,316	653,092	8.44	50,013	183,867	233,880	0	886,971

Year	Population	Residential/ Commercial				Industrial			Excluded (tons)	Total (tons)
		Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)		
2026	423,284	420,941	243,357	664,298	8.60	49,617	183,676	233,294	0	897,592
2027	422,447	420,108	248,887	668,995	8.68	49,225	183,486	232,711	0	901,706
2028	421,612	419,278	254,611	673,888	8.76	48,837	183,296	232,132	0	906,020
2029	420,778	418,448	260,536	678,985	8.84	48,451	183,106	231,557	0	910,542
2030	419,946	417,621	266,680	684,301	8.93	48,068	182,917	230,985	0	915,287
2031	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2032	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2033	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2034	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2035	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2036	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2037	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2038	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254
2039	419,115	416,795	273,042	689,836	9.02	47,688	182,729	230,417	0	920,254

C. Composition of Residential/Commercial Waste

Table G-3 shows a breakdown of the material composition from the residential/commercial sector. This table is using the National EPA's average for percent of total generation by material. The percentage by material was then multiplied by total residential/commercial generation projections to show what the projected total per material will be throughout the planning period. No adjustments were made if recovered or disposed tonnages are known to be higher than the material category generation estimates.

Table G-3 Composition of Residential/Commercial Waste

Material	Percent of Total Generation ¹	2021	2022	2023	2024	2025	2026	2027	2028	2029
Paper and Paperboard	23.10%	138,965	147,727	148,732	149,777	150,864	153,453	154,538	155,668	156,845
Glass	4.20%	25,266	26,860	27,042	27,232	27,430	27,901	28,098	28,303	28,517
Ferrous	6.60%	39,704	42,208	42,495	42,793	43,104	43,844	44,154	44,477	44,813
Aluminum	1.30%	7,821	8,314	8,370	8,429	8,490	8,636	8,697	8,761	8,827
Other Nonferrous	0.90%	5,414	5,756	5,795	5,835	5,878	5,979	6,021	6,065	6,111
Plastics	12.20%	73,393	78,021	78,551	79,103	79,677	81,044	81,617	82,214	82,836
Rubber and Leather	3.10%	18,649	19,825	19,960	20,100	20,246	20,593	20,739	20,891	21,049
Textiles	5.80%	34,892	37,092	37,344	37,606	37,879	38,529	38,802	39,086	39,381

Material	Percent of Total Generation ¹	2021	2022	2023	2024	2025	2026	2027	2028	2029
Wood	6.20%	37,298	39,650	39,919	40,200	40,492	41,186	41,478	41,781	42,097
Other	1.50%	9,024	9,593	9,658	9,726	9,796	9,964	10,035	10,108	10,185
Food	21.60%	129,942	138,135	139,074	140,051	141,068	143,488	144,503	145,560	146,661
Yard Trimmings	12.10%	72,791	77,381	77,907	78,454	79,024	80,380	80,948	81,540	82,157
Misc inorganic wastes	1.40%	8,422	8,953	9,014	9,077	9,143	9,300	9,366	9,434	9,506
R/C waste generated		601,582	639,513	643,860	648,384	653,092	664,298	668,995	673,888	678,985

Material	Percent of Total Generation ¹	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
Paper and Paperboard	23.10%	158,074	159,352	159,352	159,352	159,352	159,352	159,352	159,352	159,352	159,352
Glass	4.20%	28,741	28,973	28,973	28,973	28,973	28,973	28,973	28,973	28,973	28,973
Ferrous	6.60%	45,164	45,529	45,529	45,529	45,529	45,529	45,529	45,529	45,529	45,529
Aluminum	1.30%	8,896	8,968	8,968	8,968	8,968	8,968	8,968	8,968	8,968	8,968
Other Nonferrous	0.90%	6,159	6,209	6,209	6,209	6,209	6,209	6,209	6,209	6,209	6,209
Plastics	12.20%	83,485	84,160	84,160	84,160	84,160	84,160	84,160	84,160	84,160	84,160
Rubber and Leather	3.10%	21,213	21,385	21,385	21,385	21,385	21,385	21,385	21,385	21,385	21,385
Textiles	5.80%	39,689	40,011	40,011	40,011	40,011	40,011	40,011	40,011	40,011	40,011
Wood	6.20%	42,427	42,770	42,770	42,770	42,770	42,770	42,770	42,770	42,770	42,770
Other	1.50%	10,265	10,348	10,348	10,348	10,348	10,348	10,348	10,348	10,348	10,348
Food	21.60%	147,809	149,005	149,005	149,005	149,005	149,005	149,005	149,005	149,005	149,005
Yard Trimmings	12.10%	82,800	83,470	83,470	83,470	83,470	83,470	83,470	83,470	83,470	83,470
Misc inorganic wastes	1.40%	9,580	9,658	9,658	9,658	9,658	9,658	9,658	9,658	9,658	9,658
R/C waste generated		684,301	689,836								

Source(s) of information: National Average percent of total generation per material. "Advancing Sustainable Materials Management: 2018 Tables and Figures" July 28,2022.

Sample Calculations:

Material Composition= Percent of total generation * R/C waste generated.



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. Programs and strategies approved by Ohio EPA in the 2019 Plan are evaluated in this Appendix H.

This Appendix is divided into thirteen (13) separate analyses or sections as directed in Format v4.1. The status of the reduction and recycling efforts were evaluated in the context of factors presented in the 13 analyses described in Format v4.1. Some of the more extensive sections are further subdivided, such as Section 1.

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

SECTION H-1 (page H-3)	•RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS
SECTION H-2 (page H-24)	•COMMERCIAL SECTOR ANALYSIS
SECTION H-3 (page H-28)	•INDUSTRIAL SECTOR ANALYSIS
SECTION H-4 (page H-30)	•RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS
SECTION H-5 (page H-37)	•ECONOMIC INCENTIVE ANALYSIS
SECTION H-6 (page H-39)	•RESTRICTED AND DIFFICULT TO MANAGE WASTE ANALYSIS
SECTION H-7 (page H-45)	•DIVERSION ANALYSIS
SECTION H-8 (page H-49)	•SPECIAL PROGRAM NEEDS ANALYSIS
SECTION H-9 (page H-51)	•FINANCIAL ANALYSIS
SECTION H-10 (page H-56)	•REGIONAL ANALYSIS
SECTION H-11 (page H-59)	•DATA COLLECTION ANALYSIS
SECTION H-12 (page H-62)	•EDUCATION AND OUTREACH ANALYSIS
SECTION H-13 (page H-66)	•PROCESSING CAPACITY ANALYSIS

1. Residential Recycling Infrastructure Analysis

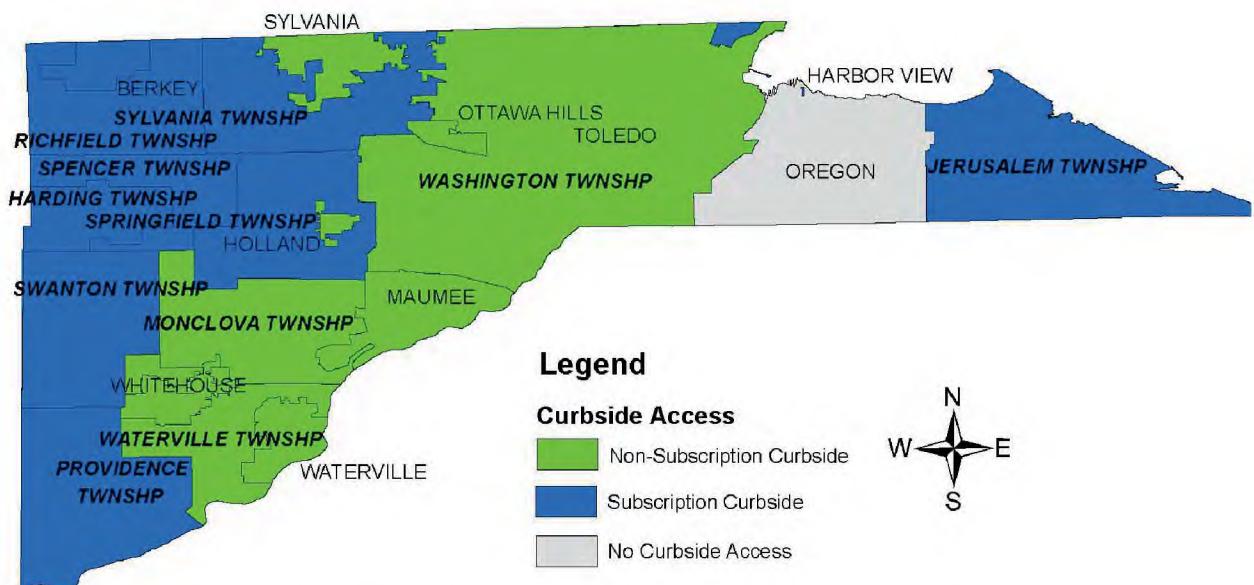
This evaluation of the District's existing residential recycling infrastructure determines whether the needs of the residential sector are being met and if the infrastructure is adequately performing. There are many materials that can be recycled. The District's waste management system relies on various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

A. Curbside Evaluation

This evaluation will analyze the residential infrastructure to identify any service gaps and to further evaluate the performance and service costs.

There are various curbside services offered to residents within the District. These consist of both subscription curbside (SC) and non-subscription curbside (NSC) services. The locations of the communities in which curbside services are offered is shown below in **Figure H-1.1**.

Figure H-1.1 Curbside Services Available



Eight communities offer NSC services and residents in nine townships and two villages have access to SC services. The list of these communities, number of households served, collection frequency and tonnages collected are detailed in **Table H-1.1** below.

Table H-1.1 Curbside Recycling Programs

Community	Type of Program	Households Served	Collection Frequency	Tons Collected
City of Maumee	NSC	5,925	Weekly	1,314
City of Sylvania	NSC	7,621	Bi-Weekly	1,164
City of Toledo	NSC	116,849	Bi-Weekly	14,083
City of Waterville	NSC	2,059	Weekly	404
Holland Village	NSC	694	Weekly	135
Ottawa Hills Village	NSC	1,546	Weekly	N/A
Whitehouse Village	NSC	1,708	Weekly	279
Waterville Twp	NSC	2,359	Bi-Weekly	27
Monclova Twp	NSC	4,843	Bi-Weekly	995
Berkey Village	SC	N/A	Weekly	N/A
Harbor View Village	SC	N/A	Weekly	N/A
Harding Township	SC	N/A	Weekly	N/A
Jerusalem Township	SC	N/A	Weekly	N/A
Spencer Township	SC	650	Weekly	N/A
Springfield Township	SC	N/A	Weekly	29
Swanton Township	SC	N/A	Weekly	N/A
Sylvania Township	SC	N/A	Weekly	N/A
Washington Township	SC	N/A	Weekly	N/A
Providence Township	SC	N/A	Weekly	N/A
Richfield Township	SC	N/A	Weekly	N/A

Note: NS = non-subscription curbside recycling, S = subscription curbside recycling, N/A = not available

Source: Annual District Reports 2017 – 2021

Many communities either do not report their tonnage totals or face difficulties in the hauler's routes that make it hard to decipher where the waste is produced. As a result, these data gaps make it difficult to accurately assess the total amount of diversion from curbside services.

The District is largely developed, with 45% of the land use being developed land. The City of Toledo, the District's largest city, offers non-subscription curbside recycling to over 116,000 households. According to the Ohio Department of Development, Toledo' population of 268,508 residents, comprises 62% of the Districts population. The District also offers curbside services in most of its densely populated villages and towns.

Three haulers offer curbside recycling services in the District. A majority of the community's non-subscription curbside services contract with Republic Waste. The only two services not provided by Republic are Waterville Township, who

uses Klumm Bros as their hauler, and Whitehouse Village, who uses ARS Refuse Service as their hauler.

Table H-1.2 below details the historic subscription and non-subscription curbside tonnages collected for the reference year and the previous four years. Some of the services did not report tons of recycling collected.

Table H-1.2 Historical Curbside Recycling Recovery

	2017	2018	2019	2020	2021	Percent Change
Non-Subscription	24,739	23,052	21,009	18,875	18,400	-26%
Subscription	18	18	15	21	30	67%
Total	24,757	23,070	21,024	18,896	18,430	-26%

Source: Annual District Reports 2017 – 2021

Table H-1.1 shows the trends of curbside recycling from non-subscription and subscription communities. There has been an overall decrease in curbside recovery by 26% from 2017 to 2021. The District notes the main issues faced with curbside recovery is contamination. COVID-19 also impacted the recovery numbers. The District notes that it saw large increases in contamination in 2020 as many residents began using recycling bins as second trash bins.

Subscription curbside services rarely have tonnage details that are available for the District to use. It is unclear why this is. Each year, one township reported tonnages collected from their programs, but this fluctuated yearly as to who reported.

Evaluation of the curbside recycling services per community is an important step in understanding how well the program is serving the community. **Table H-1.3** below shows the breakdown of the per capita recycling generated per household per day and per month.

Table H-1.3 Curbside Recycling Per Household

Programs	Households	2021 Tons	Ibs./House/ Day	Ibs./ House/ Month
City of Maumee	5,925	1,314	1.22	37
City of Sylvania	7,621	1,164	0.84	25
City of Toledo	116,849	14,083	0.66	20
City of Waterville	2,059	404	1.08	33
Holland Village	694	135	1.07	32
Ottawa Hills Village	1,546	N/A	N/A	N/A
Whitehouse Village	1,708	279	0.89	27
Waterville Twp	2,359	27	0.06	2
Monclova Twp	4,843	995	1.13	34
Berkey Village	N/A	N/A	N/A	N/A

Programs	Households	2021 Tons	lbs./House/ Day	lbs./ House/ Month
Harbor View Village	N/A	N/A	N/A	N/A
Harding Township	N/A	N/A	N/A	N/A
Jerusalem Township	N/A	N/A	N/A	N/A
Spencer Township	650	N/A	N/A	N/A
Springfield Township	N/A	29	N/A	N/A
Swanton Township	N/A	N/A	N/A	N/A
Sylvania Township	N/A	N/A	N/A	N/A
Washington Township	N/A	N/A	N/A	N/A
Providence Township	N/A	N/A	N/A	N/A
Richfield Township	N/A	N/A	N/A	N/A

Source: Annual District Reports 2017 – 2021

The City of Maumee, Monclova Township, City of Waterville, and Holland Village have the highest per household recycling. All four services experience a pound/house/day of above one, which is over 30 pounds per month. The Township of Waterville shows to have the lowest reported recovery of recycling collected among the listed townships in the District, despite having a large amount of households. **Table H-1.4** below benchmarks the village among other similar sized townships outside of Lucas County.

Table H-1.4 Benchmark Similar Sized Townships Non-Subscription Curbside

District	Township	Tons Recycling Collected	Households	Lbs./HH/Day	Type of Curbside	
					NCS	SC
Lucas	Waterville Township	27	2,359	0.06	X	
Lorain	Eaton Township	431	2,486	0.95	X	
Butler	Ross Township	523	2,904	0.99	X	
Adams-Clermont	Monroe Township	113	2,805	0.22	X	

Conversely, the City of Toledo stands out as having the highest reported tonnage of recycling collected among the listed cities in the District. This indicates that Toledo is actively participating in recycling programs and has managed to collect a substantial amount of recyclable materials. Despite its high tonnage, Toledo's per household diversion rate is one of the lowest among the communities within the District. This suggests that while Toledo collects a lot of recyclables in total, it may not be doing as well on a per-household basis. This could indicate room for improvement in terms of encouraging recycling at the household level.

When comparing Toledo to similar-sized municipalities outside the District, Toledo appears to be leading in terms of per household diversion. This implies that Toledo's recycling performance, when viewed in the context of municipalities

with similar population sizes but located outside the District, is not significantly worse. This could suggest that Toledo's recycling efforts are relatively competitive on a broader scale. **Table 1.5** below shows this analysis more in depth.

Table H-1.5 Benchmark Similar Sized Cities Non-Subscription Curbside

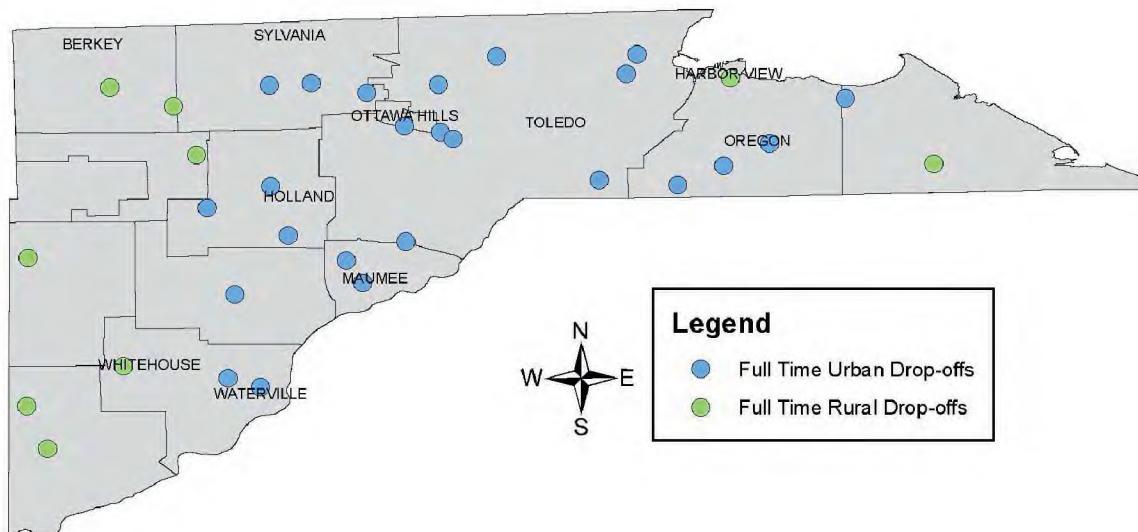
City	District	Tons Recycling Collected	Households	Lbs./HH/Day	Type of Curbside	
					NCS	SC
Toledo	Lucas	14,083	121,261	0.64	X	
Cincinnati	Hamilton	11,820	145,749	0.44	X	
Akron	Summit	5,488	85,395	0.35	X	
Cleveland	Cuyahoga	16,860	169,427	0.55	X	

It's important to note that this analysis does not account for contamination rates among similar-sized districts. However, there is a historical issue in Toledo with high contamination rates in the curbside recycling stream. A study in 2017 found 37% of the 22,000 tons of recyclables collected in the city each year are unacceptable. This could be a crucial factor affecting the city's overall recycling performance. High contamination rates can increase the cost of recycling processing and decrease the overall effectiveness of recycling programs.

B. Drop-Off Evaluation

The District operated a drop-off recycling program during 2021. There were 31 full-time drops that were publicly available and no part-time drop-offs that were publicly available during 2021. The full-time drop-offs were open for at least 40 hours per week, 24 hours a day. Of the 31 full time drop of sites, 24 were urban and nine were rural. These drop-off recycling bins accepted mixed paper, corrugated cardboard, plastics #1,2, 4, 5 and 7, cartons, aluminum cans, and steel cans. The drop-off locations are displayed on the District's website in order to inform the residents about specific location information. The website provides what material is accepted at each location and the hours of operation for the drop-off.

Figure H-1.3 Lucas County Drop-Off Locations

**Table H-1.6 Recycling Drop-Off Sites**

	2017	2018	2019	2020	2021	Average
Tons Recovered	9,287	8,979	8,163	8,706	8,439	8,715
Annual % Change	N/A	-3%	-9%	7%	-3%	-2%

Source: Annual District Reports 2017 – 2021

Table H-1.6 evaluates the drop-off recycling trends from 2017 through 2021. The District has seen steady decreases in tons recovered throughout the previous five years except for the 7% increase in 2020. This was followed by another decreasing year. The average annual change is a decrease of 2% year over year.

The District continues to monitor sites and moves, opens, or eliminates them as necessary for efficient operation. As a result of COVID-19, the District saw increased recycling numbers and the demand for additional drop-off bins. The District added at least one container at the following drop-off locations; Harbor View Village, Suder Avenue Kroger-Toledo, Pearson Metro Park, Springfield Township Hall, Springfield Fire Station #3, and Lakewood Greenhouse. The Kroger in Sylvania was the only site to remove bins, a total of 5 bins were removed. Overall, the District added 19 containers and removed 5. Despite this, the actual tons recovered in 2021 decreased, likely because of the changing waste stream and an increase in contamination rates. Some issues include cardboard boxes that not broken down take up more space and plastic packaging is becoming more prevalent in the waste stream which is lighter than typical glass and metals.

In a study conducted in 2022, the District analyzed the drop-off stream through a recyclable materials pre-audit and post-audit facilitated by GT Environmental and conducted by Republic Waste Services at its Oberlin, Ohio Material Recovery Facility. As shown in **Table H-1.7** below, comparing the May 2022 audit to the March 2022 audit shows a 7% difference in residuals. In determining the cause for such a high difference between the March and May audits, there are several potential reasons. The District hired an additional Waste Reduction Facilitator on March 1st, who is now cleaning the Drop-Off sites daily. There is consistent cleaning and maintenance of the Drop-Off sites which would lead to less contamination being collected by the hauler. Other possibilities raised on-site by Republic were the validity of random samples and difference in total weight between the two audits.

Table H-1.7 Drop-off Study Recyclable Material Stream Audit

Category	March	May	Difference
Glass containers	27.8%	27.68%	-0.12%
Aluminum based materials	2.2%	2.35%	0.15%
Steel/tin cans	0.5%	2.28%	1.78%
Mixed scrap metals	2.0%	N/A	N/A
Plastic #1 (PET)	5.7%	3.2%	0.79%
Plastic #2 (Natural HDPE)	1.5%	1.76%	0.26%
Plastic #2 (Color HDPE)	1.5%	2.17%	0.67%
Mixed Plastics (#4, 5 and 7 bottles and jugs)	4%	0.09%	-3.91%
Aseptic Containers	0.0%	0.0%	0.0%
Cardboard	9.60%	19.16%	9.56%
Mixed Fiber (newspaper, office paper, junk mail, mixed paper)	9.70%	9.33%	-0.37%
Residuals (Other/trash)	29.40%	22.39%	-7.01%

C. Opportunities for Improvement

The District' collection network includes curbside and drop-off programs.

Curbside Recycling

Collection service offering can be a hurdle but is not in Lucas County. The District has opportunities for curbside recycling. A majority of the major cities and villages have curbside recycling either a subscription or non-subscription. The District notes that contamination continues to be an issue and worsened with the effects of COVID-19 and many people working from home. Engaging community stakeholders and offering technical assistance and education on what the District accepts in their various curbside recycling programs could help increase diversion.

This could be especially useful in the City of Toledo as there may be contamination issues or a lack of programs entirely. Additional opportunity to work with the more densely population communities to move to a non-subscription curbside program.

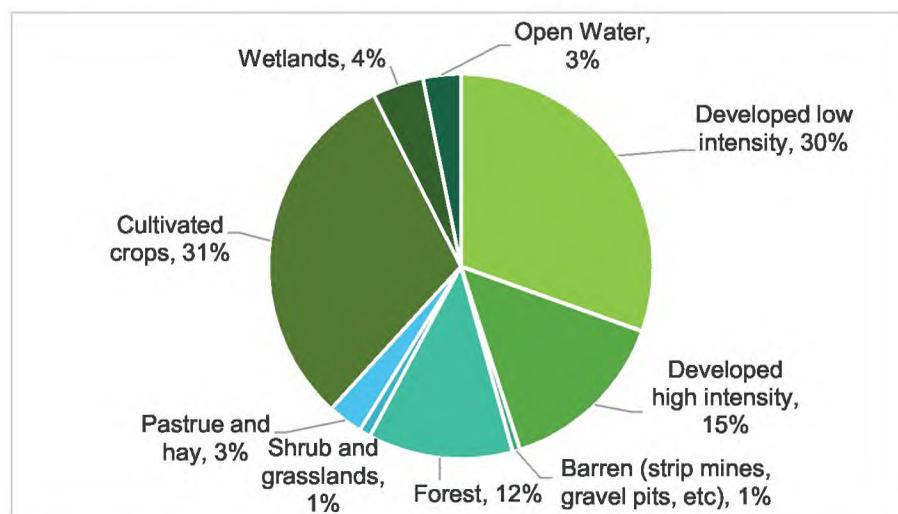
Drop-off Recycling

The District provides a network of drop-off sites. All of these are open 24 hours a day, seven days a week. However, the drop-off program in the District has several opportunities for improvement. The District has nine rural drop-offs, the remainder being urban. Additional opportunities to focus on include providing clear material guidelines for recycling and cardboard breakdown which will help to increase diversion numbers.

2. Commercial /Institutional Sector Analysis

This evaluation of the District's commercial/ Institutional recycling determines if the existing programs are adequate to serve the sector and to identify any gaps the District can do to help its residents and businesses recycle and divert waste. Commercial/institutional sector within the District consists of the following (non-exhaustive list): commercial businesses, schools and universities, government agencies, office buildings, stadiums, amusement parks, event venues (stadiums, concert halls), hospitals and non-profit organizations.

Figure H-2.1 Lucas County Land Use



Source(s): Ohio Department of Development, County Trends

A. Geographical

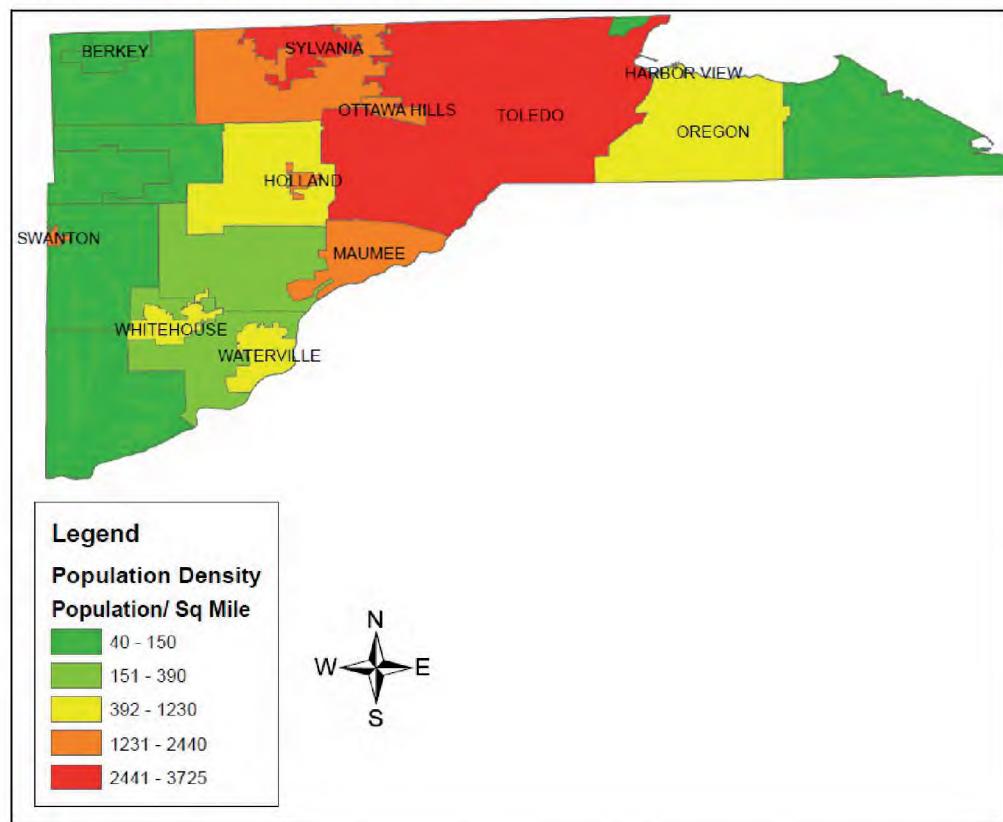
What is considered rural and urban is defined after each decennial census using specified criteria that relates to population, density, distance, and land use. Generally, rural areas are much more sparsely populated and typically comprise of low housing density and are located in the peripheral of urban centers.

Conversely, urban areas have high population density and are located in or around a major settlement.

Lucas County is fairly split, having both urban and rural areas that make up large portions of the land cover. Roughly 45% of the County is developed with 15% being highly developed areas like the City of Toledo. The remaining 55% consists of rural land with 31% being cultivated crops and 12% of the land covered by forests.

The County's largest City is Toledo with a 2021 census estimate 268,508 residents. Toledo is bordered by Lake Erie on its northeastern side and shares a border with Michigan to the north. Toledo is where the County chair is located as well as the University of Toledo which enrolls around 20,000 students every year. The most densely populated areas in Lucas County are towns and cities. Toledo has a population density of around 3,700 people per square mile. Other areas such as the Cities of Sylvania and Maumee have population densities between 1,200 and 2,400 people per square mile. The County is made up of 19 townships with Sylvania being the largest with nearly 45,000 residents.

Figure H-2.2 Population Density



The private sector of Lucas County employs roughly 180,000 residents. Among the private sector, the largest employment sector for private businesses are

education and health services (22.5%), trade, transportation, and utilities (19.6%), and professional and business services (15.7%).

Education and health services saw a 1.9% decrease since 2013 and trade, transportation, and utilities saw a decrease of 5.1%. Professional and business services was the only one of the top three sectors to grow since 2013, increasing 2.7% over that period. Other notable sector changes include a 26% decrease in information services, an 11% increase in natural resources and mining, and a 17% increase in manufacturing services. In general, the private sector grew by 2.3% since 2013. Similar growth was seen in state and local government at 3.7% and 3.8% respectively.

B. Diversion

Management of residential and commercial recycling makes separating commercial data from residential data difficult. Data gathered from this sector include reported diversion from commercial surveys, brokers, haulers, and Ohio EPA sourced data. Using these sources, **Table H-2.1** attempts to separate the reported tons diverted from each reporting source. A total of 218,671 tons of material was diverted from this sector.

Table H-2.1 Estimated Commercial Recycling by Source

Program/Source of R/C Recycling Data	Quantities (Tons)
Commercial Survey	17,726
Data from Other Recycling Facilities	99,421
Ohio EPA Commercial Retail Data	15,156
Curbside Recycling Services	18,713
Drop-off Recycling Locations	8,439
Composting Facilities	50,809
Other Food and Yard Waste Management Activities	4,650
Ohio EPA Scrap Tire Data	3,756
Lucas County MRF	0
Total	218,671

Source(s): Appendix O

A majority (45%) of the data used to estimate commercial recycling comes from recycling facilities sourced from Ohio EPA reports. Roughly 23% of the data is collected from composting facilities within the District. Curbside and drop-off recycling together make up 13% of the data and the commercial survey yielded 8%.

C. Commercial/institutional Establishments

In 2019, there were about 16,524 commercial/institutional businesses in Lucas County. **Table H-2.2** shows the breakdown of commercial/institutional business in each North American Industry Classification System (NAICS) code.

Table H-2.2 Commercial and Institutional Establishments

NAICS Code	NAICS Description	Number of Commercial/Institutional Establishments
42	Wholesale Trade	932
44-45	Retail Trade	2,676
48-49	Transportation and Warehousing	504
51	Information	272
52	Finance and Insurance	1,246
53	Real Estate and Rental/Leasing	776
54	Professional, Scientific, and Technical	1,658
55	Management of Companies and Enterprises	188
56	Administrative and Support and Waste Management and Remediation Services	1,102
61	Educational Services	286
62	Health Care and Social Assistance	2,708
71	Arts, Entertainment, and Recreation	278
72	Accommodation/Food Service	2,034
81	Other Services (Except Public Administration)	1,864

Table H-2.2. shown above illustrates Health Care and Social Assistance, Retail Trade, and Accommodation/Food Service are the top commercial/institutional businesses in Lucas County.

D. Functionality

Commercial businesses, schools and universities, government agencies, and event venues all rely on private sector haulers for their recycling programs. Businesses can request recycling services from local brokerage companies. The District keeps an updated list of local haulers that provide recycling services. The haulers will then transport the diverted materials to material recovery facilities where the material will then be processed to sell to manufacturers. The District offers free waste audits and assessments to help schools and businesses establish goals and reach them through University of Toledo and the Lucas County Sustainability Commission. These audits serve to educate the

organization on the importance of recycling, evaluate local waste streams, and assist in reaching goals.

Events/Venues and Parks

The District partners / works with an organization called Keep Toledo / Lucas County Beautiful (KT/LCB) on a variety of programs to help protect the District's natural capital. KT/LCB has and continues to partner with Andersons on the Trash Toss Program to distribute boxes to groups to collect waste and recycling from special events. When applicable, the District assists with large scale events. Through this program, the District was able to provide over 2,700 boxes and 780 lids to groups that requested recycling/disposal containers.

The District also works with KT/LCB on its Minimize Contamination and Littering at Special Events program. The District helps design specific signage and education messaging while also working with event organizers to minimize non-recyclable material. This program continued in 2021 where the District helped give presentations and attend meetings on how to recycle properly.

The District wants to focus on increasing resident connection by speaking with residents at the various drop-off sites located throughout Lucas County. The District also advertises their phone number on the website for resident calls. Lastly, members from KT/LCB attend many in person and virtual events on materials management throughout the year.

Commercial Businesses

The District conducted a total of 11 solid waste assessments throughout 2021. These assessments identified 102 tons of waste for diversion from landfills and saved an estimated \$21,700 in annual costs for businesses. The District also offers technical assistance for businesses. In 2021, the District provided direct collection service to 98 commercial businesses and institutions. The District also operates non-public drop-off sites. However, these are collected in unison with the publicly available drop-off sites and therefore the total tonnage cannot be separated. The District collected over 8,400 tons of material across all drop-off sites.

The District has the ability to assist local businesses with the development of recycled products through grants from the State of Ohio but there was no activity in this program during the reference year.

Schools and Institutions

In the reference year, the District provided approximately \$75,000 in funding to the University of Toledo Business Waste Reduction Assistance Program. In addition, six journal papers and two book chapters related to solid waste management were submitted for publication at the University of Toledo. These publications help to promote the deep commitment in Lucas County to protect the environment and reduce waste. The District also provides and services paper

recycling dumpsters. In 2021, the District provided and serviced mixed paper recycling dumpsters for 60 schools.

Multi-Family Housing

Residents in multi-family housing units that typically do not have access to curbside recycling have access to the District's drop-off recycling program. Drop-offs are located in every city, village, and almost every township in Lucas County.

Figure H-2.3 Occupied Housing Units

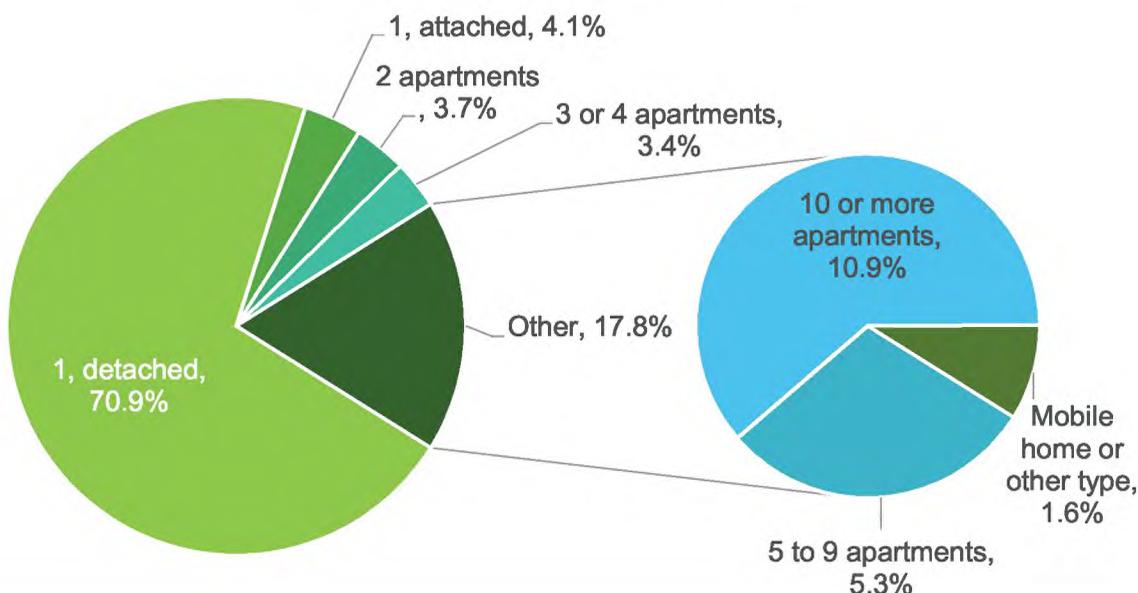


Figure H-2.3 shows the percentage breakdown of occupied housing units in Lucas County. Over 70% of the District population lives in detached or single-family homes. The remaining portion of Lucas County residents live in multifamily housing. Curbside recycling service to the households in multi-family units is a challenge. Focusing on convenient drop-off locations provides a collection outlet for recycling, even though it's not as convenient as curbside.

Conclusions/Findings

The District diverted over 36% of all material attributed to the residential/commercial sector. The Ohio EPA set a goal to divert 25% of all residential/commercial waste in its 2020 state plan, the District has outperformed this goal due to its strong programs and engagement with the community.

Adding more schools with diversion programs is an opportunity to divert more material.

Continuing to find ways to reach the multi-family housing either through outreach to use the available drop-off and / or working with property managers to have convenient on-site access.

3. Industrial Sector Analysis

This evaluation determines if the District's programs that are currently in place are sufficient to represent that sector. Additionally, this evaluation will determine if additional programs are necessary to support these entities.

a. Evaluation

In 2019, there were 866 industrial businesses in operation in Lucas County. **Table H-3.1** lists the top 7 industrial companies operating in Lucas County. Many businesses are concentrated in the City of Toledo, OH.

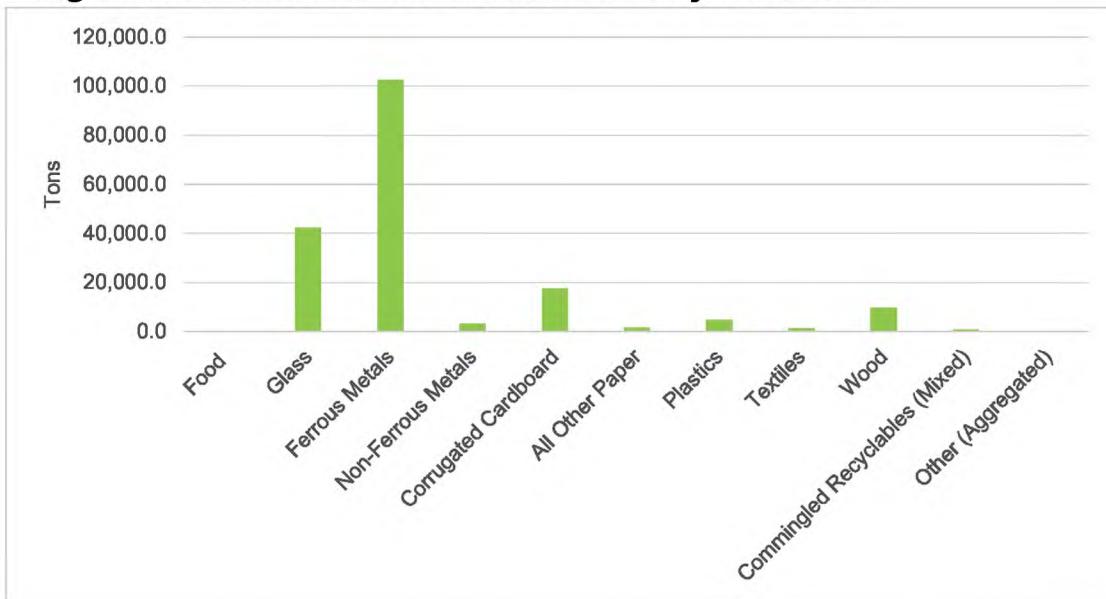
Table H-3.1 Top 5 Industrial Companies

Company	NAICS Code	City	Location Employee Size
Chrysler Assembly	33	Toledo, OH	4000
GM Powertrain	33	Toledo, OH	1722
Daimler Chrysler Corporation	33	Toledo, OH	1399
Owens Corning Inc.	32	Toledo, OH	1201
Dana Inc	33	Maumee, OH	800
BP Toledo Refinery*	32	Oregon, OH	550
Toledo Refining Co LLC	32	Oregon, OH	500

Source: U.S. Business Database.

*BP Toledo Refinery was acquired by Cenovus Energy Inc. in 2023

According to the Department of Job and Family Services' publication *2021 Job Outlook for the Toledo Metropolitan Statistical Area (MSA)*, employment in manufacturing is projected to decrease by 2.1 percent from 2018 to 2028. The small change in annual manufacturing employment will likely be imperceptible in terms of the effect on industrial sector waste generation.

Figure H-3.1 Industrial Waste Reduced/Recycled in 2021

In 2021, industrial businesses diverted 184,409 tons of material. **Figure H-3.1** shows the breakdown of material diverted. Ferrous Metals comprise the largest amount of industrial diverted material, along with glass and corrugated cardboard.

Table H-3.2 Historical District Diversion Rate

Year	Diversion Rate
2017	92%
2018	93%
2019	96%
2020	95%
2021	78%

Source: Appendix G

$$\text{Diversion Rate} = \text{Recycled (tons)} / \text{Generated (tons)}$$

The five-year average from 2017 to 2021 is 91%. This is a relatively high diversion rate for the industrial sector. This indicates that this sector has little room for improvement programs and education since they have been achieving high diversion rates since 2017.

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

b. Conclusions/Findings

The District has not prioritized the industrial sector in its efforts to boost recovery in the District. The District provides at least three programs to the industrial sector to meet Ohio 2020 State Plan requirements.

4. Residential/Commercial Waste Composition Analysis

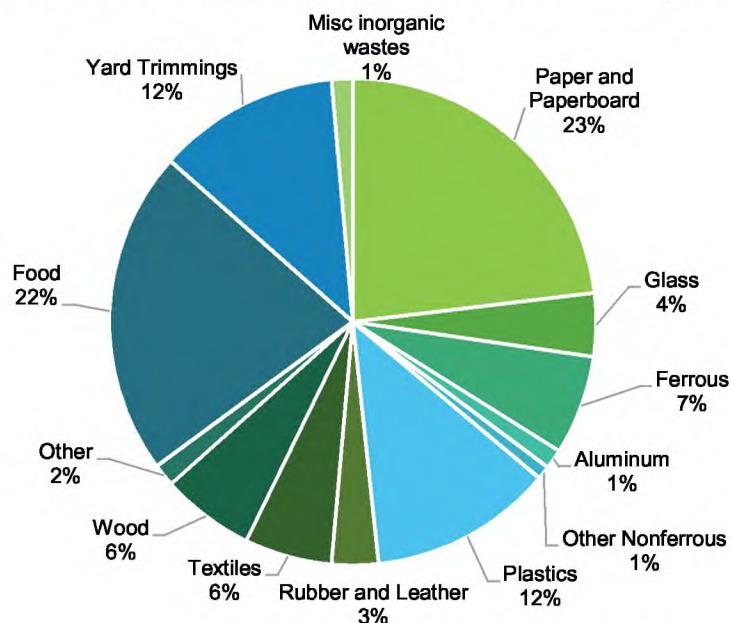
This evaluation of the District's residential/commercial composition analysis describes and evaluates the wastes that make up the largest portions of the residential/commercial waste stream. According to the U.S. EPA, fiber (cardboard and paper), food scraps, yard trimmings, and plastics make up the highest amount of residential/commercial (R/C) waste (see Figure H-3.1). This section evaluates and describes the highest proportions of residential/commercial waste and defines prospective programs to address those wastes.

a. Evaluation

$$\begin{aligned} \text{Waste Generation} &= \text{Wastes Disposed} + \text{Wastes Diverted} \\ 650,559 \text{ tons} &= 431,887 + 218,672 \end{aligned}$$

Of the 650,559 tons of waste generated from the SWMD in 2021, 34% of the residential and commercial waste is recycled. In 2020, the diversion rate was 12% higher by 30,782.26 tons. Over the 4-year period, the SWMD diversion rate fluctuated between 34% and 37%. Factors that may have caused this fluctuation and variability can be attributed to a decrease in yard waste and a decrease in tonnages of commercial businesses. As a result, the overall recycling amount for the SWMD commercial and residential waste is higher than the plan projection by 33,275 tons or 18%.

Figure H-4.1. U.S. Residential/Commercial Waste Composition: 2021



Based on **Figure H-4.1** above, the most prominent components of the SWMD commercial and residential waste stream appear to be paper (including cardboard), food, yard waste, and plastics. These wastes can be diverted from the landfill through recycling and composting programs. Assessing the waste composition graph allows the District to narrow its focus on more diversion efforts of the highest divertible material.

Figure H-4.2. Percentage of Waste Disposed and Diverted

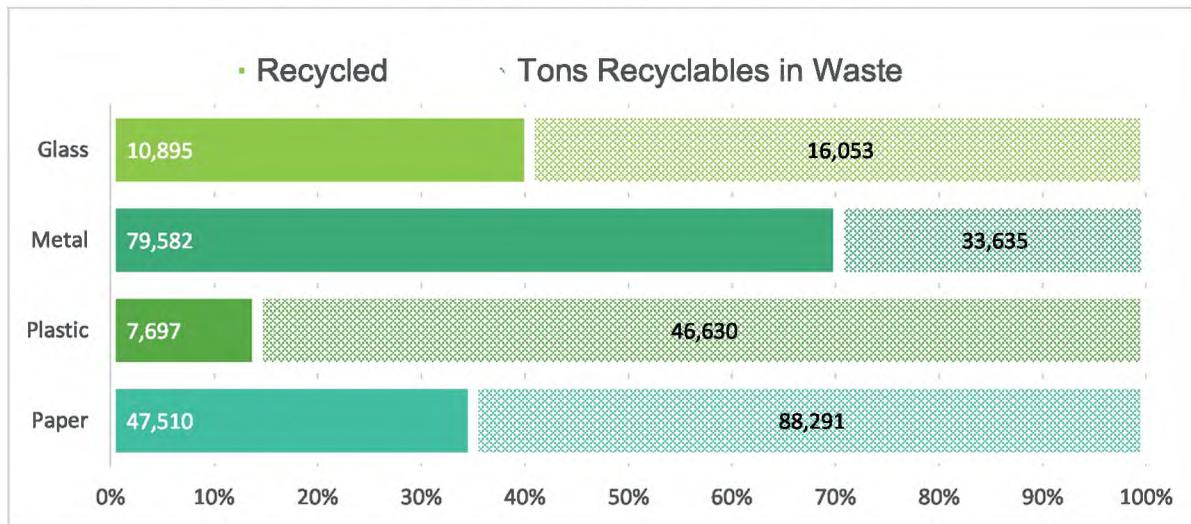


Figure H-4.2 shows the glass, metal, plastic, and paper being captured and the approximate estimate of the material going to the landfill.

Fiber Waste Stream (Paper):

As seen in **Figure H-4.2**, the District could do better at diverting more of the paper stream from the landfill.

The District has a network of paper and cardboard drop-off locations for the residents to recycle. The District has nine rural drop-off sites and 24 urban drop-off sites available.

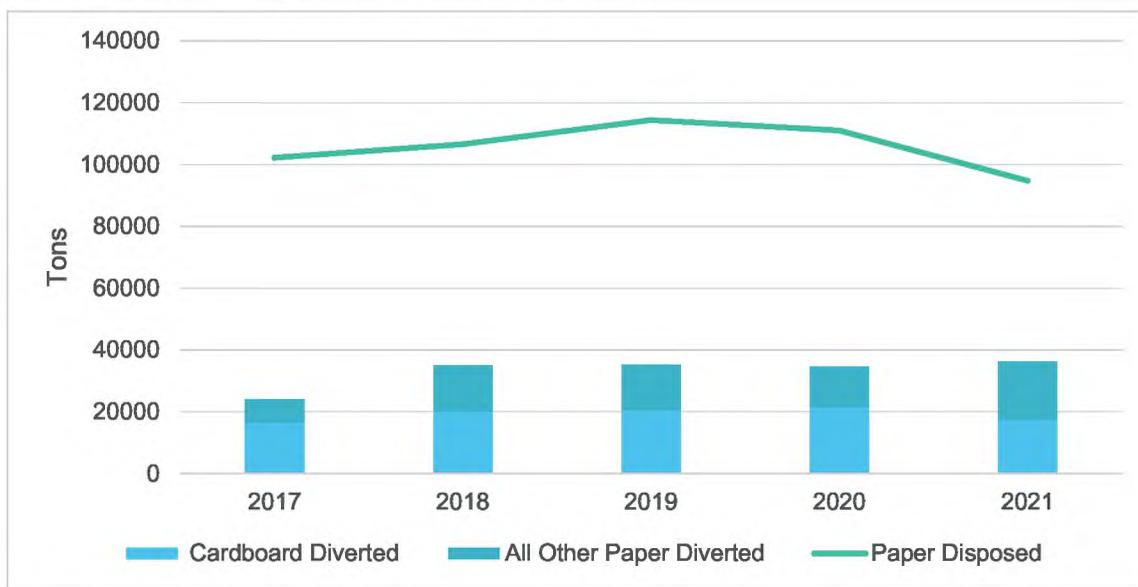
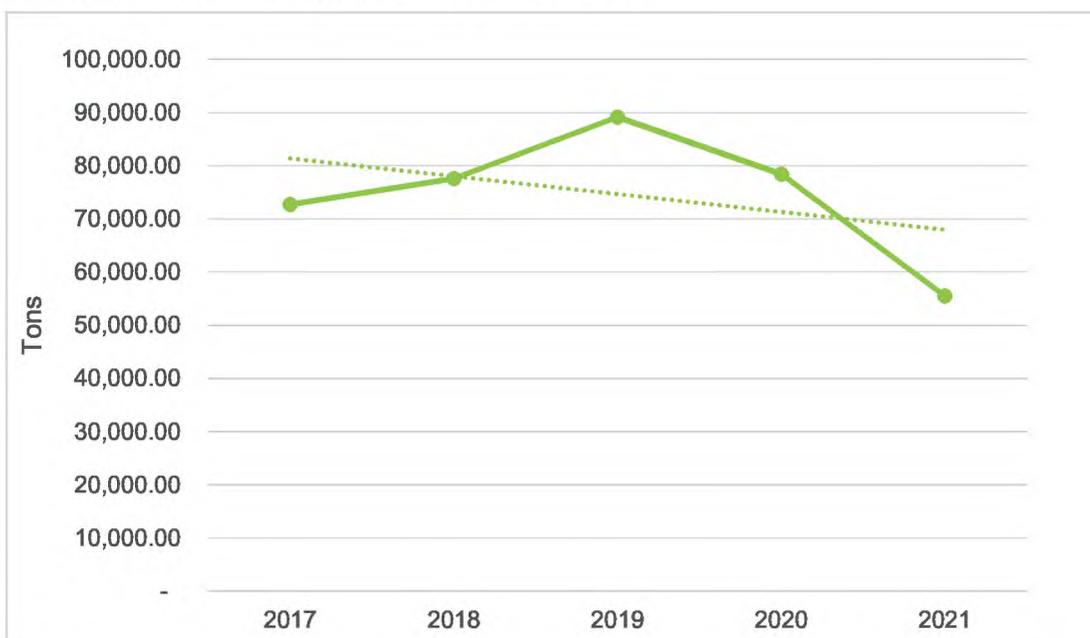
Figure H-4.3. District's Historical Fiber Stream**Food and Yard Waste Stream (Organics):**

Figure H-4.1, shows approximately 22% tons of food waste and 12% of yard waste are ending up in the landfill annually. Of the material landfilled, roughly one-third of that is organic material which could be processed into a soil amendment product that when managed by composting also provides greenhouse gas savings.

Figure H-4.4. Historical Organic Waste Diverted

Source: Ohio EPA Compost Facility Planning Report 2017, 2018, 2019, 2020, 2021.

Above in **Figure H-4.4**, the total organic waste diversion rate peaked in 2019 followed by a decline. The trend line shows a slight decrease. Food waste has not significantly fluctuated compared to the District's yard waste stream. Yard waste specifically decreased from 87,187 in 2019 to 54,009 in 2021.

The District provides residents with a curbside leaf collection program and a curbside yard waste collection program. 12 communities have municipal leaf collection programs.

There are 11 registered Class IV compost facilities located in-district with 3 of those publicly accessible. There are no registered facilities able to handle food waste located within the District. The closest facilities able to handle food waste are in approximately 30 miles away from the SWMD office. This distance is manageable but organic, especially food waste, is heavy due to its high moisture content and maybe to cost prohibitive to transport.

Without sufficient infrastructure for composting discarded food, the District could first focus on reducing food waste and increasing food rescue. 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. The Natural Resources Defense Council (NRDC) found that the residential sector accounted for 30-50% of a cities' total food waste generated and that of the food discarded by residents nearly 70% of the food wasted was edible.¹ At the same time, roughly 1 in 8 people in the U.S. experience food insecurity.² In 2022, an estimated 17.5%³ of Lucas County's population were considered below the poverty line. The SWMD could seek to increase food rescue and donation to reduce landfilling edible food while also supporting the SWMD's more vulnerable populations.

Another opportunity is development of infrastructure such as anaerobic digesters or composting facilities both of which could be designed at small or large scale.

Plastic Waste Stream:

Plastic is among the highest percentages of waste components in the residential and commercial waste stream. **Figure H-4.2**, demonstrates the majority of plastics are not being captured for recovery.

¹ *Food Matter: What We Waste and How We Can Expand the Amount of Food We Rescue*, Oct 2017, NRDC. <https://www.nrdc.org/sites/default/files/food-matters-ib.pdf>

² *Food Waste*, NRDC. <https://www.nrdc.org/food-waste>

³ The State of Poverty in Ohio. 2022. Ohio Association of Community Action Agency.

Figure H-4.5 Resin Codes

The District accepts plastic bottles with a neck labeled with resin codes #1, #2, #4, #5, and #7 at the available drop-off locations. The District also accepts cartons such as milk, juice, broth, soup, and beverage containers.

The Toledo Zoo has partnered with Terra-Cycle to recycle household waste for guests to dispose of at the entrance of the zoos to keep single-use plastic out of landfills. There are also Terra-Cycle bins at the Toledo Senior Center for residents to drop off acceptable materials. Plastics include #6 cups, food bags, food & beverage pouches, beauty care items, razors, and various brand products.

Residents may not know the specific resin codes currently accepted in their County and may dispose of the wrong plastic that contaminates the stream. Therefore, the District should monitor and audit the recycling collected at the various drop-off locations to ensure proper disposal and provide formal resident recycling education.

b. Conclusions/Findings

Lucas County's waste composition uncovers opportunities for diversion rate improvements for cardboard, paper, organics, and plastic waste. The District diverted 34% of all residential and commercial waste in the 2021 reference year. The District could highlight education and advertisement to increase their diversion rates. Opportunities include:

- Develop and enhance branded collateral through social media posts, flyers, radio announcements, etc.
- Increase signage and update recycling information frequently regarding accepted versus not accepted materials
- Incorporate opportunities for residents to engage and learn about recycling efforts through raffles and games at local community events
- Promote paper reduction by encouraging junk mail reduction through electronic statements

The District does not have a centralized in-district infrastructure, such as a Class II compost facility or anaerobic digester, to divert food waste from the landfill. These types of technologies will require a significant financial investment and programs/strategies to ensure feedstock and market demand for the finished product. Types of strategies the District could utilize to increase food donation and reduce food waste in the 2025 Plan include:

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

- Education/Outreach - Setting goals to 1) change behavior and cultural of citizens to reduce waste 2) educate source reduction practices to appropriate businesses.
 - Consumer in-home messaging campaign - The most significant impact on food waste generated within homes will result from consumer behavior change. Change must be affected by increasing consumer awareness and readiness to change baseline behavior related to purchasing, storage and handling, and preparation of food in homes.
 - Increase awareness of food waste and associated costs
 - Provide tips to reduce food waste
 - Promote materials such as USEPA's developed 'Food: Too Good to Waste' toolkit to residents
 - Promote 'imperfect' produce
 - Promote food donation
 - School and cafeteria campaign - Foodservice managers need data to be able to measure the amount of food they are purchasing and best match that inventory to the food they are serving. Lack of information and data is a core impediment to reduction at foodservice establishments in back of house.
 - One-on-one engagement to share information on food waste tools and tracking systems (like LeanPath 360) that institutions can implement on site to help prevent food waste.
 - Write case studies and highlight local cafeterias implementing success
 - Explore policies and economic incentives the SWMD can provide to boost food waste reduction in the institutional and commercial sectors (e.g., making grants available for large institutions to install fridges to preserve donated food longer)
 - A more active role such as food waste collection, drop-off, or assistance for private development of composting facilities are all activities that could be planned and implemented.

5. Economic Incentive Analysis

Economic incentives aim to encourage and increase participation in recycling programs. Under Goal 6 of the 2020 State Solid Waste Management Plan, the SWMD requires exploring ways to incorporate economic incentives into source reduction and recycling programs. This analysis aims to assess the programs in place and additional programs that may encourage different programs.

a. Evaluation

The SWMD offers economic incentives to influence waste and recycling behavior change. These may include volume-based trash collection programs, grants, rebates, rewards, etc.

Volume-Based Fees:

Volume-based, also called Pay-As-You-Throw (PAYT), is a type of economic incentive program for curbside residents to pay per amount of Municipal Solid Waste (MSW) disposed of per household. Residents are charged on the amount and/or size of waste containers they use for disposal. This program incentivizes residents to decrease their trash consumption and look for more ways to recycle their waste material. This structure is cheaper for recycling than trash disposal. Not only is there an increase in recycling with this program, but it also saves on tipping fees depending on the community. PAYT programs are economically viable and sustainable as well as advantageous for residents as they only pay for what they throw away.

Curbside PAYT:

Lucas County had three communities with curbside PAYT programs in the reference year.

Waterville City: Residents pay for a non-subscription curbside recycling program through PAYT fees. This program requires residents to purchase City of Waterville trash bags at participating grocery and convenience store vendors.

Bag sizes:

- Large (30 gallons): 5 bags per roll for \$13
- Small (15 gallons): 8 bags per roll for \$13

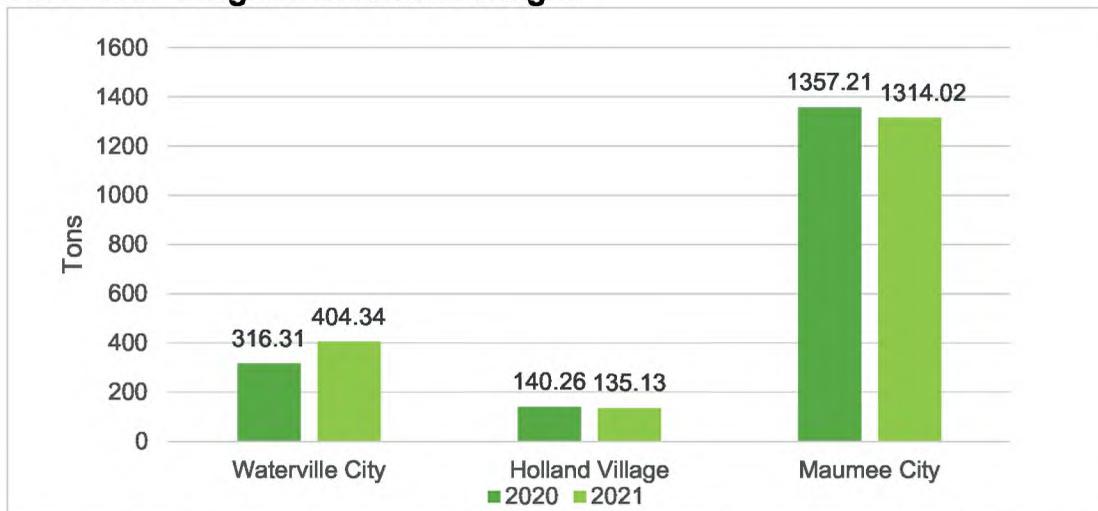
The city will not collect trash that is not in the specialized bags. Homeowners that do not want to participate in the PAYT program have the option to contract private haulers for their trash removal. Residents are limited to 3 bags or containers weighing 50lbs or less. Residents who exceed the bag and weight limit can purchase tags for each additional bag for \$1 per tag. Two thousand fifty-nine households used this program in 2019.

Holland Village: Residents are provided with a weekly non-subscription curbside recycling service at no extra cost. Trash/refuse is collected in carts, and any additional refuse aside from the cart must be tagged with tags that can be purchased through the village. In 2019, 694 households were serviced using this program.

Maumee City: The city provides residents with a non-subscription curbside recycling service. Residents are provided with a 95-gallon recycling Toter and a 95-gallon trash Toter. Any additional material that does not fit in the trash container must be tagged and purchased for \$3.50 each. Bulk item tags are \$15

for one and \$30 for 3. 5,925 households were serviced in 2019 using this program.

Figure 5.1 PAYT Program Diversion Weight



One potential issue with the diversion tonnage 2-year trend for Holland Village and Maumee City is that the economic incentive for the PAYT program is unclear. For PAYT programs to succeed, the message that “Pay As You Throw” has to be clear: the more trash a resident throws out, the more they will pay. Waterville City has a very structured PAYT program and clear messages on their city’s recycling website, reflecting their 28% increase from 2020 to 2021. On the other hand, Holland Village’s recycling rate decreased by 4%, and Maumee City’s dropped by 3% from 2020 to 2021.

One way to make this program more effective for Holland Village and Maumee City is to have a set price per container of curbside trash for each household. In addition, trash bags should be limited to small and large options which residents pay for through the city. Maumee City has the same size 95-gallon Toter for trash and recycling, which does not highlight the point of a PAYT program. If the city limits trash containers or bags to smaller sizes, this may help with higher diversion rates.

Of the 24 communities participating in curbside recycling programs, only 3 have PAYT programs in place, reflecting that there is room to grow in other districts of Lucas County. There are a lot of opportunities for Lucas County to expand volume-based programs thorough out the District with PAYT fee structures.

Rebates:

Consumer behavior is often influenced by rewards, points, or rebates for their purchases. A trend recently becoming popular in the waste industry is rewarding residents for participating in recycling programs in their community. RecycleBank, for example, is a company that promotes recycling by providing a reward system to participants, and other local systems do this. The idea of this

program is that people receive points for the amount (tons) of recycling they get collected. These points are redeemable in the form of coupons at participating retail stores.

The District does not offer any rebate programs, but it may be a viable option for future initiatives as incentives play an important role in establishing and maintaining recycling habits.

Grants:

The District is in the process of creating a community grant recycling initiative program. The basis of this grant is to develop alternatives to enhance the recycling program, devote additional resources, change to a one-time grant for communities that create a new qualifying curbside service, or upgrade existing service to a new qualifying program and expand to schools and other institutions. As of 2021, the District made a grant manual, but there are no additional updates to this program.

b. Conclusions/Findings

The PAYT curbside recycling programs were designed to incentivize diversion by having residents pay for what they throw out. The next step is to examine if restructuring the trash container size and price will increase diversion for participating communities. Additionally, increasing the number of cities with a PAYT fee structure and incorporating an educational program around this program will benefit diversion rates in the District.

6. Restricted and Difficult to Manage Waste Streams Analysis

Goal 6 of the 2020 State Plan requires SWMDs to provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste, and obsolete/end-of-life electronic devices. This analysis assesses the District's strategies and considers additional materials and programs for difficult-to-manage waste streams.

a. Evaluation

HHW, Electronics, Scrap Tires, Yard Waste, Pharmaceuticals

The District holds hard-to-recycle events and drop-off locations providing collection outlets for specific hard-to-recycle materials.

Table H-6.1 Historical Hard-to-Recycle Materials

TOTALS	2018	2019	2020	2021
HHW	20.1	16.3	14.2	26.7
Electronics	68.4	16.5	36.4	58.2
Scrap Tires	19.1	199.3	271.4	207.4

Figure H-6.1 Historical Hard-to-Recycle Stream

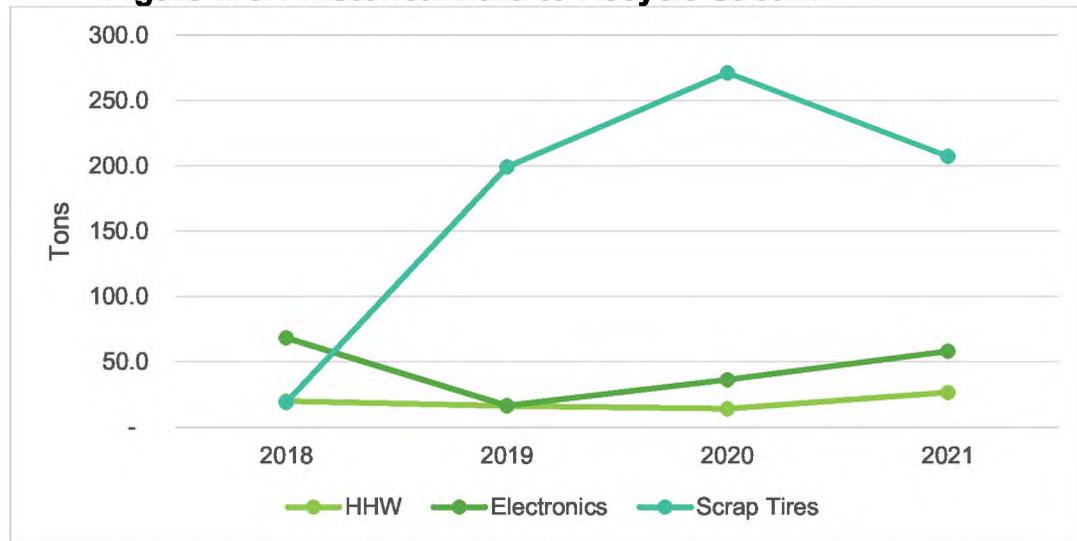


Table H-6.1 and Figure H-6.1 show the historical waste flow data for hard-to-recycle materials.

- **HHW**

The SWMD established a permanent HHW collection site at the Matzinger Road Facility in 2017 and continues to promote a selection of businesses/organizations and events that collect HHW within the County. The

District operates the HHW drop-off program and charges \$1 per pound of HHW, \$1 per fluorescent lightbulb and \$1 per gallon for latex paint.

Table H-6.2 was compiled by collecting data from District solid waste management plans and describes basic programs, costs and collected tons for some other type of HHW programs.

Table H-6.2 HHW Benchmark Costs and Tons

District	Service Provided	Total Costs	Households	Cost Household /	Tons	Cost/Tons
Preble	HHW trailer at the Preble County Sanitary Landfill.	\$17,913	41,794	\$0.43	10.2	\$1,756
Greene	Monthly special collection event	\$21,266	162,427	\$0.12	15.6	\$1,363
Lorain	Permanent Collection Center	\$162,517	121,669	\$1.34	142	\$1,145

Source:

Solid Waste Management District Approved Plans

Lorain reported from Solid Waste Management District data for year 2021.

Preble County's program is available Monday through Friday from 8:30 AM to 4:00 PM, and also from March through November on Saturdays from 8:30 AM to 12:00 PM. Residents can bring a variety of HHW items including oil-based paints, pesticides, household batteries and used oil at no cost. The program does not accept latex paint. Greene County conducts HHW collection events once per month starting at 9:00 AM and concluding in the early afternoon (times vary). Previously, the County only offered the collection events on Saturdays; however, to accommodate more residents, Greene County moved to holding the events alternating between Tuesdays and Saturdays. Materials are collected at the District's campus. Greene County accepts HHW along with scrap metal, appliances with Freon, e-waste, and light bulbs. Lorain County's operates a permanent Collection Center open Monday and Saturday 9am-3pm and Wednesday 12pm-6pm. Materials accepted include: HHW, residential recyclables, scrap tires, rechargeable batteries, ballasts, scrap metal, books, paper, cardboard, fluorescent bulbs, and electronics. The District services over 15,000 vehicles per year.

- **Electronics**

Electronics contain hazardous materials that can seriously threaten a person's health and the environment if not correctly disposed of. Donating working electronics is the preferred method of handling these materials.

The City of Toledo continued to hold "Engage Toledo" special electronics recycling collection events for each of the City Council Districts and assisted with sponsoring the Toledo Zoo Party for the Planet (one of the *Engage Toledo* events).

In comparison, Lorain County collected 211 tons of electronic waste in 2021 at the District's Collection Center.

- **Yard Waste**

For yard waste analysis refer to the Section 4. Residential/Commercial Waste Composition Analysis.

- **Pharmaceuticals**

Keep Toledo/Lucas County Beautiful (KT/LCB) partners with Toledo Police Department to provide 13 drop-off locations for prescription and over-the-counter drugs. Also, the District advertises National Drug Take-Back day.

Although the SWMD cannot track pharmaceutical weight composition, it is important to dispose of it properly. When pharmaceuticals are disposed of improperly, they end up in landfills, where they can leach into soil and ground water, contaminating the drinking supply and people's health.

The SWMD partners with police departments, municipal buildings, and medical centers to offer 13 pharmaceutical drop-off locations. They allow unused prescription and over-the-counter medications to be emptied into bins, but the bottles are not accepted. All recycling information is highlighted in the Recyclers List flyer on the SWMD's website.

b. Conclusions/Findings

The SWMD provides its residents with an array of diversion opportunities for managing hard-to-recycle and restricted materials. Informing residents and the public of the health and environmental effects of hazardous waste and providing diversion outlets can be a priority items. Educating the public and incorporating school programs on less-toxic ingredients and more environmentally friendly products can be increased on the County's website and social media platforms. Lack of tonnage data on lead-acid battery recyclers is a challenge.

7. Diversion Analysis

Waste diversion is the amount of waste recycled, also called diverted, from entering the waste stream through source reduction activities. These include waste minimization, reuse, recycling, and composting. This analysis looks at the diversion programs, infrastructure, and trends to evaluate the District's diversion rate over the planning period and assess any significant impacts that the District has had regarding fluctuations over the years. Finally, this analysis looks at how to evaluate those impacts better.

a) Evaluation

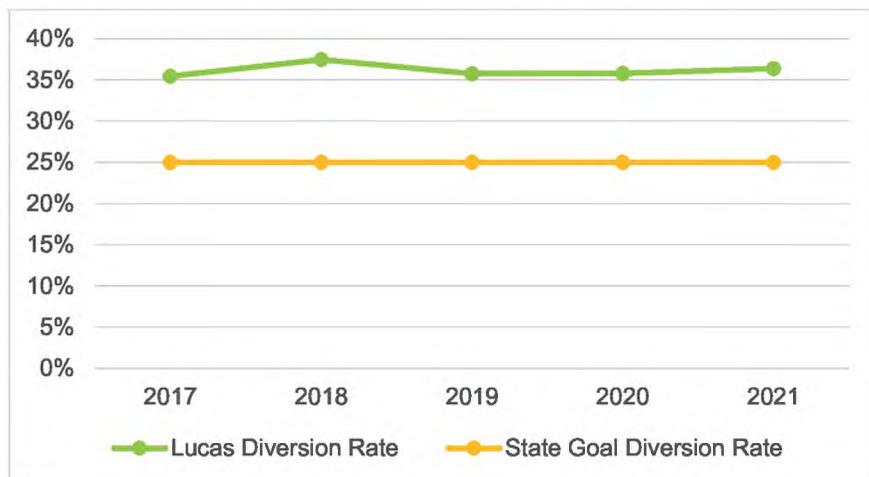
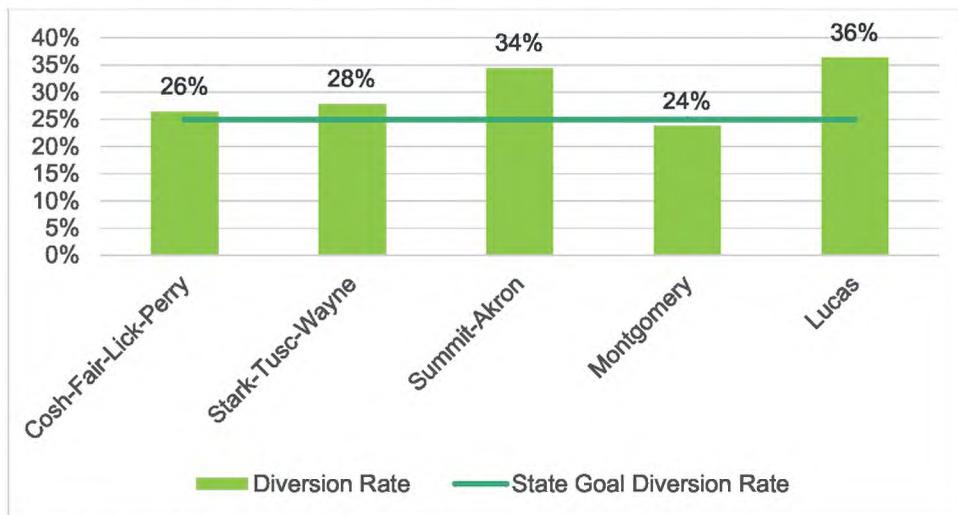
Figure H-7.1 Ohio EPA Goal 2 Diversion Status

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. Goal 2 of the Ohio EPA states that Districts will strive to achieve a minimum of 25% diversion rate. As shown above, the District's residential/diversion has been steady over the past five years, experiencing a slight increase in 2018 before returning to previous values in 2019. The last five year's average is a 36% diversion rate, which is comfortably above the Ohio EPA's target of a 25% diversion rate.

The District has met the Ohio EPA's Goal 2 over the last five years and does not anticipate any significant decreases in diversion through the planning period. Therefore, the District should continue to focus on collecting surveys and maintaining the curbside and drop-off programs that are established.

Figure H-7.2 compares the District's 2021 diversion rate to similar population-sized solid waste management districts in Ohio. When compared, the District's 36% diversion rate is the highest of the benchmarked Districts. Of course, districts may vary in diversion rates for various reasons, such as differences in population density, distance to markets, program funding/ implementation, and land use. Still, a benchmark comparison allows the District to see how it is performing relative to its peers and where, if needed, it could be possible to set goals and targets.

Figure H-7.2 Benchmark Residential/Commercial Diversion

Source(s): Ohio EPA Waste Flow Report 2020

Note: All Districts except Lucas use 2020 data, 2021 data was not available at the time of this report

Comparing to the District's 2018 Plan, the District also achieved Goal 2. The District demonstrated an average 31% diversion rate from 2014 to 2018. The 2018 Plan estimated that the diversion rate would remain relatively steady throughout the last planning period, with slight decreases until 2021 when it would experience small increases. The 2018 Plan projected a diversion rate of 31% in 2032.

As can be seen above, the District has outperformed the projections for the 2018 Plan and reached a diversion rate between 35% and 37% over the previous five years. Collection infrastructure through curbside and drop-off programs as well as hosting many collection events throughout the calendar year is key to higher diversion. Despite the COVID-19 pandemic causing slight decreases in recycling tons collected, the District continued to perform well in the reference year with its diversion rates. In addition to a developed collection infrastructure, focused outreach and education promoting proper recycling methods contribute to the strong diversion rate performance seen above.

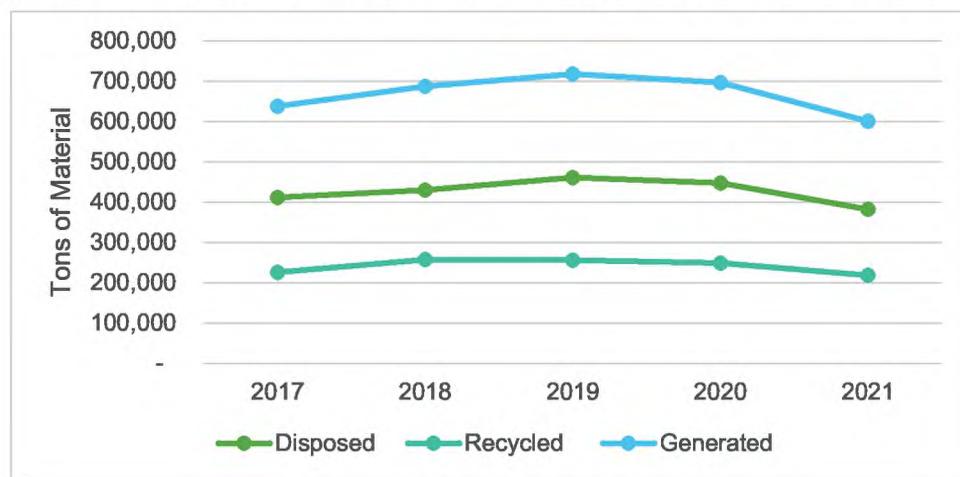
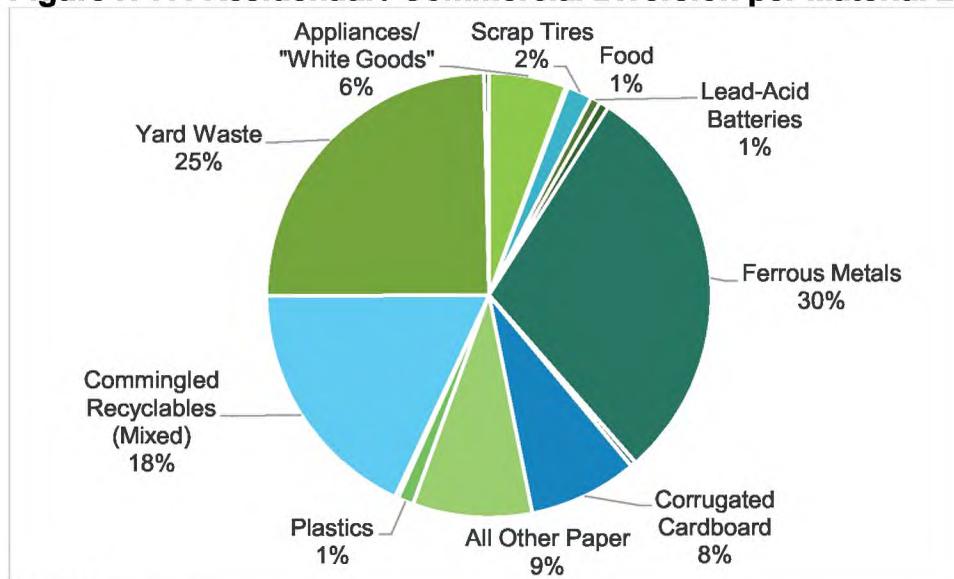
Figure H-7.3 Residential / Commercial Disposal and Diversion Trends

Figure H-7.3 presents the historic amount of waste disposed, diverted, and generated over the past five years. The District has seen a decrease in all three categories of disposed, recycled, and generated waste. There was a significant decrease of almost 100,000 tons from 2020 to 2021. A majority, (65%) of this stems from decreases in waste disposed, but waste diverted also saw decreases over the same time.

Figure H-7.4 Residential / Commercial Diversion per Material 2021

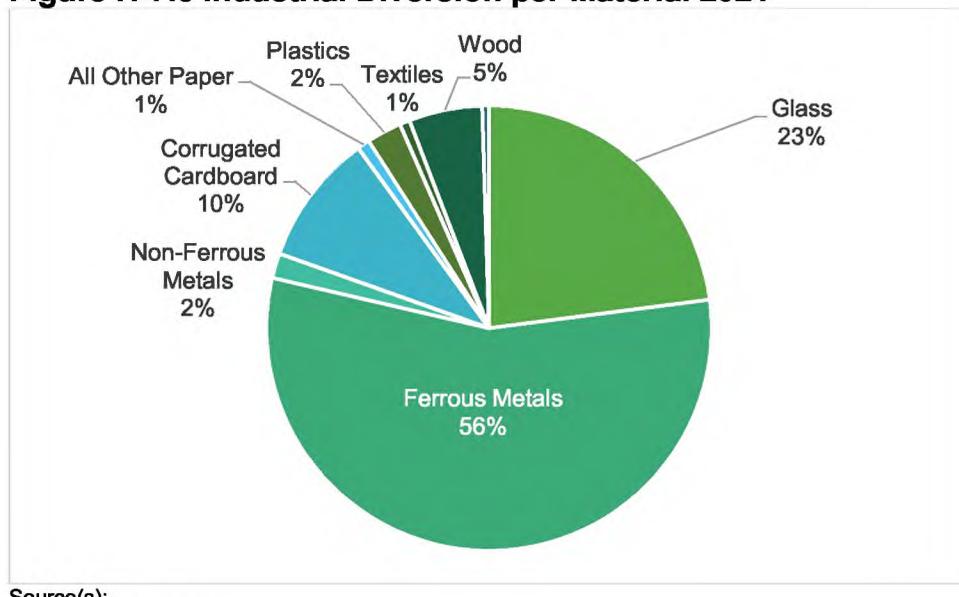
Source(s):
 Annual District Survey
 Ohio EPA Waste and Facility Reports

Figure H-7.4 above presents the residential/commercial diversion by material for the District in the reference year. The information above is from the District surveys and the Ohio EPA commercial collection efforts detailed in Appendix E. The largest percent of materials diverted by the District in the reference year

were ferrous metals (30%), yard waste (25%), and commingled recyclables (18%). Together these three materials make up 73% of the total material diversion waste stream.

The data collection process is very important to help analyze diversion rates for the District. The information above is collected from a variety of sources. The main sources of information are data from recycling processors (45%), compost facilities (23%), curbside recycling (8%), and commercial survey (8%). Other sources of data include Ohio EPA commercial retail data, drop-off recycling, other food/ yard waste, and the Ohio EPA scrap tire data. Data collection efforts through these sources, totals 218,671 tons of diverted material in the reference year.

Figure H-7.5 Industrial Diversion per Material 2021



Source(s):
Annual District Survey
Ohio EPA Waste Reports

Figure H-7.5 presents the industrial diversion per material for the District in the reference year. The information from above is collected from two sources. Industrial survey efforts yielded 35% of the data and the remaining 65% was gathered from other recycling facilities. The industrial survey information above is dependent on voluntary responses and therefore is only as accurate as the respondents.

The top three materials diverted were ferrous metals (56%), glass (23%), and corrugated cardboard (10%). The remaining 11% was split between non-ferrous metals, plastics, textiles, and paper.

b) Conclusions/Findings

The District surpassed Ohio EPA's Goal 2 of 25% residential/ commercial diversion rates every year since 2017. The District also has shown that relative to its peers of similar size and population its diversion rate excels above the benchmarked Districts. The District has strong programs and educational initiatives to help residents recycle more effectively and should continue to build on this strong foundation.

The District can pursue opportunities moving forward to continue exploring effective ways to increase waste diversion. Continuing to foster strong education and outreach is a step the District must continue. Education efforts on what is recyclable, what programs exist, and where to drop off recyclables will help to increase diversion rate.

Increasing outreach and response rate for residential/commercial and industrial surveys would also be successful in improving waste diversion rates. The District only receives 8% of its total diversion data from the residential/commercial survey efforts. Advertising and promoting this initiative annually would improve on data availability and help to achieve the true waste diversion numbers. One possibility is to continue to partner with local media to create articles on correct recycling while also advertising to commercial businesses to take part in the survey.

A major opportunity to pursue is the collection of glass for recycling. While the District does collect glass in many communities, the actual total that gets recycled is slim. Currently, the glass gets taken to a Republic facility where it then gets used as road base at Republic landfills. This is the process of using glass to help support the dirt roads at landfills. The glass that is used for this purpose does not actually get diverted from a landfill. In fact, it still gets put into the ground at the landfill and is never reclaimed after the road has been exhausted.

Not only is the glass not being recycled, but the District is not generating revenue from the sale of their recyclable glass. There are markets that will purchase recycled glass, and, in many cases, buyers are struggling to procure enough for their uses.

The District has been working with consultants and stakeholders such as the City of Toledo, Republic, and the solid waste management district on conceptual plans to create a hybrid MRF to recycle glass, cardboard, trash, and sending out any other commingled recyclable to a third party MRF. The plans were completed in 2020 and the total estimated cost of the MRF is \$3.2 million. The District intends to work with Owens Corning in Illinois on glass recycling and reselling. This would be an additional revenue stream that is not currently utilized for the reasons listed above. In 2021 there was 4,447 tons of glass that was not counted as diverted because it was used as road base. At the national average of \$0.01 per pound for mixed glass, the commodity value is roughly \$88,000.

8. Special Program Needs Analysis

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

The District has funded County Assistance to Lucas County over several years. In 2017, the County was provided with \$171,000 of these funds, and \$91,000 in 2018, but it has not received additional funding.

The County has additional expenditures and allocated funding for Cities and Townships and Public Services, but this is distributed through the pass-through curbside collection services from the City of Toledo. This contract with Republic lasts until 2026 and is included in the District's quarterly fee reports as reimbursements.

The District anticipates the need to allocate additional funds through the other allowable uses application to this section.

9. Financial Analysis

This analysis evaluates the SWMD's current financial position and the next planning period. In addition, this analysis will examine finances regarding funding core programs and programs the SWMD wants to implement.

A. Revenue

The District is funded through a variety of funding mechanisms. The generation fee collected on a per ton of waste generated in District. Contracts negotiated with solid waste facilities in Michigan which remit fees in exchange for the right to receive District waste through designation agreements. The curbside recycling program for the City of Toledo began in 2011, and since the District manages the service contract with Republic for this program, the City provides funds to the District which then pays Republic for their services. In 2014, the District added "Rates and Charges". The District levies a rate and charge on each improved parcel. An improved parcel is a parcel of land that is improved with at least one permanent portable or temporary building.

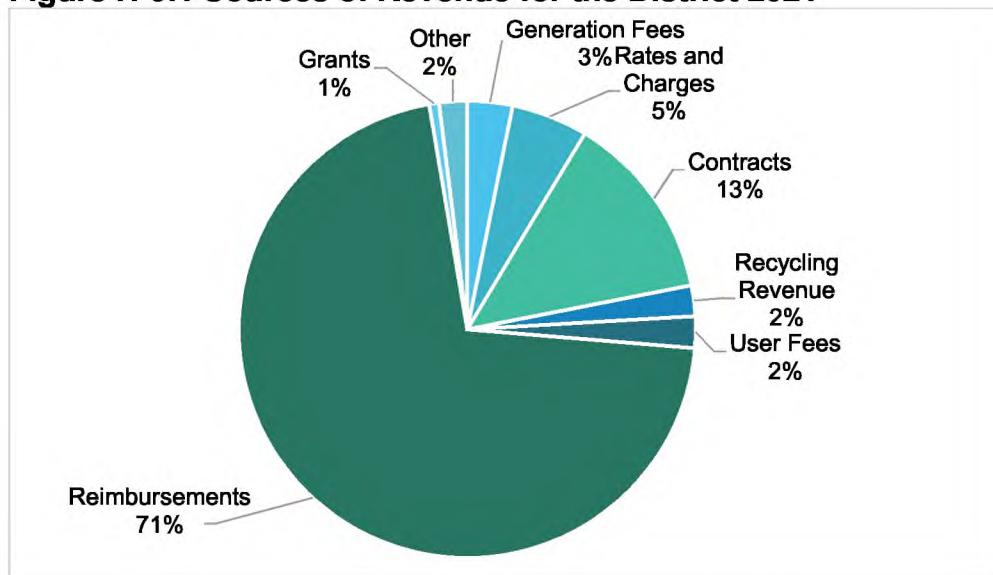
Figure H-9.1 Sources of Revenue for the District 2021

Figure H-9.1, shows the distribution of revenues in 2021.

Historically, as seen in **Figure H-9.2**, revenue from recycling services hit a low in 2020 and rebounded in 2021. The 2020 pandemic could be attributed to this sharp decline as recycling services were hauled/slowed down due to fewer workers and facility capacity. All other revenue is flat showing stability.

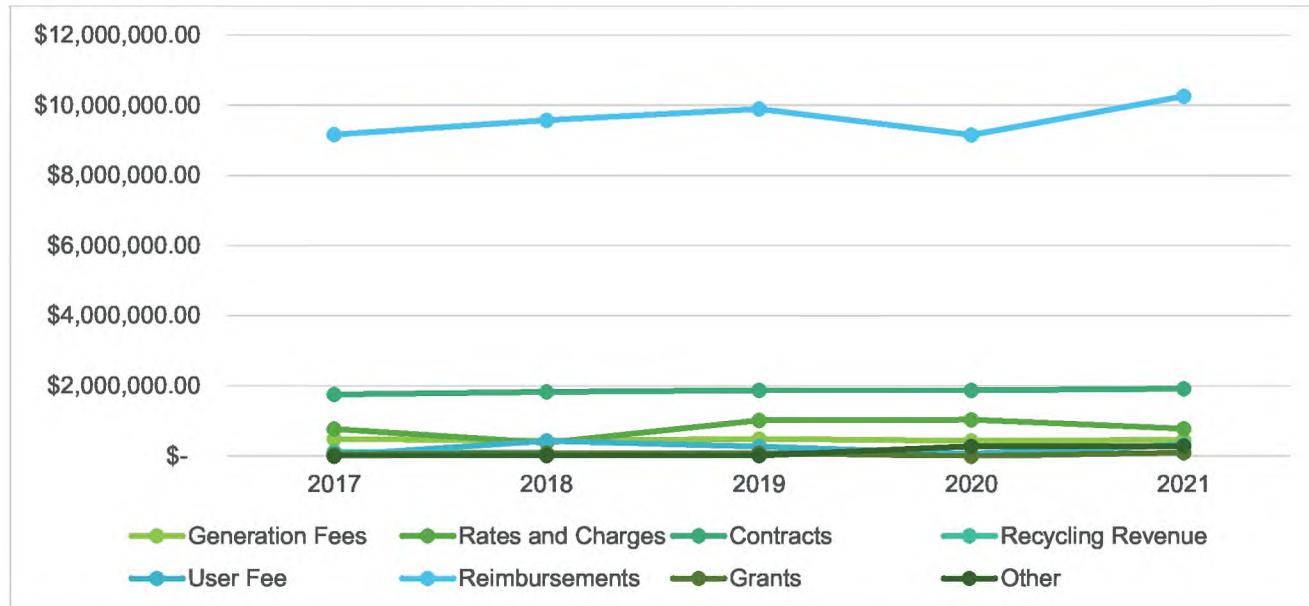
Figure H-9.2 Historical Revenues (2017-2021)

Table H-9.1 Benchmarked District Main Funding Sources

District	Tipping Fees	Generation Fees	Recycling Revenue	User Fees	Disposal Fees	Contract Fees	Other
Ottawa-Sandusky-Seneca (OSS)	0%	0%	1%	0%	22%	73%	1%
Wood	0%	0%	0%	0%	84%	13%	3%
Delaware-Knox-Marion-Morrow (DKMM)	0%	0%	0%	0%	0%	97%	0%
Putnam	0%	16%	18%	0%	0%	0%	0%
Hancock	0%	32%	25%	0%	41%	0%	0%
Lucas	0%	3%	2%	2%	0%	13%	2%

Note: Excludes other funding mechanisms (grants, reimbursements, etc.)

Source: Solid Waste Management District Fee Summary: 2021

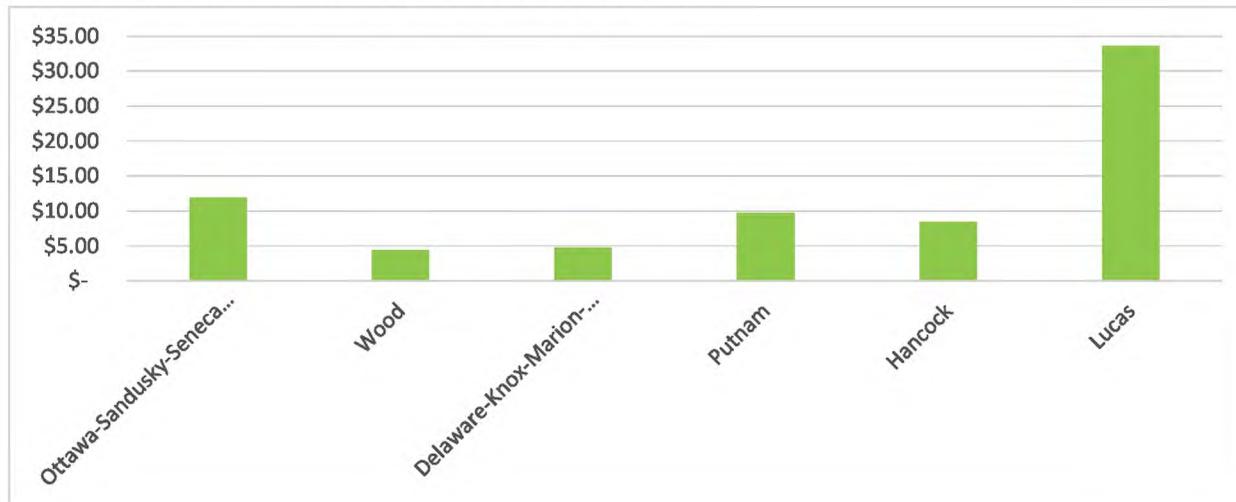
Table H-9.2 Benchmarked District Revenues

District	Population	Revenue	Per Capita Revenue
Wood	131,248.00	\$ 579,659.90	\$ 4.42
Delaware-Knox-Marion-Morrow (DKMM)	377,154.00	\$ 1,811,706.62	\$ 4.80
Hancock	72,359.00	\$ 611,757.56	\$ 8.45
Putnam	34,451.00	\$ 335,085.17	\$ 9.73
Ottawa-Sandusky-Seneca (OSS)	153,725.00	\$ 1,830,873.26	\$ 11.91
Lucas	429,191.00	\$ 14,440,861.98	\$ 33.65

Revenue Source: Solid Waste Management District Fee Summary: 2021

Population Source: 2021 SWMD Disposal, Recycling, and Generation Ohio EPA Report

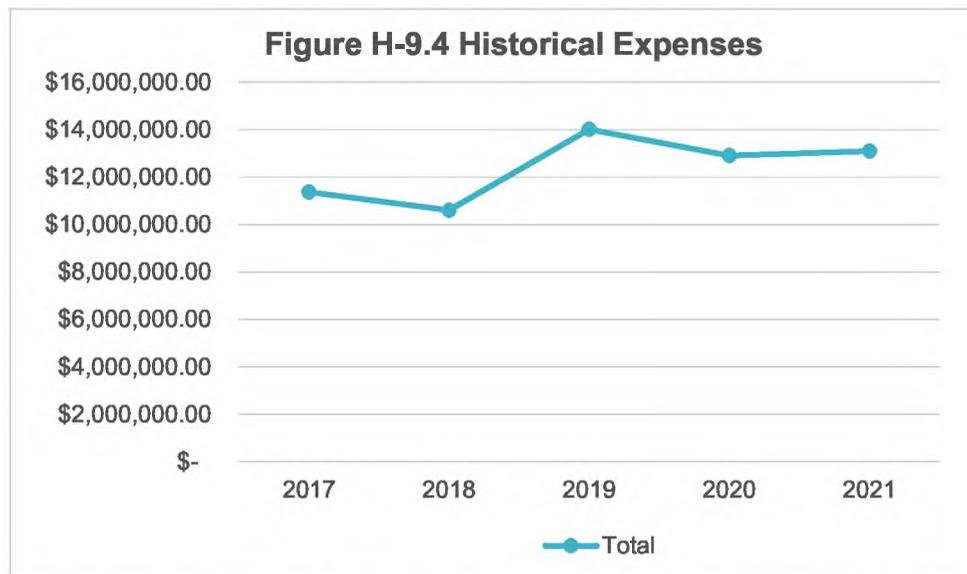
Compared to the surrounding SWMDs, Lucas County reported the highest revenue and per capita revenue in 2021, as shown in **Table H-9.2**.

Figure H-9.3 Benchmarked Revenues Per Capita

Revenue Source: Solid Waste Management District Fee Summary: 2021
Population Source: 2021 SWMD Disposal, Recycling, and Generation Ohio EPA Report

Figure H-9.3 shows an additional view of the surrounding District's revenues per capita, with Lucas County surpassing the other SWMDs.

B. Expenses



Historical expenses from 2017-2021 fluctuated shown in **Figure H-9.4**. Year 2018 dipped to \$10,603,893.63 and peaked in 2019 at \$14,011,938.84.

The District's program expenditures are shown in **Figure H-9.5**. The largest expenses for the District are combined curbside/drop-off, drop-off, and personnel.

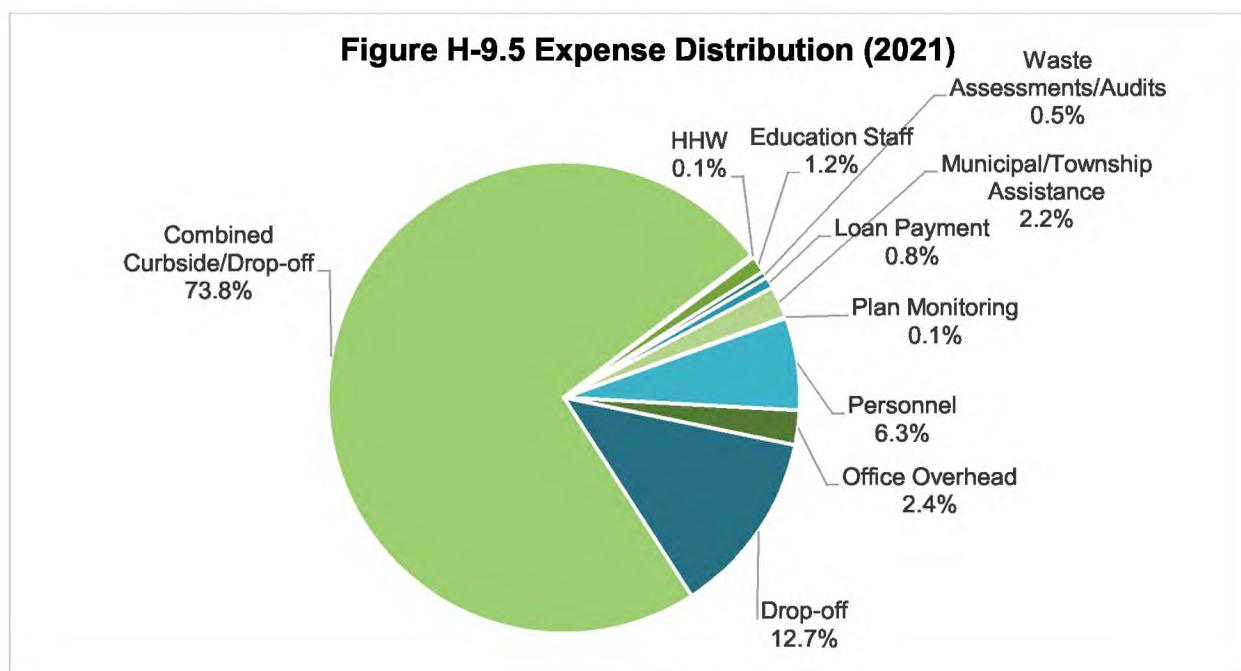


Table H-9.3 Benchmarked Districts Expenses

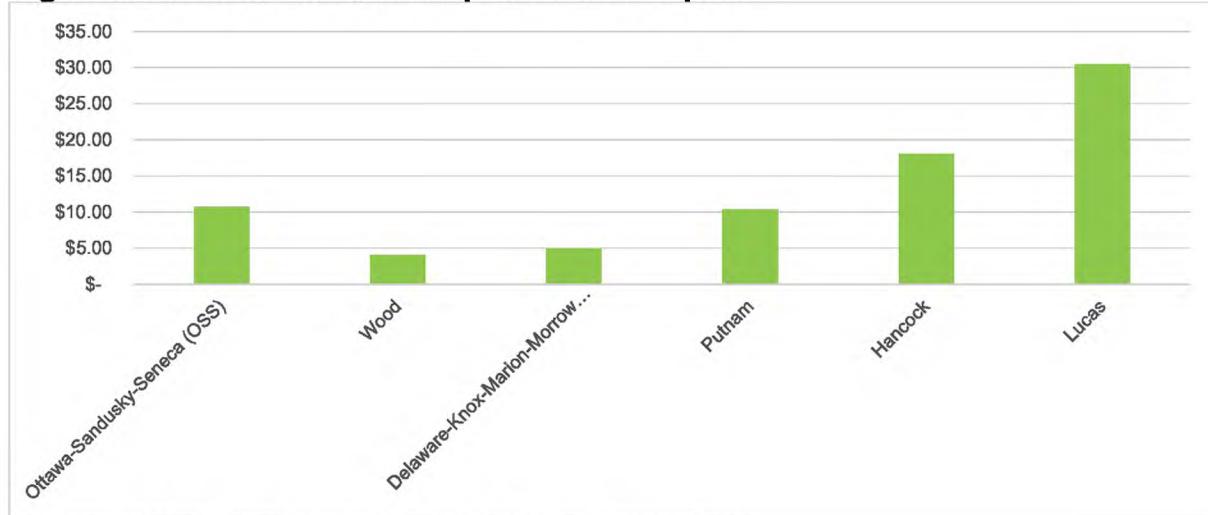
District	Population	Expenses	Per Capita Expenditure
Wood	131,248.00	\$536,504.32	\$4.09
Delaware-Knox-Marion-Morrow (DKMM)	377,154.00	\$1,872,731.67	\$4.97
Hancock	72,359.00	\$1,307,079.93	\$18.06
Putnam	34,451.00	\$356,614.63	\$10.35
Ottawa-Sandusky-Seneca (OSS)	153,725.00	\$1,650,504.72	\$10.74
Lucas	429,191.00	\$13,097,099.07	\$30.52

Source: Solid Waste Management District Fee Summary: 2021

Population Source: 2021 SWMD Disposal, Recycling, and Generation Ohio EPA Report

Compared to neighboring SWMD programs, Lucas County has the highest per capita expenditure, spending \$30.52 per person. Conversely, Wood has the lowest per capita expenditure, paying \$4.09 per person.

Figure H-9.6 shows the benchmarked expenses per capita for Lucas County and neighboring SWMDs. As shown, Lucas has the highest per capita expenditure.

Figure H-9.6 Benchmarked Expenses Per Capita

Source: Solid Waste Management District Fee Summary: 2021

Population Source: 2021 SWMD Disposal, Recycling, and Generation Ohio EPA Report

10. Regional Analysis

a. Evaluation

Waste Impacts

Waste from the District flows to both in and out of state facilities. Of the 18 disposal facilities used in the reference year, nine are located in State and nine out of State. The District sent about 50% of its waste to in State facilities and 50% to out of State facilities. Hoffman Road Sanitary Landfill and Evergreen Recycling and Disposal are the two in-state landfills accepting the most. Hoffman Landfill accepted 36% and Evergreen accepted 13% of total waste disposed. Vienna Junction Landfill located in Michigan accepted about 51%.

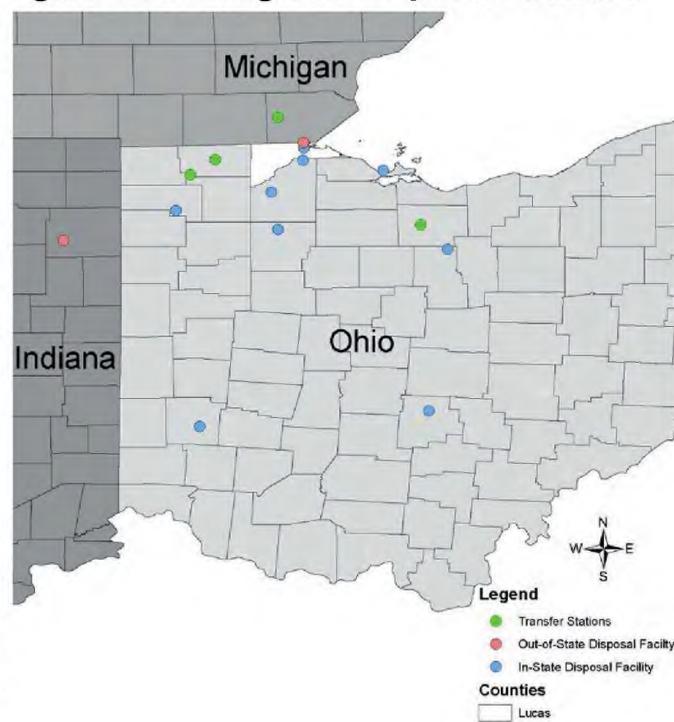
Waste transfer facilities play a role in the collection system for waste disposal. The District used 4 transfer stations in the reference year, 3 are located in State and one is located out of State. Most of the waste transferred by the District was hauled by Stevens Disposal and Recycling in Michigan. This facility accepted nearly 16,000 tons of transferred waste, making up 89% of the total waste transferred. About 11% was hauled by the Archbold Refuse Service Facility in Fulton, Ohio and the remaining less than 0.1% was hauled by Fulton County Solid Waste Facility and Huron County Solid Waste Facility.

Figure H-10.1 Regional Disposal Facilities

A vast majority, 96% of the District's waste, is direct hauled to landfills. As shown in Figure H-10.1, there are a number of landfills within a 75-mile radius of the County. The remaining 4% was hauled by transfer stations before landfilling.

Figure H-10.1 shows a map of the surrounding counties and the landfills and transfer stations used by the District in the reference year.

Access to adequate waste disposal infrastructure and collection systems serves the District and provides a network to respond if a facility becomes unavailable.

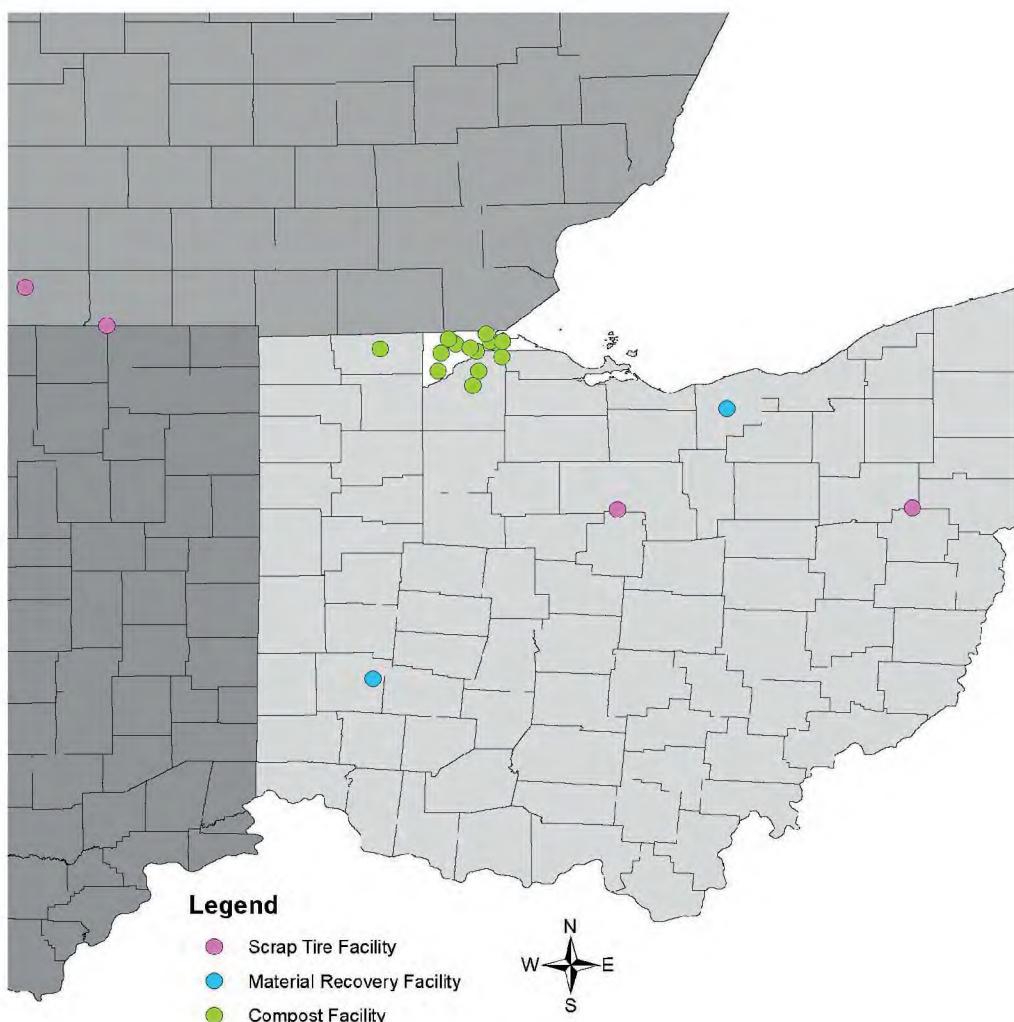


Diversion Impacts

Recycling is an industry like any other and local economic climates play a role in determining whether recycled materials remain in the local economy or are exported elsewhere. When recycled material leaves the household, commercial, or industrial business it begins a journey to become feedstock for material goods. That journey varies depending on the material, its unique characteristics, and process needed to meet market specifications.

Tracing the flow of materials in the reference year, the District used 14 compost facilities, 4 scrap tire facilities, and 2 material recovery facilities (MRF). As shown in Figure H-10.2, the compost facilities are all mostly in-district. The scrap tire facilities and the MRFs are all outside of the 75-mile radius.

Figure H-10.2 Regional Recovery Facilities



MRF processing capacity is lacking in the District. Materials processed at a MRF are being hauled over 75 miles and one of the MRF processors does not recover glass into end markets but rather uses glass as road base at a landfill. A MRF

located in the District may also result in more competitive collection costs for communities. With an in-district MRF the District would have control of where recyclables are marketed. One option to explore is hauling glass to a beneficiation facility to be captured for recovery. Regionally, this could help glass programs in the neighboring counties.

The infrastructure of composting facilities is lacking a large regional presence for managing food waste. There are 2 Class II and one Class III facilities within reasonable transport distance, additional partnerships could be explored. Food waste is heavy its possible more benefits could be realized if a decentralized management system is explored. This type of decentralization is proving successful in cities such as Boston where community garden compost and private composting companies provide infrastructure to support the network of drop-offs and curbside collection opportunities,

b. Conclusions/Findings

The region has adequate capacity and infrastructure for managing trash but has some noticeable gaps in the diversion infrastructure. As a more urban solid waste management district in the region, the District has leverage for recycling contracts and hauling. Potential regional opportunities include:

- Processing of single stream or multi-stream materials is a gap.
- Food waste processing is a gap that could be explored with neighboring districts. A regional facility could lessen financial burdens and be financially attractive but additional feasibility studies would need to be explored.
- Additional data needs to be collected and analyzed to determine if costs of organics collection is preventing the expansion of organics composting.
- Focus strategies to promote source reduction as well as food rescue and on-site/backyard composting options.
- Another option is to develop a regional stakeholder group to explore and attract organic processors to the region. There are successful models for public private partnerships in organic management.
- Scrap tire recovery facilities are scattered beyond the 75-mile radius, there could be opportunity for in-district or regional development.

11. Data Collection Analysis

a. Evaluation

The State of Ohio classifies solid waste by three generation sectors: residential, commercial, and industrial. Solid waste districts are required to quantify the amount of solid waste that all generators' sources 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. The data collection process from beginning to end for each type of generator is described below.

The District was able to achieve the Ohio EPA's Goal 2 of a residential/commercial diversion rate. In the reference year the District diverted 36% of all material generated. The District was also able to divert 75% of all industrial waste generated.

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

Residential

The SWMD gathers data from its residential sector through a variety of sources and programs. Residential recycling tonnages are reported by communities and includes 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 prevent this, the data is cross 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.

Lastly, the data resulting from programs that are sponsored by the District, such as scrap tire collection, household hazardous waste collection, and electronics collection, are included in the residential recycling totals. This data comes from the various organizations or contractors who operate these programs.

Commercial

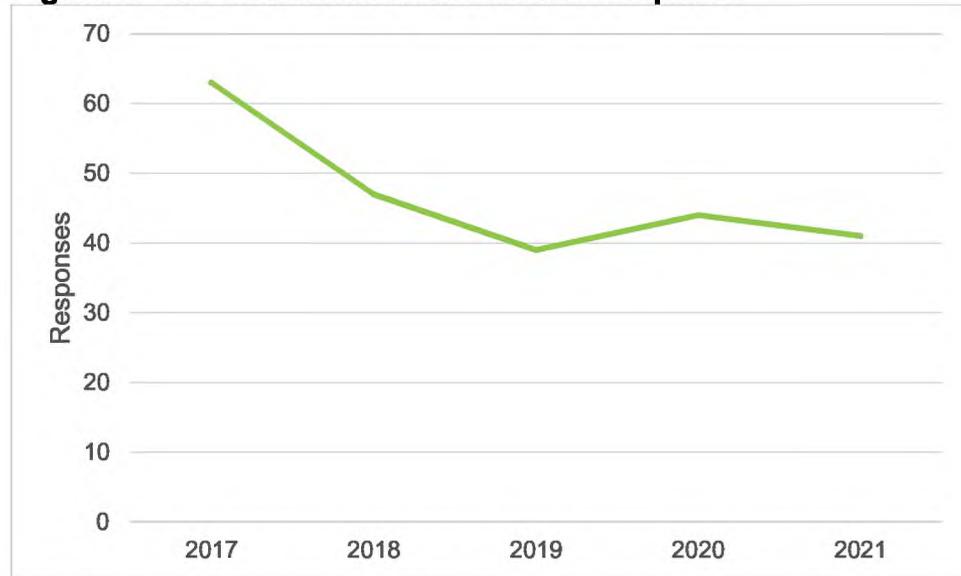
The District uses a multitude of sources to gather data on the commercial/institutional sector. These include the following reports from the Ohio EPA: Material Recovery Facility and Commercial Recycling Data Report, Compost Facility Data Report, Scrap Tire Report, and Facility Data Report. There is a possibility of double counting when using Ohio EPA and District data. To prevent this from occurring, the District meticulously tracks and records information with built in methods to prevent double counting in the collection phase of an Annual District Report or SWMD Plan Update. There have been no reported issues with using the Ohio EPA data for the commercial/institutional sector.

The District conducts commercial business surveys annually. Each year there are multiple options to receive the survey and send it back. There is a hard copy which can be mailed out to respondents and there is also an electronic version of the survey which is available to previous and repeated respondents. Survey recipients are given the option to submit their response online, mail, e-mail, or fax. Commercial businesses under a certain size in terms of number of employees are not sent surveys in order to reduce the scale of the survey effort, and in an effort to capture data from companies more likely to recycle the majority of the waste in Lucas County.

The ReferenceUSA database used to initially compile the list of commercial businesses is a leading provider in business and consumer research. The database listings are typically phone verified and quality checked approximately every 6 months by ReferenceUSA.

The more responses the District receives, the more accurate the numbers will be to the actual recycling numbers. This allows the District to better analyze data and track their progress towards attaining certain goals and how to proceed with future plans for managing waste. Historically, the District has spent considerable time and resources tracking down data and encouraging participation. This has helped to increase and/or maintain the levels of the response rates annually. Allowing participants to respond online has made the process easier and more time efficient as well. Having a central online platform that is used every year also gives them access to prior year's data, allowing them to see progress or address internal issues themselves. Response rates from the last five surveys are listed in Table H-11.1 below.

Figure H-11.1 Residential/Commercial Response



A high of 63 survey participants responded in 2017, since then, the survey responses fluctuate between 39 and 47, averaging about 43.

There are variety of reasons for the fluctuations in responses. Businesses moving or closing, staffing changes, policy changes, and program changes internally are all potential reasons why businesses may stop responding. The District will continue to offer multiple methods for completing the survey to make it as easy and efficient as possible for commercial businesses to respond.

Industrial

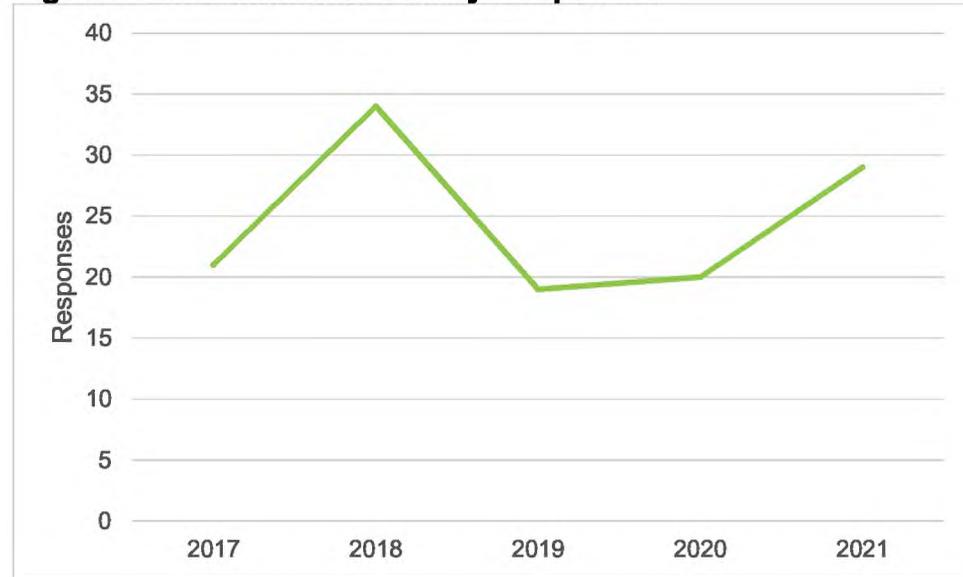
The District gathers data in a similar manner as it does for residential/commercial by surveying the industrial sector businesses. The District uses the same Ohio EPA reports as the residential/commercial sector listed above. An identical survey procedure is done

for the industrial sector. The ReferenceUSA database is used initially to compile the list of industrial businesses.

Industrial businesses under a certain size in terms of number of employees are not sent surveys in order to reduce the scale of the survey effort, and in an effort to capture data from companies more likely to recycle the majority of the waste in Lucas County.

Surveys were sent to operating businesses and employers were contacted by phone and/or e-mail. Figure H-11.2 presents the responses received below.

Figure H-11.2 Industrial Survey Responses



Despite the process used to send and receive the survey being identical, the industrial sector has not historically generated many responses. The District received an average of 25 responses annually over the last five years. The highest number of surveys received was 34 in 2018.

b. Conclusion

The District acquires data from a variety of sources and reports. Data is sourced from recycling processors, curbside recycling, drop-off recycling, composting, Ohio EPA reports, and the annual surveys. All but the annual surveys are done outside of the District's influence either by communities, the Ohio EPA, or facilities. In order to continue to demonstrate diversion the District needs to continue collecting data from all sources as they contribute to the tonnages diverted. Additionally, the more responses and accurate data the District received from the annual surveys, the better the information available becomes.

Methods of increasing responses:

- Acquire or establish a list of businesses operating in the District.

- Advertise and encourage businesses to participate in the annual survey on social media.
- Add a link to the survey during the survey window on the website and social media.
- Emphasize the importance of completing the survey during presentations and educational meetings.
- Follow up with businesses who receive the surveys via e-mail, phone, or letters.

Methods to improve data management:

- Create and maintain a data collection workbook that tracks annual survey statistics like number of surveys sent, responses, response rate, total materials reported, and update annually.

12. Education/Outreach Analysis

The 2009 State Plan goals restructured the education and awareness goals to create minimum standards for outreach programming but still allow for flexibility for localized outreach and education. In addition, the 2009 State Plan refocused the general “awareness” of recycling to changing behavior through outreach. This was maintained in the 2020 State Plan.

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

Under Goal 3 of the 2020 State Plan, each District requires four minimum education programs: a website, a resource guide, an infrastructure inventory, and a speaker/presenter.

Website

a. Evaluation

The District maintains a website at <https://co.lucas.oh.us/749/Solid-Waste-Management>. The website is not an independent webpage. The website for solid waste management is a subsection of the greater website for Lucas County government. The website is structured prioritizing the most frequently searched and sought information first. The landing homepage displays upcoming events

and important dates on its calendar, as well as contact information and a waste wizard search tool for ease of finding where to recycle or dispose of materials.

District solid waste and recycling webpages tout a simple and attractive format. Minimal text and easy to follow links are best practices. ADA Accessibility is an available option. The website has five menu tabs with various information relative to solid waste management: Community and School Support Programs, Business Waste Reduction Assistance Programs, Curbside Recycling/Trash, District Recycling Programs/Information, and Solid Waste Management Plan Updates. Under these menus are more specific information.

The website strongly focuses on District programs, helpful resources, and locations addresses for drop-offs and the transfer station. The District also provides a recycler's list of what is accepted and what is not, as well as where to take difficult-to-manage waste such as HHW and tires.

Lucas County manages the website, and the District has access to add or adjust information as needed. The website is a resource that provides much of the information residents and businesses would require to be familiarized with the District's policies, locations, and statistics on solid waste management.

b. Conclusions

The following is a list of best practices for a District webpage which the District's webpage is implementing.

Webpage Best Practice	District Webpage
Simple, attractive format	✓
Prioritize top 3-5 subjects	✓
Reduced number of menu items on drop-down menus	✓
Includes one-minute or less educational videos	✓
Incorporates a waste wizard search engine	✓

The District maintains an informational website with clear and concise information that any resident or business would be interested in learning. The webpage is user-friendly, with organized tabs and headings to lead users to their desired destination.

One area the webpage could strengthen is the Consider adding more waste reduction tips and guides for homes and alternatives to HHW. The County does not offer website analytics to the District for tracking visitors and frequent searches/visits.

Comprehensive Resource Guide**a. Evaluation**

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

b. Conclusions

Meets the requirements of the 2020 State Plan.

Infrastructure Inventory**a. Evaluation**

The solid waste management infrastructure inventory is located in the solid waste management plan. This is updated every five years, and the District has a link to the most recent plan on the website. Furthermore, the District includes a map of all drop-off recycling locations and links to third-party organizations that dispose of hard-to-manage waste such as electronics, HHW, scrap tires, and yard waste.

b. Conclusions

Meets the requirements of the 2020 State Plan.

Speaker and Presentations**a. Evaluation**

The District partners with Keep Toledo/ Lucas County Beautiful (KT/LCB) for solid waste management. This organization handles all presentations and speaking opportunities for the District.

b. Conclusions

Contacting KT/LCB via the webpage is not direct. On the website users need to look at the recycler's list under the program information tab. The District could add a contact from KT/LCB to the website's home page to more efficiently direct users.

B. Goal 4 Outreach and Education

Following 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 social marketing tools, including social norms, goals/commitments, feedback, prompts, and one-on-one interactions. The District offers the following outreach and education strategies:

- Technical assistance on hard-to-manage and organic wastes
- Community partnerships to post drop-off schedules on both party's websites
- Community education efforts for the correct use of recycling carts

- Recycling Assistance Program
- Public awareness efforts through the District website, newspapers, ads, press releases, and brochures.
- Educational presentations for schools
- Attending community and regional events
- Civic presentation groups on recycling issues
- Newsletters to subscribing businesses and industries
- Commercial and industrial workshops
- Business and industry outreach efforts via e-mail
- Social media presence

The District uses many forms of outreach and education to teach and inform residents how to properly manage and divert waste. In many cases, the District and KT/LCB collaborate on programs. 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.

Target audience – Residential Sector

The District has several programs targeted toward this audience sector and deploys various outreach strategies and marketing collateral. The website is robust focused on helping residents recycle. With an easy, user-friendly layout that includes helpful links, FAQs, and contact information, the website is a great educational tool the District continues to use.

- 1) Household Hazardous Waste (HHW): The District uses the website, flyers, and social media to inform residents of available outlets. Outreach is focused on education and awareness. The District could consider adding a component that focuses on minimal purchasing of HHW or alternative/green cleaning products to supplement the HHW strategies. Teaching reduction and avoidance by educating and showing other alternatives. Once the content is developed it should be incorporated in the marketing collateral, social media, and website.
- 2) Drop-off: The District uses the website, flyers, and social media to inform single family and multi-family housing units to the location of available outlets. Flyers and signage on the containers list acceptable materials using words and pictures. The District maintains signage on all Drop-Off containers and sites. Graphics are used to promote proper recycling and are consistent across outreach collateral used. The District uses standardized wording on education materials. When used, water bill inserts reach a large audience .
- 3) Curbside Collection: The District partnered with KT/LCB to help educate residents and communities about proper recycling methods. KT/LCB continues the Correct Recycling Campaign which focuses on curbing

contamination. The District conducted a baseline audit of curbside recycling in 2016 and found 24% contamination rate. The campaign, placed stickers on totes, used oops tags, developed short videos for social media, conducted workshops, and passed out information booklets. This is an ongoing education campaign incorporating behavior change tactics each year since the campaign began. Additional strategies used are press releases, in-person and virtual workshops, media interactions,

- 4) Multi-Family: Direct mail campaigns and the website listing drop-off locations and materials accepted has been the main approach to multi-family housing. The District planned a targeted survey of residents and property management but have not been able to conduct those to date.
- 5) Scrap Tires: The District advertises tire retailers who will accept scrap tires on its website and on the Recycler's Guide that gets mailed out to residents.
- 6) Electronics: The District tries to publicize electronics collection at Engage Toledo events, drop-off sites, offices, and their website by including the local businesses and organizations that accept electronic waste. Paper flyers are also available to the public.
- 7) Lead-Acid Batteries: The District uses the website, flyers, and social media to inform residents of local businesses and organizations that accept batteries.

The District maintains Facebook, Instagram, Twitter, and LinkedIn accounts that all get updated frequently with topics like news announcements, collection events, and educational tips. Collectively, the District's social media presence reaches 3,200 people. The District uses these platforms to extend its online reach further and promote proper recycling.

KT/LCB's full-time education specialist conducts presentations to the public. In 2021, 43 hands-on exhibits were conducted, reaching over 1,000 residents, and one online family activity served 31 residents.

In-person engagements are education-based and are designed to promote best practices in managing waste for residents and inform residents of common misconceptions, mistakes, and solutions. As described above, the District attempts to participate in many educational activities. For example, in 2021, the District assisted or organized 72 events to promote recycling education and awareness.

Target Audience: Commercial / Institutional Sector

Commercial sector entities are defined as commercial businesses, multi-family 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.

The District has several programs targeted toward this audience sector and deploys various outreach strategies and marketing collateral. The website has a menu and drop-down for business waste reduction assistance programs. The site is easy to navigate and includes links to resources. One-on-one outreach with businesses to help apply for Market Development grants is handled directly by the District.

- 1) The partnership with KT/LCB assists by providing presentations and workshops typically reaching over 1,000 individuals annually.
- 2) The District's role serving on the Lucas County Sustainability Commission and allocating some funding to the Commission expands outreach to this audience. The Toledo-Lucas County Sustainability Commission is a group of representatives from local businesses, governments, and non-profit organizations that work to promote and educate with regard to sustainability issues in the Lucas County region. This group created a Sustainable Business Recognition program and recognized businesses taking steps to reduce their negative impact on the environment, while also being a social responsible business.

An option for those interested in the program is to have a free sustainability assessment conducted. This assessment is provided in partnership with the Lucas County Solid Waste Management District and the University of Toledo Business Waste Reduction Assistance Program (BWRAP). \

Target Audience: Schools

The District has several programs targeted toward this audience sector and deploys various outreach strategies and marketing collateral. The District deploys a more direct marketing approach with one-on-one conversations. An example of this the contact with administrators to set up and service School Paper Recycling Collection Programs and other new services.

KT/LCB reaches this sector using the following actions/programs.

- a. The District and KT/LCB provide a lending library that houses a wide variety of environmental education books, videos, activities, and other informational resources available to educators throughout the District. This program was advertised on both party's websites.
- b. The full-time education specialist gives school presentations throughout the year. These presentations stimulate learning and critical thinking, creating additional questions, interests, and discussions. KT/LCB developed and implemented a formal survey to gauge the effectiveness of this outreach. Tours and field trips are also conducted. KT/LCB shows success by maintaining detailed information about tours and field trips to share educator contacts.

As a result of the COVID-19 pandemic, many presentations and in-person activities were canceled. In the reference year, the District aimed to increase the number of presentations given based on District priorities, single-stream recycling, and contamination. The District successfully gave 25% more presentations in 2021 than in 2020. However, these numbers are still below the annual averages before COVID-19. As the effects of the pandemic continue to wane, the goal as we advance will be to return to historical averages.

- c. The District also directly connects with the University of Toledo to coordinate two drop-off sites that collect cardboard / mixed paper, commingled plastic, metal, glass, and cans.

The District has effectively targeted recycling and recycling education in schools and universities. The District provided and serviced 61 cardboard/ mixed paper dumpsters and 13 bottle/can recycling dumpsters for schools in the reference year and two drop-off sites at the University of Toledo. These contributed to over 5,000 tons of fibers, and 3,400 tons of bottles and cans the District collected across its drop-off sites. Unfortunately, due to the Hauler's collection method, the District cannot identify what percent of the total came from the school drop-off sites.

There are still schools to target and reach to gauge interest and help set up recycling programs and offer assistance with developing contracts.

Target Audience: Industrial Sector

Industries in Lucas County demonstrate a high level of recovery year after year. The District has traditionally provided little assistance to this sector. The District should continue to promote and help when requested. This sector saw a significant decrease in diversion rate in the reference year. Falling from 94% to 78% due to a substantial increase in industrial waste disposed of. A considerable rise in out-of-state disposal caused the change; nearly 33,500 tons of material were disposed of at Vienna Junction Landfill in Michigan. The District should monitor this trend to conclude if this is an outlier year or if programmatic changes are required to help industries recycle more materials.

The District continues to partner with KT/LCB on education and outreach activities for this sector. The same activities offered for the commercial sector are also offered to the industrial sector.

Target Audience: Community and Elected Officials

The District deploys one-on-one outreach to community and elected officials. The District is a resource for the communities. The District serves as an advocate for political subdivisions while negotiating improved and expanded services. These services are vital to the longevity of programs and maintaining local infrastructure. The assistance provided to communities is within the context of existing infrastructure in Lucas County. Technical assistance with contracts focuses on creating opportunities

that change the behavior of residents by helping municipalities expand the services available to them.

13. Recyclable Material Processing Capacity Analysis

This analysis evaluates the existing capacity for processing recovered materials. The research will determine if there is adequate processing capacity for material recovery facilities (MRFs) in the District and surrounding areas. Per the definition a, MRF is a type of facility used for separating, sorting, or processing waste to segregate materials with value (e.g., aluminum, glass, plastic) from the trash. The two types of MRFs are clean MRFs and dirty MRFs. This analysis will focus on clean MRFs where source-separated recyclables are processed.

a. Evaluation

Lorain County Resource Recovery Complex

Republic Waste owns and operates the Lorain County Resource Recovery Facility. In 2013, the facility underwent a \$15 million upgrade, which included updating the technology with optical sorters, conveyors, screens, magnets, and balers to recover recyclable materials from residents, institutions, and commercial and industrial businesses. The facility has capacity to process up to 150,000 tons a year, and can operate at 35 tons per hour.

The District collected container stream is currently hauled to Lorain for processing.

Rumpke Recycling- Dayton

Rumpke's Dayton, Ohio facility pre-sorts and transfers recyclables. This facility sorts out inbound materials, screening glass to send to a processor, sorting & baling cardboard, and sending the other materials to the Center City MRF for further processing.

Gateway Recycling and Waste Reduction Inc

Gateway Recycling and Waste Reduction Inc is a single-stream and multi-stream MRF. This facility processes paper, plastic, and metals. The District collects drop-offs in a dual stream system. The fiber is currently delivered to Gateway Recycling.

Lucas County Solid Waste

In 2020, the District installed a new MRF compactor system at the Transfer facility on Edwin Dr. These units continued to perform as intended and were fully operational regarding Phase 1 implementation of the District MRF. Throughout 2021, the District worked with its consultants and stakeholder group (City of Toledo, Republic, and District) on finalizing conceptual plans and designs of the new Hybrid MRF.

The County is now pursuing a full MRF instead of a Hybrid MRF. The County is remediating the Brownfield South Avenue and Kuhlman Drive Fill Area Property to build a MRF in Toledo, OH. Lucas County received a Brownfield grant to assess the

property and is in the process of acquiring a \$7 million grant to cover the remediation of the property. The County plans to start remediating the landfill property within 18 months once they receive approval. The District's material is currently transported 2 hours away 7-days a week to Oberlin County where it is processed. The new MRF will be in the city limits of Toledo and the County will have a commitment to bring the material to the MRF to be processed.

State Paper and Metal

This facility, located in the County, provides processing capacity for source-separated metals and paper materials.

ReCommunity

ReCommunity is a single stream MRF located in Ann Arbor, Michigan. The facility is publicly owned and was privately operated by ReCommunity up until 2017. Upon closing the MRF, Ann Arbor hauled the recyclables to Rumpke in Ohio for processing. When the facility was privately operated by ReCommunity the District hauled the container stream for processing. After closure the District marketed materials elsewhere.

In 2021 the MRF located in Ann Arbor came back online after capital investments and an agreement with Recycle Ann Arbor, a non-profit, to operate. The MRF can process 35,000 to 40,000 tons of recyclables annually using a single shift. Another shift would allow for additional processing capacity.

Table H-13.1 identifies the MRFs used by the SWMD in 2021.

Table H-13.1 MRF Processing Capacity

Source(s): Rumpke Recycling-Dayton and Ohio EPA Ohio's Material Resource Recovery Facilities (2019)

Facility Name	County	State	Type of Facility	Weight of material Accepted from SWMD (tons)
Lorain County Resource Recovery Complex	Lorain	OH	Single Stream MRF	15,651
Rumpke Recycling Dayton	Montgomery	OH	Presort and transfers Single Stream Glass beneficiation facility	50
Gateway Recycling and Waste Reduction Inc	Lucas	OH	Single Stream & Multi Stream MRF	Not reported
Lucas County Solid Waste	Lucas	OH	Multi Stream MRF	
State Paper and Metal	Lucas	OH	Multi Stream MRF	
Total				15,701

Source(s): Rumpke Recycling-Dayton and Ohio EPA Ohio's Material Resource Recovery Facilities (2019)

b. Conclusions/Findings

There is a lack of single stream MRFs in the region. Recyclable material processing located in the county would provide convenience and infrastructure as well as more control and management. It could also open opportunities to explore partnerships to reach a greater economy of scale.

An in-County MRF could also open expanded material collections such as Styrofoam, mixed rigid plastics, and flexible film (e.g., plastic bags) to address the gaps in residential and commercial recycling.



APPENDIX I

CONCLUSIONS, PRIORITIES, AND PROGRAM DESCRIPTIONS



APPENDIX I. Conclusions, Priorities, and Program Descriptions

The District's 2018 Plan was developed to meet the State of Ohio 2009 State Plan goals. To fulfill the directives in Ohio Revised Code Section 3734.50, the SWMD's Plan must demonstrate having strategies and programs in place to address all of the required goals. This 2024 Plan is prepared to meet compliance with the State of Ohio's 2020 State Plan. In accordance with the 2020 State Solid Waste Management 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 percent of the solid waste generated by the residential/commercial sector.

Goal #3

- The SWMD shall provide the following required programs: a web site; a comprehensive resource guide; an inventory of available infrastructure; and a speaker or presenter.

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.

A. Actions and Priorities

1. Actions

Appendix H evaluates the SWMD's performance of programs and strategies in offering and maintaining services. Evaluation of these programs involves determining whether the performance observed was expected or desired. If these strategies did not perform as anticipated, suggestions were presented to improve and strengthen programs and performance and increase effectiveness.

The suggested areas of improvement do not bind the SWMD to commit to every action listed. SWMD program decisions during the planning period require valuable input and are depicted in Appendix H. To draw conclusions, the policy committee used the program evaluations detailed in Appendix H. These conclusions represent the understanding of the District's structure, strengths and weaknesses, operations, existing programs, outstanding needs, and available resources. See Appendix H for actions that could be implemented.

2. Priorities

The District staff and KT/LCB engaged in a couple strategy sessions to focus on assessing current programs and improving progress. Existing programs and future opportunities were listed in a matrix to prompt brainstorming and collaboration. Discussion revolved around shared vision and mission to continue developing solutions that align to move forward. The opportunities served as a foundation for building the list of priority short, mid and long-term actions listed in the table below.

Short Term	Action
Curbside	Expand non-subscription curbside programs.
Drop-off	Complete signage improvements.
Commercial/Institutional	Continue focus on commercial businesses, develop list for type size, and outreach, work with businesses to find out barriers to recycling and how recycling can be implemented. Complete school equipment inventory.
Material Recovery Facility	Seek public-private partnerships for design, construction, and operations. Continue to seek grants.
Education	Continue with Correct Recycling Campaign and analyze metrics for impacts and behavior change.
Food Waste	Expand collection opportunities in District. Develop a food waste strategy for county to follow food waste management hierarchy.

Mid Term	Action
Curbside	Explore stronger PAYT for those communities with PAYT programs.
Drop-off	Continue collecting data to build the utilization study to right-size the program.
Commercial/Institutional	Continue to expand into school cafeteria waste.
Education	Boost participation in curbside programs via education/outreach. MRF campaign (Outreach Priority)
District Grant	Create a grant program to support infrastructure gaps (collection, processing, end markets).
Market Development	Engage (possibly lead) in market development for scrap tire recovery in this part of state. Possible co-location at the District site.

Long-Term	Action
County Wide Zero Waste	Explore county wide Zero Waste program.
Landfill Bans	Explore policy such as landfill bans.
Extended Producer Responsibly (EPR)	Explore Extended Producer Responsibility (EPR).

Most of the existing programs/strategies being implemented address these priority areas. When a gap was recognized elements of the priority actions are webbed into the programming. This Appendix I describes the programs/strategies the District is planning to implement in this planning cycle.

B. Program Descriptions

Residential Recycling Infrastructure

Non-Subscription Curbside Recycling

ID	Name	Start Date	End Date	Goal
NCS1	Maumee City	Ongoing	Ongoing	1 and 2
NCS2	Sylvania City	Ongoing	Ongoing	1 and 2
NCS3	Toledo City	Ongoing	Ongoing	1 and 2
NCS4	Waterville City	Ongoing	Ongoing	1 and 2
NCS5	Holland Village	Ongoing	Ongoing	1 and 2
NCS6	Ottawa Hills Village	Ongoing	Ongoing	1 and 2
NCS7	Monclova Township	Ongoing	Ongoing	1 and 2
NCS8	Whitehouse Village	Ongoing	Ongoing	1 and 2
NCS9	Waterville Township	Ongoing	Ongoing	1 and 2

In 2018, single-stream non-subscription curbside recycling services to Waterville City, Holland Village, Maumee City, Monclova Township, Oregon City, Ottawa Hills Village, Sylvania City, Toledo City, Waterville Township, and Whitehouse Village. Whitehouse

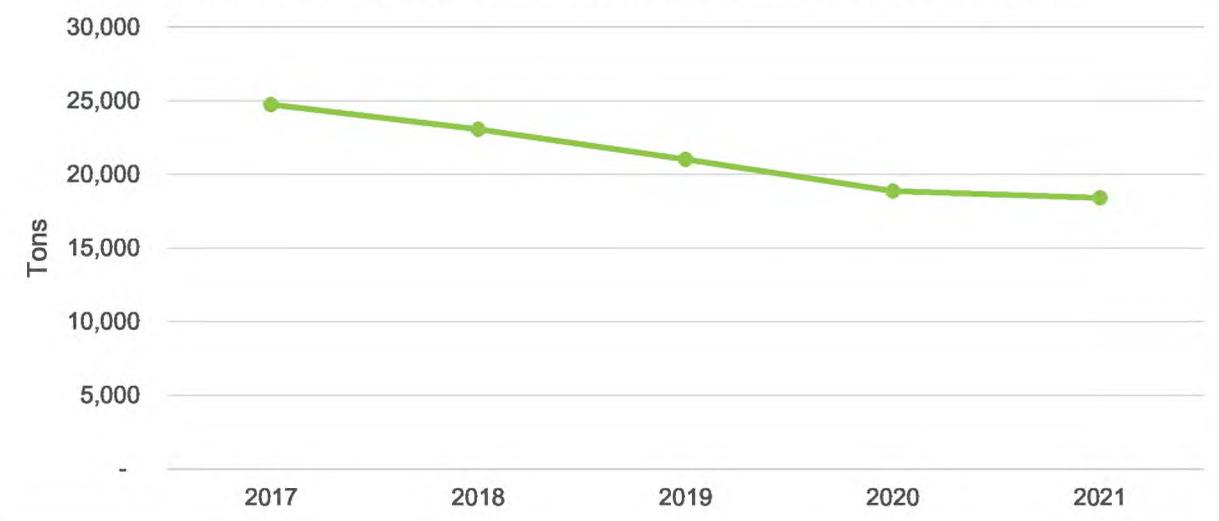
Village started a non-subscription curbside recycling program in 2018. The District obtained a special assistance grant from the Ohio EPA to implement a "Correct Recycling" campaign to reduce contamination in the City of Toledo's curbside program and other District-sponsored recycling opportunities. The campaign was advertised through mailing, signs, billboards, website notifications, in-person presentations, Facebook ads, and more.

In 2019, Oregon City curbside recycling stopped operating. Waterville City and Holland Village signed a contract with a new hauler in May 2019.

In 2020, Waterville Township signed a contract with a new hauler. COVID-19 affected the curbside recycling tons and became more contaminated from people using their recycling bins as a second trash bin while working from home.

In 2021, there were five cities, three villages, and two townships that offered non-subscription curbside recycling services. These ten political jurisdictions are listed above. In addition, three political jurisdictions, Waterville City, Holland Village, and Maumee City, provide a volume-based billing structure that allows residents to have the option of a wheeled cart, bin, or bag. The District connected with one multi-family housing building to become a part of the City of Toledo's curbside recycling program. Collectively these jurisdictions diverted 18,402 tons of material through a mix of biweekly and weekly collections contracted through a hauler. Materials accepted include cardboard, aseptic containers, mixed paper, plastic bottleneck containers, glass, and steel/tin/aluminum cans.

Figure I-1. Historical Non-Subscription Curbside Recycling



Target for Next 5 Years: Continue through planning period.

Subscription Curbside Recycling

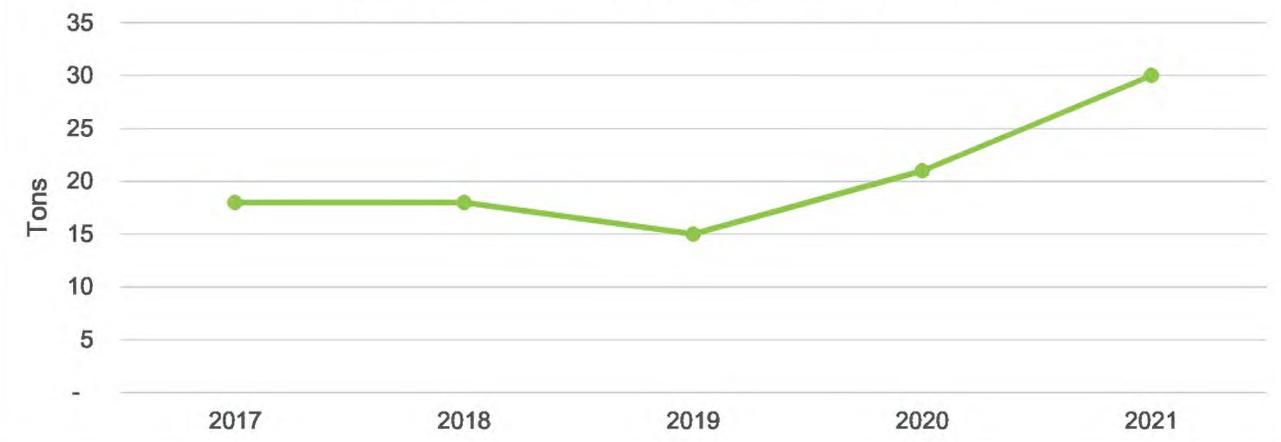
ID	Name	Start Date	End Date	Goal
SC1	Berkey Village	Ongoing	Ongoing	1 and 2
SC2	Harbor View Village	Ongoing	Ongoing	1 and 2
SC3	Harding Township	Ongoing	Ongoing	1 and 2
SC4	Jerusalem Township	Ongoing	Ongoing	1 and 2
SC5	Spencer Township	Ongoing	Ongoing	1 and 2
SC6	Springfield Township	Ongoing	Ongoing	1 and 2
SC7	Swanton Township	Ongoing	Ongoing	1 and 2
SC8	Sylvania Township	Ongoing	Ongoing	1 and 2
SC9	Washington Township	Ongoing	Ongoing	1 and 2
SC10	Providence Township	Ongoing	Ongoing	1 and 2
SC11	Richfield Township	Ongoing	Ongoing	1 and 2

In 2018, single-stream subscription curbside recycling services operated in Berkey Village, Harbor View Village, Harding Township, Jerusalem Township, Spencer Township, Springfield Township, Swanton Township, Sylvania Township, Washington Township, and Providence Township. In 2018 one new subscription curbside recycling service was added in Richfield Township.

In 2021, 11 political jurisdictions offered single-stream weekly subscription curbside recycling services. Materials accepted include paper, cardboard, glass bottles/jars, plastic bottles/jugs, metal cans, and cartons. All curbside materials were collected in either a bin or a cart.

Jerusalem Township changed to non-subscription curbside in 2022.

Figure I-2 Historical Subscription Recycling



Target for Next 5 Years: Explore non-subscription curbside services.

Full-Time, Urban Drop-Offs

ID #	Name	Start Date	End Date	Goal
FTU1	City of Oregon Municipal Complex	Ongoing	Ongoing	1 and 2
FTU2	City of Oregon, Maumee Bay State Park	Ongoing	Ongoing	1 and 2
FTU3	Eastern YMCA - Oregon	Ongoing	Ongoing	1 and 2
FTU4	Maumee, Lakewood Greenhouse	Ongoing	Ongoing	1 and 2
FTU5	Oregon City, Pearson Metropark	Ongoing	Ongoing	1 and 2
FTU6	Ottawa Hills Village	Ongoing	Ongoing	1 and 2
FTU7	Springfield Township, Fire Station 2	Ongoing	Ongoing	1 and 2
FTU8	Springfield Township, Fire Station 3	Ongoing	Ongoing	1 and 2
FTU9	Springfield Township, Township Hall	Ongoing	Ongoing	1 and 2
FTU10	Sylvania - Kroger	Ongoing	Ongoing	1 and 2
FTU11	Toledo - Fassett St.	Ongoing	Ongoing	1 and 2
FTU12	Toledo, Arrowhead Fire Station	Ongoing	Ongoing	1 and 2
FTU13	Toledo, Hoffman Rd Landfill	Ongoing	Ongoing	1 and 2
FTU14	Toledo, Jewish Community Center/YMCA	Ongoing	Ongoing	1 and 2
FTU15	Toledo, Kroger	Ongoing	Ongoing	1 and 2
FTU16	Toledo, Kroger	Ongoing	Ongoing	1 and 2
FTU17	Toledo, Kroger, Suder Ave.	Ongoing	Ongoing	1 and 2
FTU18	Toledo, Wildwood Metropark	Ongoing	Ongoing	1 and 2
FTU19	UT Medical College	Ongoing	Ongoing	1 and 2
FTU20	UT Plant Operations	Ongoing	Ongoing	1 and 2
FTU21	Waterville City	Ongoing	Ongoing	1 and 2
FTU22	Waterville City, Kroger	Ongoing	Ongoing	1 and 2

The District services 31 drop-off locations, and locations collect materials in a single stream and accept:

- Mixed paper
- Cardboard
- Plastic bottles and jugs

- Metal cans
- Glass bottles and cans

All 31 locations are available full-time, 40 hours per week, and displayed on the District's website to inform residents about specific location information. The website also indicates what materials are accepted at each drop-off location and the hours of operation.

The District owns the recycling containers. The District's drop-off containers have a capacity of 8 cubic yards. Some sites have multiple containers based on the availability of space and the volume of materials typically collected at each location. High-volume sites are collected daily, and lower-volume sites are managed twice weekly. District staff identifies any issues during each route or during routine inspections, such as problems with overflow or dumping, and reports to the District. The District's phone number is also listed on the drop-off recycling containers for residents to notify the District regarding any problems or issues. The District is confident that drop-off containers are adequately sized. The District changes drop-off locations and pick-up schedules based on the internal reports, which may indicate that too much or too little capacity is becoming an issue at a particular site.

The District operates this program, employing six drivers and one laborer. The District's operations and maintenance plan aims to keep an inventory of four to five front-loading packer trucks. To service the drop-offs, generally, three trucks are used each day for the collection routes. Trucks are used approximately 10,000 hours each year. In 2019, the District purchased a recycling compactor and three transfer trailers.

The District serviced 22 full-time urban drop-off locations in 2021. Collectively, the drop-off program collected 8,439 tons of material to recycle in 2021.

Target for Next 5 Years: Continue through the planning period.

Part-Time, Urban Drop-offs

The District does not provide any part-time urban drop-off locations.

Full-Time, Rural Drop-offs

ID #	Name	Start Date	End Date	Goal
FTR1	Harbor View Village	Ongoing	Ongoing	1 and 2
FTR2	Jerusalem Township	Ongoing	Ongoing	1 and 2
FTR3	Providence Fire Dept.	Ongoing	Ongoing	1 and 2
FTR4	Providence Township	Ongoing	Ongoing	1 and 2
FTR5	Richfield Township	Ongoing	Ongoing	1 and 2
FTR6	Secor Metro Park (Sylvania)	Ongoing	Ongoing	1 and 2
FTR7	Spencer Township	Ongoing	Ongoing	1 and 2

FTR8	Swanton Township	Ongoing	Ongoing	1 and 2
FTR9	Whitehouse Village	Ongoing	Ongoing	1 and 2

Source: 2021 Lucas ADR

The District provided and serviced 9 full-time rural drop off locations in the reference year.

Target for Next 5 Years: Continue through the planning period.

Residential Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
Curbside Recycling Technical Assistance	2018	Ongoing	1 and 2

The District provides assistance to municipalities which includes Pay-As-You-Throw, contract assistance, consortium, RFP development assistance, contract development assistance, contract management assistance, etc. The District provides technical assistance to any community upon request. This technical assistance that is provided to communities can include but is not limited to assisting with service provider contracts for trash, recycling, and yard waste services, bundling multiple services together and pay-as-you through (PAYT) assistance. The District will provide technical assistance to cities, villages or townships that are interested in implementing a curbside recycling program.

The District met with Sylvania Township and Springfield Township in 2018 and 2019 to determine the feasibility and plan for creating non-subscription curbside recycling programs in the communities. The District targeted to hold a special consortium meeting in 2018 with communities.

In 2020, Waterville continued this plan and started offering non-subscription recycling. The District also met with Monclova Township and helped them implement a contract with Republic. The District also met with Spencer Township who ultimately decided to go forward without the District.

Name	Start Date	End Date	Goal
Engage Private Sector to Develop MFH Recycling Solutions	2021	Ongoing	1 and 2

The District may contact private haulers serving Lucas County and solicit input regarding the obstacles to providing greater recycling services for this sector. The District may also solicit input from property management companies regarding recycling services are their locations based on the targeted survey results discussed above. The District may use this information and other sources of information to facilitate the provision of recycling services through contracting with the private sector.

In May 2021, the District connected with one multi-family housing building to become part of the City of Toledo's curbside recycling program.

Target for Next Years: Continue to pursue curbside in MFH communities through the planning period.

Name	Start Date	End Date	Goal
Drop-Off Recycling Publicly Available Sites	2018	Ongoing	1 and 2

Determine Appropriate Quantity and Location of Drop-Off Sites

The District continues to determine the appropriate number and location of drop-off sites as needed throughout the planning period. This ongoing evaluation is expected to help allocate District resources more efficiently, and may result in moving some sites, eliminating sites, adding sites, or increasing the number of containers at some locations. This ongoing evaluation will also identify problematic sites for contamination, littering and theft. This ongoing evaluation will be conducted, as needed, to ensure an effective delivery of drop-off services is being achieved.

In 2018, 4 drop-offs were added, and 1 public drop-off was eliminated. In 2019, 4 drop-offs were added, and 1 public drop-off was eliminated. In 2020, 2 drop-offs were added, and 1 public and 2 private drop-offs were eliminated. In 2021, 2 private drop-offs were eliminated.

Evaluate Cost Containment Options

The District may evaluate the various costs associated with the drop-off program and identify potential areas in which costs may be reduced. One programmatic aspect that may be evaluated is whether the drop-off program should be single-stream or dual-stream.

Minimize Contamination and Littering

In 2018, the District began to minimize contamination and littering at drop-off sites by starting a Correct-Recycling campaign.

Signage boards with 4 messages on each was placed at 20 sites, and mailboxes with flyers were also placed at the 20 sites. The District conducted an audit of the recyclables from the program and realized significant reduction contamination from an audit conducted prior to the education campaign.

In 2019, the District added messages to two more sites and were maintained and updated as needed at the 22 sites.

Minimize Theft of Recyclables

The District's signage boards from the Correct Recycling campaign have assisted in minimizing the theft of recyclables.

Steps to reduce problems may consist of:

- Improved signage
- Increased education and outreach
- Use of permanent or portable surveillance cameras
- Elimination of problematic sites
- Obtain a no-cost labor source to complete participation study, such as a volunteer/civic group

Target for Next 5 Years: Continue through the planning period. Utilization and participation study for drop off program and each site.

Commercial/Institutional Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal
Waste Assessments/Waste Audits	2005	Ongoing	2

Source: 2021 Lucas ADR

The District continues to provide funding to University of Toledo Business Waste Reduction Assistance Program (UT Commercial/Industrial Outreach Program). UT completes solid waste assessments. These assessments identify solid waste diversion and annual cost savings for local businesses. In addition, UT also completes energy audits that identify kilowatt hours of energy reduction and cost savings for Lucas County businesses. In addition, journal papers and conference papers are published that are related to waste reduction and sustainability efforts in Lucas County to protect the environment and reduce waste.

The District / University of Toledo offers waste assessments and audits upon request to businesses for no charge. Following an audit or assessment, the District identifies and follows up with companies to determine if projected tons are recycled or reduced to actual after implementing recommendations.

In 2018, \$90,000 in funding to University of Toledo Business Waste Reduction Assistance Program (UT Commercial/Industrial Outreach Program). In 2018, 10 regular solid waste assessments and 4 short-form solid waste assessments were completed along with numerous other projects. Waste assessments identified 1,288 tons of solid waste for diversion from local landfills and \$40,200 in annual cost savings for local businesses. Four large-scale energy audits were conducted that identified 1,007,800 kilowatt-hours of energy reduction and \$99,400 in related cost savings for Lucas County businesses. The total potential cost savings identified for Lucas County businesses was \$140,000 including solid waste and energy reductions. In addition to the projects previously mentioned, 6 journal papers and 2 book chapters related to waste reduction and sustainability efforts in Lucas County and at the University of Toledo were published. The publications aid in promoting the deep commitment and strong efforts in Lucas County to protect the environment and reduce waste.

In 2019, 8 regular solid waste assessments and 14 short-form solid waste assessments were completed along with numerous other projects. Waste assessments identified 658 tons of solid waste for diversion from local landfills and \$17,320 in annual cost savings for local businesses. Four large-scale energy audits are currently being conducted to identify potential energy reduction and cost savings for Lucas County businesses. 1 journal paper and 2 book chapters related to waste reduction and sustainability efforts in Lucas County and at the University of Toledo were published.

In 2020, the District provided approximately \$85,000 in funding to University of Toledo Business Waste Reduction Assistance Program (UT Commercial/Industrial Outreach Program). 6 regular solid waste assessments and 4 short-form solid waste assessments were completed along with numerous other projects. Waste assessments identified 2,856 tons of solid waste for diversion from local landfills and \$12,330 in annual cost savings for local businesses. One large-scale energy audit was conducted to identify 450,000kw/hr in potential energy reduction and \$43,100 in cost savings for Lucas County businesses. Additionally, due to COVID-19, 3 large scale waste assessments, 6 short form waste assessments, and 2 energy assessments were initiated in 2020 but carried over into 2021. In addition to the projects previously mentioned, in 2020, 4 journal papers related to waste reduction and sustainability efforts in Lucas County and at the University of Toledo were published.

In 2021, the District provided approximately \$75,000 in funding to University of Toledo Business Waste Reduction Assistance Program (UT Commercial/Industrial Outreach Program). In 2021, 7 regular solid waste assessments and 6 short-form solid waste assessments were completed along with numerous other projects. Waste assessments identified 101.8 tons of solid waste for diversion from local landfills and \$21,700 in annual cost savings for local businesses. Two large-scale energy audits were conducted to identify 11 metric tons of carbon dioxide and \$3,000 in annual cost savings. Additionally, due to COVID-19, several waste assessments were initiated in 2021 but carries over into 2022. 6 journal papers and two book chapters related to waste reduction and sustainability efforts in Lucas County and at the University of Toledo were submitted for publication.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Market Development Grant Technical Assistance	Ongoing	Ongoing	4

The District assists local businesses with completing Ohio EPA grant applications for the development of recycled products. Grants support projects for research and development of products utilizing recycled materials in their products. In 2021, the District did not sponsor any grant applications.

Potential methods of measurable success may include measuring the businesses served through the program annually, grants awarded, and impacts to the demand for recyclable materials as a result of the grants awarded.

Target for Next 5 Years: Expand targeted outreach to key candidates by increasing advertisement of Ohio EPA Grant Program by adding link to the District's webpage and posting on social media.

Name	Start Date	End Date	Goal
School Recycling Collection	2011	Ongoing	2

The District provides and services mixed paper recycling dumpsters for schools throughout the County. A portion of the schools also collect cardboard and/or commingled bottles and cans. Since the school sites are collected in unison with the District's drop-off program, a total tonnage cannot be provided for this program.

The District provided and serviced mixed paper dumpsters for 60 schools.

2018 through 2020 the District serviced 9 schools and in 2021 the District serviced a total of 60 schools. The University of Toledo has two public drop-off sites that collect mixed paper, cardboard, and commingled plastic, metal, and glass bottles and cans.

Target for Next 5 Years: Perform waste assessment for one school district. Focus on reducing trash and increasing diversion. Determine estimated volume of materials in waste stream. Continue through the planning period.

Name	Start Date	End Date	Goal
Drop-Off Recycling: Non-Public Sites	Ongoing	Ongoing	1 and 2

The District provided service to 98 institutions, businesses, government locations, multi-family housing complexes and non-profit organizations throughout the County. The non-public sites are collected in unison with the District's drop-off program; therefore, a total tonnage cannot be provided for just the non-public recycling program. The table below shows the number of non-public sites starting in 2018 through 2021.

Year	Number of Sites
2018	62
2019	72
2020	69
2021	98

Target for Next 5 Years:

Perform utilization study for each drop-off site. The District manager started the beginning stages of a utilization study in 2022. This process involves gathering data on the usage and inventory of each location to make informed decisions about resource allocation and potential improvements.

The District manager's tasks may include the following:

- Site Visits: The District manager will drive to each drop-off site and physically inspect the location. During these visits, they will observe the containers, note the conditions of the site, and evaluate any potential issues that may affect utilization.
- Inventory and Data Collection: The manager will conduct an inventory of the equipment and items present at each site. This includes recording the types and quantities of waste or recyclables, available containers or bins, and any relevant equipment or facilities.
- Usage Assessment: The manager will also gather data on the site's utilization. This may include measuring the frequency and volume of drop-offs, analyzing peak usage times, and identifying any trends or patterns.

The District feels that a utilization study will provide valuable insights to help the District make informed decisions on resource allocation, potential expansions or closures of drop-off sites, and overall waste management strategies.

Name	Start Date	End Date	Goal
Special Event Container Loan Program	2011	Ongoing	

KT/LCB partners with the Andersons on the Trash Toss Program to distribute boxes to groups to collect waste and recycling from special events. When applicable, the District assists with the large-scale events of collection of recyclables.

This program provided 2,716 boxes and 780 lids to groups that requested recycling/disposal containers in 2021. Additionally, KTLCB received grant funds in 2021 to purchase new, additional containers for this program.

Target for Next 5 Years: Continue through the planning period.

Industrial Sector Reduction and Recycling Programs

Name	Start Date	End Date	Goal

Waste Assessment/Waste Audits	2017	Ongoing	2 and 5
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Source: 2021 Lucas ADR

The waste assessment/waste audit program discussed above under the commercial/institutional sector provides those same services to the industrial sector and will continue to do so.

Name	Start Date	End Date	Goal
Market Development Grant Technical Assistance	Ongoing	Ongoing	4

The market development grant technical assistance program discussed above under the commercial/institutional sector provides those same services to the industrial sector and will continue to do so.

Target for Next 5 Years: Expand Awareness of Ohio EPA Grant Program by adding link to the District's webpage and posting on social media.

Name	Start Date	End Date	Goal
Toledo-Lucas County Sustainability Commission	2008	Ongoing	4

The Sustainable Business Recognition program was created to recognize industrial and commercial businesses that are taking steps to reduce their negative impact on the environment, while also being a socially responsible business. The program aims to help those that are interested in incorporating more sustainable practices into their business. Going Beyond Green, a regional sustainability plan, was finalized in 2014, and now is used as the guiding document for the Commission.

A component of the program is to have a free sustainability assessment conducted. This assessment is provided in partnership with the District and the University of Toledo Business Waste Reduction Assistance Program (BWRAP) for this Toledo-Lucas County Sustainability Commission program. A team of engineering students conduct on-site energy use and waste management practices assessments and provide a report detailing their findings. Implementing their changes could make a facility more sustainable.

Target for Next 5 Years: Measure and evaluate annual progress of the Commission to track progress toward stated initiatives and determine desired outcome.

Name	Start Date	End Date	Goal
Ohio Materials Marketplace	Ongoing	Ongoing	5

The District promotes the Ohio Materials Marketplace on its website. The District's promotion of the Ohio Materials Marketplace reflects its commitment to fostering sustainability and promoting circular economy practices among industrial and commercial

businesses in the region. The Ohio Materials Marketplace serves as an innovative platform that brings together businesses, organizations, and entrepreneurs, facilitating the exchange of hard-to-recycle wastes and by-products, which can be repurposed as valuable raw materials by others within the network.

The vision of this group is, "... to create a closed-loop, collaborative network of businesses, organizations and entrepreneurs where one organization's hard-to-recycle wastes and by-products becomes another organization's raw material. In addition to diverting waste from landfills, these recovery activities will generate significant cost savings, energy savings, and create new jobs and business opportunities."

By actively highlighting this resource, the District encourages industrial businesses to explore alternative solutions for their waste management and resource utilization. This collaborative approach not only promotes environmental conservation but also provides economic benefits through cost-effective resource acquisition and waste reduction.

Target for Next 5 Years: Continue through the planning period.

Restricted/Difficult to Manage Wastes

Household Hazardous Waste (HHW)

Name	Start Date	End Date	Goal
Household Hazardous Waste	2017	Ongoing	6

Source: 2021 Lucas ADR

The District began a permanent HHW program operated by the District in December of 2017. The District promotes a variety of organizations and businesses that collect HHW within the County. These organizations and businesses are listed on the District's website and within paper flyers available for residents and municipalities. Residents can register for drop-off appointments by calling and letting the recycling center know what materials are going to be dropped off on Thursdays and Saturdays. The cost is \$1/lb. of HHW material and \$1 per fluorescent bulb. Latex paint \$1/gallon

The City of Toledo continued to operate special recycling collection events, which accepted electronics, HHW (certain events), tires, latex paint, clothing, items for donation, documents for shredding, and bulky items. The program is officially called "Engage Toledo." Each year, 2 Engage Toledo events are held for each of the City Council Districts, but only 1 event in each District accepts HHW. A total of 26.674 tons of HHW were collected at the 23 events in 2021.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Electronic Equipment	Ongoing	Ongoing	6

Source: 2021 Lucas ADR

The District continues year-round computer, electronics and HHW recycling program for residents. Residents can make appointments to schedule e-waste and HHW drop-offs at the District offices daily. The District began accepting all TVs (including tube TVs) at the facility in 2021.

The City of Toledo's annual electronics collection event, known as "Engage Toledo," is aimed at promoting responsible electronic waste disposal and recycling. This program offers a convenient and accessible opportunity for residents and businesses within all 6 council districts of Toledo to safely dispose of their old or unwanted electronic devices. The collective efforts across the 23 events yielded remarkable results, with a total of 58.52 tons of electronics collected in 2021. The Engage Toledo program is funded through AIM Recycling, a company dedicated to promoting responsible electronic waste management. Through this collaboration, AIM Recycling facilitates the collection of electronics at Engage Toledo events at no cost.

The partnership between the District and the City of Toledo is instrumental in making "Engage Toledo" a successful and impactful program. The District's involvement likely includes providing support, resources, and logistical assistance to ensure the smooth execution of the event. This involves supplying necessary dumpsters for the electronic equipment, coordinating with local authorities to secure appropriate collection locations, and facilitating communication with residents and businesses about the event.

The District's involvement in sponsoring the "Toledo Zoo Party for the Planet" is another program and commitment to environmental stewardship and community engagement. This one-day event, held around Earth Day every year in April, serves as a significant opportunity for the community to come together and actively participate in sustainable practices. The earth day event accepts many items for recycling including tires, computers, and other electronics.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Scrap Tires	2005	Ongoing	6

Source: 2021 Lucas ADR

The "Engage Toledo" program plays a crucial role in tire recycling and waste management. This scrap tire collection program is made possible through a Community Recycling and Litter Prevention Grant from the Ohio Environmental Protection Agency (Ohio EPA). The grant provides funding and support to the city for organizing and conducting these special tire recycling collection events.

The "Engage Toledo" program facilitates annual tire collection events in all six of the city's council districts. These events aim to encourage responsible disposal and recycling of old tires, which helps in preventing environmental pollution and promoting litter prevention. The events are well-publicized to ensure maximum participation from the community. Engaging residents in tire recycling not only helps address the issue of improperly disposed tires but also raises awareness about the importance of proper waste management and environmental stewardship.

In 2018, 12 events were held collecting 19.05 tons of tires.

In 2019, 12 events were held collecting 199.26 tons of tires.

In 2020, 12 events were held collecting 271.35 tons of tires.

In 2021, 23 events were held collecting 207.395 tons of tires.

The collaboration with Ohio EPA through the Community Recycling and Litter Prevention Grant is essential in supporting these efforts and making the program successful. Without the support of the grant funding from Ohio EPA, the District may face challenges in covering the costs associated with holding the tire collection events and does not plan to operate collection events without the support from the grant funding.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Yard Waste	Ongoing	Ongoing	6

Source: 2021 Lucas ADR

The District anticipates that all the yard waste programs which operated during the reference year will continue. The existing yard waste programs which will continue include the leaf collection programs operated by municipalities, yard waste collection programs, and technical assistance provided by the District upon request to communities desiring to design, establish, and/or improve a yard waste management program.

The following communities had curbside leaf collection programs in 2021: City of Toledo, City of Waterville, City of Sylvania, City of Oregon, City of Maumee, Springfield Township, Spencer Township, Sylvania Township, Washington Township, Village of Whitehouse, Village of Holland, Ottawa Hills Village.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Lead-Acid Batteries	Ongoing	Ongoing	6

The District provides information on its website and flyers which list numerous businesses that accept lead-acid batteries. The District intends to continue the existing programs to promote proper management of lead-acid batteries.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Appliances	Ongoing	Ongoing	2

The District maintains a list of companies which accept small appliances. The information can be found through the Waste Wizard that is available via the District's website or app stores. Companies available for Freon removal services are also provided. The District intends to continue the existing programs to promote proper management of appliances.

Target for Next 5 Years: Continue through the planning period.

Name	Start Date	End Date	Goal
Pharmaceuticals	Ongoing	Ongoing	6

Source: 2021 Lucas ADR

KT/LCB partners with Toledo Police Department to provide multiple prescription drug drop-off boxes 24/7. The District also advertises for the National Drug Take-Back day. There are 13 locations provided in the District for residents to drop-off prescription and over-the-counter drugs for responsible disposal.

Target for Next 5 Years: Continue through the planning period.

Enforcement & Clean-Up

Litter and Clean-Up

Name	Start Date	End Date	Goal
Litter and Community Clean-Up	Ongoing	Ongoing	n/a

Source: 2021 Lucas ADR

The District partners with KT/LCB & "Adopt-A-Road" to provide multiple litter collection programs each year. KT/LCB partners with City of Toledo Department of Neighborhoods to conduct clean-ups through the Beautification Action Team, Great American Clean-up, and Global Youth Service Day.

The Great American Cleanup is a national cleanup event sponsored by Keep America Beautiful. Local activities were managed by KT/LCB. KT/LCB also provided materials to volunteers for Global Youth Service Day. In 2021, volunteer groups and Adopt-a-Road participants helped remove litter from Lucas County streets, parks, and neighborhoods. In total 8972 bags, 2704 pairs of gloves, 274 vests, and 1015 litter tongs were distributed for cleanup events.

KT/LCB also launched a new competitive litter abatement program, called the Toledo Litter League. This program saw 33 teams actively participate, collecting 1062 bags of litter. This is an estimated 26,550 lbs.

KT/LCB assisted with event recycling. For smaller events, 2,716 corrugated boxes were distributed for the collection of trash or recyclables. For large events KT/LCB provided ClearStream Recycling containers and assisted with recruiting volunteers to monitor and empty bags. At these events an estimated 8 tons of recyclables were collected and diverted from becoming litter or landfilled.

KT/LCB assisted the City of Toledo in applying for grant funding from the EPA's Trash Free Waters Program. This was awarded and funded several initiatives including:

- Printed educational material that was distributed at all Engage Toledo Recycling events and community festivals and parades
- Covering the cost of including Tube TV recycling at Engage Toledo events, reducing these items being improperly placed in the trash or illegally dumped
- Funding trash collection devices that were placed in local rivers, collecting litter before entering Lake Erie

Target for Next 5 Years: Increase pounds of litter collected each season by 10%.

Funding/Grants

Incentive Based Grants

Name	Start Date	End Date	Goal
Community Recycling Incentive Grant	2005	ongoing	n/a

Source: 2021 Lucas ADR

The District created a Community Recycling Incentive Grant in 2005 to provide an incentive for greater recycling in the District. The grant was designed to assist the District in meeting the Solid Waste Plan objectives and goals. Grant funds were awarded to communities who completed an application and met District criteria, upon District approval. Due to lack of funding grants were suspended in 2008, but the program was not discontinued.

Target for Next 5 Years: This grant is re-structuring to finance activities or projects related to recycling, reuse, and recycled material. The District may offer a grant up to \$5,000 with a 20% required match of in-kind services. Funded projects must have a recycling component or theme or support a reuse initiative. An application must be filed with the District detailing the activity and funding request. The District reserves the right to award the full amount requested or partial funding depending on the number of valid applicants and the financial state of the District. Issued grant monies must be used for the project or activity applied. All grantees will be required to submit suitable evidence of activity demonstration and may include before and after photos. The annual grant budget is \$10,000 annually. The grant will become available in the first year of the planning period, 2024.

Data Collection

Name	Start Date	End Date	Goal
Data Collection Efforts	Ongoing	Ongoing	2

Source: 2021 Lucas ADR

The District collects data each year from entities located both within Lucas County and outside the county. Disposal data is reported to the District by solid waste facilities located in Ohio, and facilities in Michigan also report the amount of tons received and the type of waste. The District also receives data from Ohio EPA each year.

Each year the District also conducts a survey to obtain recycling data, composting data, and hauling information as a part of preparing the annual district report to be submitted to the Ohio EPA. The District's Survey Strategy assesses commercial and industrial businesses, municipalities, haulers, processors, brokers, and compost facilities. Surveying was conducted in 2022 for the 2021 calendar year. There were 297 industrial surveys and 1,331 commercial surveys mailed out.

Target for Next 5 Years: Continue through the planning period.

Market Development Programs

Name	Start Date	End Date	Goal
Market Development Grant Technical Assistance	Ongoing	Ongoing	1 and 2

Market development grants are available through Ohio EPA to support projects which include the use of recycled materials in product development and promote greater recovery of recyclables. The District provides assistance to local businesses in obtaining grants by helping with preparation of grant applications.

In 2021, an Ohio EPA grant application was completed and awarded to an industry to add a Styrofoam denser. This allows households to recycle expanded polystyrene foam (Styrofoam). Recycling drop-off is available at special days/hours at the business location. Additionally, collection occurs at some scheduled events, such as Clean Toledo. Styrofoam drop-off extended into 2022 and is expected to continue in the planning period.

Target for Next 5 Years: Consider market development for scrap tire recovery in this part of the state. Market development assistance will include serving as a pass-through for a market development grant, engaging in conversations to encourage processing in Lucas County, and engaging conversations with the University of Toledo engineering and potential research opportunities. Continue to explore other market development opportunities as they are presented.

Other Material Specific Programs

Name	Start Date	End Date	Goal
Food Waste Management (changed program name from Food Waste Feasibility Study)	2017	Ongoing	2

The District will continue to evaluate and support cost effective options for collecting food waste. The Lucas County Water Resource Recovery Facility is an option as is development of a larger Class II compost facility or supported decentralized small-scale operations.

The anaerobic digester at the Water Resource Recovery Facility (WRRF) commissioned in 2018 is able to co-digest biosolids and food waste. WRRF accepted food waste in 2021 and intends to continue exploring options for receiving more food waste. The facility is a Class A bio-solids. To reach this level the right recipe needs to be achieved on the input. The District envisions new alternatives with the expansion of technology and collection systems to ensure a consistent biomass.

One known food waste hauler is servicing a limited number of businesses collecting food waste and processing at an out of county facility.

Target for Next 5 Years: Create a tracking mechanism to capture those businesses participating in food waste diversion programs. Provide technical assistance to evaluate costs. Consider setting up community collection sites offered by the District and/or work in collaboration with other groups.

Other Programs

Name	Start Date	End Date	Goal

Policy Planning and Steering	2024	Ongoing	All Goals
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Each day tons and tons of valuable resources are sent to landfills across Ohio, resources that could economically and reasonably be recovered and recycled saving millions of dollars in material costs and saving additional millions of dollars by avoiding the use of oil-based energy to smelt and use virgin resources. Landfill space itself is a limited resource that needs to be appropriately used to dispose of those few materials that cannot be reused or recycled. The growth in populations, industrialization, and consumer demand now requires the wise and efficient use of all natural resources, and it is incumbent on states, industries, political and social leaders at every level to initiate programs and initiatives to address this issue. Countries, states, and cities are now planning and implementing ways to deal with product design, product distribution, and product recycling by adopting the philosophy of Zero Waste and Circular Economy which focuses on designing products and services to use the fewest natural resources and least energy to produce, and where the end of product life leads to reuse, recycling, or composting back to nature.

The Policy Committee supports the concept of Zero Waste and Circular Economy, endorsing both 'back end' or 'downstream' solutions that maximize reuse and recycling aimed at recapturing valuable resources and waste minimization, and 'front end' or 'upstream' solutions requiring industrial product design and environmentally sensitive methods for delivering goods and services along with consumer education that maximizes the use recycled resources, and minimizes the use of difficult to recycle packaging and toxic materials so that each product or service "end of life" leads to further reuse, repair, recycling, or composting. To adopt Zero Waste the District needs to promote every business, organization, and citizen to adopt and work toward Zero Waste.

Over this next planning period the District will engage with stakeholders to further the conversation of Zero Waste, Circular Economy and Extended Producer Responsibility. Moving in a Zero Waste direction will require numerous intermediate steps to identify and evaluate. It will require evaluating external factors - producers to end wasteful packaging and product design, technology innovations, funding, etc.

District Facilities

Name	Start Date	End Date	Goal
Matzinger Road Facility	2008	Ongoing	n/a

In 2008, the District purchased the property which houses the District offices located at 1011 Matzinger Road. This facility also serves to consolidate and aggregate materials to deliver directly to end markets or to a processor for further material separate and processing. The District spent much of 2008 upgrading and refurbishing the facility to process dual stream materials – commingled papers and commingled containers. In 2009, the District began processing commingled papers on a small scale with private

operators. The District contracted with an operator to provide material recycling processing and marketing services associated with the collection of recycled materials from the District operated drop-off recycling program. In 2015, the District's contract expired and began taking the material to the transfer facility and to Gateway Recycling.

In 2017, the District established a permanent HHW drop-off at the Matzinger Road Facility for Lucas County Residents. The District operates the HHW drop-off program and charges \$1 per pound of HHW, \$1 per fluorescent lightbulb and \$1 per can up to 1 gallon of latex paint. Appointments are open Thursday or Saturday mornings, and residents are required to arrange a time for drop-off and material planning on being dropped off.

In 2018, e-waste was added to the acceptable items to drop-off by appointment.

The District received a Community Development Grant from Ohio EPA to purchase a compactor and a walking floor trailer to improve the efficiencies of the recycling transfer station. This was completed by the end of 2019. The compactor and the walking floor trailers are both located at the transfer facility. The transfer station was owned by the Kuhlman Corporation, but was recently bought out.

The facility continues to develop into a "mega drop-off" serving as a drop-off for other hard to recycle materials. At special times of each year yard and campaign signs are accepted as well as other items.

Target for Next 5 Years: Continue through the planning period. Evaluating and expanding materials accepted for diversion at this facility will continue.

Name	Start Date	End Date	Goal
Lucas County Material Recovery Facility	2026	Ongoing	n/a

Source: 2021 Lucas ADR

The District plans to initiate the development of a Material Recovery Facility for processing single-stream recyclables by 2026. This evaluation and development process has been ongoing.

In 2020, the new compactor system was installed. These units continued to perform as intended and was fully operational regarding Phase 1 implementation of the District MRF.

Throughout 2021, the District worked with its consultants and stakeholder group (City of Toledo, Republic, and District) on finalizing conceptual plans and designs of the new Hybrid MRF. The plans were completed, and estimates were developed for all equipment and building construction. The plans include processing single stream recyclables by removing glass, cardboard, and trash and sending the rest of the commingled recyclables to a third party MRF. The glass, cardboard, and trash would be managed locally. The District is interested in working with Owens Illinois on glass recycling. The cost of the

building was estimated at \$1.6 million, and the equipment was also estimated at \$1.6 million. The District applied for and received some funding from the OEPA for equipment. The District has also budgeted additional cash from its reserves to lower the amount of money that would be borrowed for the development of the hybrid MRF.

In 2023, Lucas County, South Avenue and Kuhlman Drive Fill Area, \$7,014,327 cleanup/remediation: The 11.78-acre property was primarily utilized for landfill operations between 1950 and 1957, though various owners have occupied the parcels on this property throughout the years. Remediation will include acquisition of three properties comprising the land, soil remediation, vapor mitigation, and infrastructure improvements to allow for economic development in the future. Future plans will include the Lucas County Solid Waste Management District developing a residential drop off recycling adjacent to the full-service single stream material recovery facility.

Based on the District's procurement objectives and constraints a public-private partnership or PPPs is pursued. A PPP arrangement allows the public sector to retain public ownership of the infrastructure asset while transferring risks to the private sector that it does not wish to or is unable to manage. The preferred procurement option is a Design-Bid-Build Approach.

Through this approach the District leads the design and construction of the MRF. The District takes responsibility for the procurement of all design work through a consulting engineering firm, and tenders the construction works to one or more private sector construction firms. This approach gives the District a strong construction management and coordination role.

At completion the District leads the testing and commissioning process. Following completion, the infrastructure is turned over to the District and assumes full responsibility. The District will then seek a separate operating contract with a private operator, for operations and maintenance of the MRF.

Using this option, the District transfers operations and maintenance (regular and rehabilitative) responsibilities to the private operator over the operating period, with payments that occur during operations subject to a performance-based payment regime. During the operations period, the private operator would have to comply with specifications developed by the District.

As of June 2023, the District is developing plans and specifications for a MRF building located on a Brownfield redevelopment site. Along with the remedial design and the development of plans and specifications for the MRF, the District sought input for a potential public-private partnership receiving, processing and marketing of recycling materials at the MRF. The Lucas County Commissioners approved a resolution in June 2023 with Balcones.

The exact details of what this public private partnership arrangement will be is not yet unfolded. Requests for information may be used to engage with interested parties in this process.

Figure I-3 Location of Material Recovery Facility

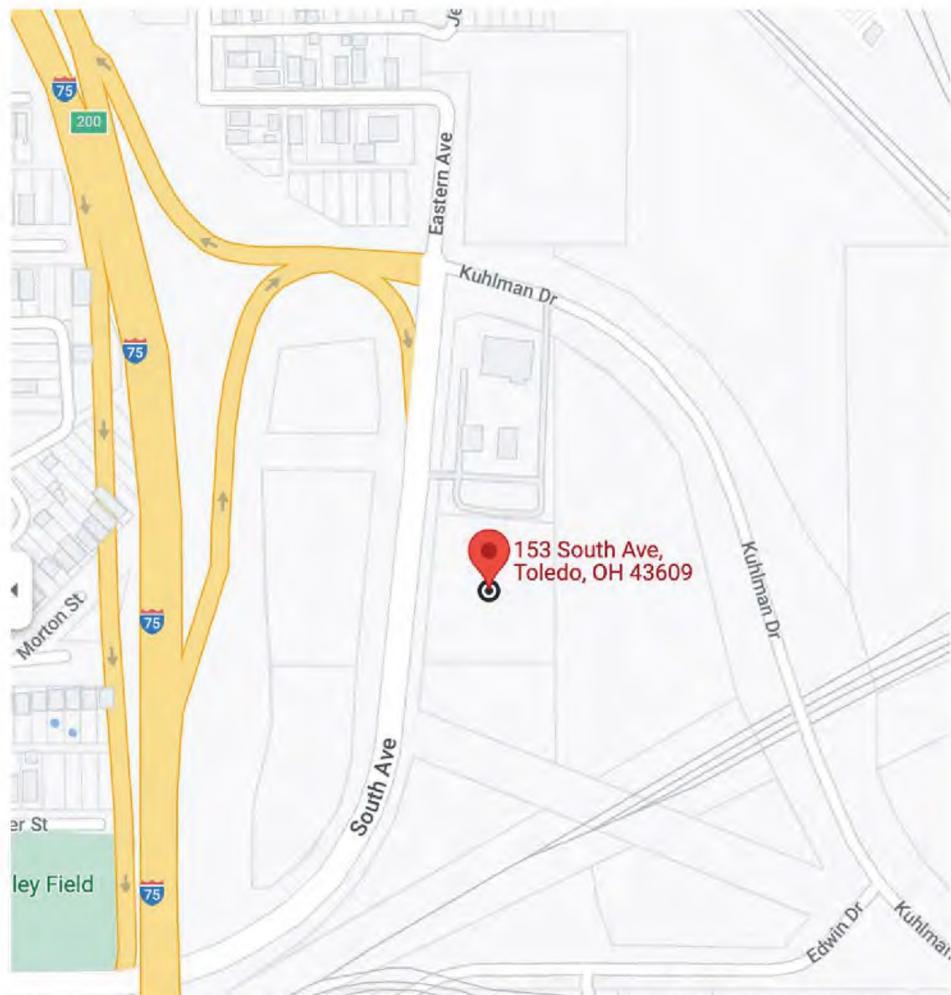


Figure I-4 Property Boundaries for Material Recovery Facility





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

Each District is required to demonstrate achieving either Goal 1 or Goal 2 of the 2020 State Plan. The District is committed to meeting both Goal 1 and Goal 2.

Choosing to achieve Goal 1 of the 2020 State Plan (i.e., access to recycling opportunities), this plan demonstrates that the District achieves the goal in the reference year, in the beginning of the planning period, and for the entire planning period.

A. Residential Sector Opportunity to Recycle

To demonstrate adequate infrastructure to meet Goal 1, the District must provide at least 80% of the residential population in a County with convenient opportunities to recycle. The District 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 District the opportunity to recycle.
- b. Demonstrate that the District will implement new and/or upgraded recycling infrastructure sufficient to provide at least 80% of the residential population within each county of the District 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 District 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 District the opportunity to recycle.

Additionally, the District must:

- 1) Demonstrate that the District will meet the applicable standards established in the Format for the remainder of the planning period.
- 2) 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 District will encourage participation in available recycling infrastructure.
- 5) Demonstrate that the District 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 the Format 4.1 (materials designated as highly amendable to recycling in the 2020 State Plan).
- 2) The District must demonstrate that the commercial sector has adequate opportunities to collect at least 5 materials from a specified list in the Format 4.1.
- 3) The 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 District 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.

Table J-1. Opportunity to Recycle

ID #	Lucas County	2021		2039	
	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit
<i>Non-subscription curbside</i>					
NCS1	City of Maumee	13,810	13,810	13,274	13,274
NCS2	City of Sylvania	19,034	19,034	18,295	18,295
NCS3	City of Toledo	268,508	268,508	258,084	258,084
NCS4	City of Waterville	6,019	6,019	5,785	5,785
NCS5	Holland Village	1,806	1,806	1,736	1,736
NCS6	Ottawa Hills Village	4,814	4,814	4,627	4,627

ID #	Lucas County	2021		2039	
	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit
NCS7	Whitehouse Village	5,025	5,025	4,830	4,830
NCS8	Waterville Twp	2,042	2,042	1,963	1,963
NCS9	Monclova Twp	14,876	14,876	14,299	14,299
<i>Subscription curbside</i>					
SC1	Berkley Village	277	Not Credible	266	Not Credible
SC2	Harbor View Village	88	Not Credible	85	Not Credible
SC3	Harding Township	725	Not Credible	697	Not Credible
SC4	Jerusalem Township	2,907	Not Credible	2,794	Not Credible
SC5	Spencer Township	1,759	Not Credible	1,691	Not Credible
SC6	Springfield Township	25,249	Not Credible	24,269	Not Credible
SC7	Swanton Township	195	Not Credible	2,534	Not Credible
SC8	Sylvania Township	31,794	Not Credible	30,560	Not Credible
SC9	Washington Township	3,057	Not Credible	2,938	Not Credible
SC10	Providence Township	3,398	Not Credible	3,266	Not Credible
SC11	Richfield Township	1,307	Not Credible	1,256	Not Credible
<i>Full-time, urban drop-off</i>					
FTU1	City of Oregon Municipal Complex	19,865	5,000	19,094	5,000
FTU2	City of Oregon, Maumee Bay State Park	19,865	5,000	19,094	5,000
FTU3	Eastern YMCA - Oregon	19,865	5,000	19,094	Not Credible
FTU4	Maumee, Lakewood Greenhouse	13,810	Not Credible	13,274	Not Credible
FTU5	Oregon City, Pearson Metro park	19,865	5,000	19,094	5,000
FTU6	Ottawa Hills Village	4,814	Not Credible	4,627	Not Credible
FTU7	Springfield Township, Fire Station 2	25,249	5,000	24,269	5,000
FTU8	Springfield Township, Fire Station 3	25,249	5,000	24,269	5,000
FTU9	Springfield Township, Township Hall	25,249	5,000	24,269	5,000
FTU10	Sylvania - Kroger	31,794	5,000	30,560	5,000
FTU11	Toledo - Fausset St.	268,508	Not Credible	258,084	Not Credible
FTU12	Toledo, Arrowhead Fire Station	268,508	Not Credible	258,084	Not Credible
FTU13	Toledo, Hoffman Rd Landfill	268,508	Not Credible	258,084	Not Credible

ID #	Lucas County	2021		2039	
	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit
FTU14	Toledo, Jewish Community Center/YMCA	268,508	Not Credible	258,084	Not Credible
FTU15	Toledo, Kroger	268,508	Not Credible	258,084	Not Credible
FTU16	Toledo, Kroger	268,508	Not Credible	258,084	Not Credible
FTU17	Toledo, Kroger, Suder Ave.	268,508	Not Credible	258,084	Not Credible
FTU18	Toledo, Wildwood Metro park	268,508	Not Credible	258,084	Not Credible
FTU19	UT Medical College	268,508	Not Credible	258,084	Not Credible
FTU20	UT Plant Operations	268,508	Not Credible	258,084	Not Credible
FTU21	Waterville City	6,019	Not Credible	5,785	Not Credible
FTU22	Waterville City, Kroger	6,019	Not Credible	5,785	Not Credible
Part-time, urban drop-off					
None	-	-	-	-	-
Full-time, rural drop-off					
FTR1	Harbor View Village	88	Not Credible	85	Not Credible
FTR2	Jerusalem Township	2,907	2,500	Switched to NSC	Not Credible
FTR3	Providence Fire Dept.	3,398	2,500	3,266	2,500
FTR4	Providence Township	3,398	Not Credible	3,266	Not Credible
FTR5	Richfield Township	1,307	Not Credible	1,256	Not Credible
FTR6	Secor Metro Park (Sylvania)	31,794	-	30,560	-
FTR7	Spencer Township	1,759	2,500	1,691	2,500
FTR8	Swanton Township	2,636	2,500	2,534	2,500
FTR9	Whitehouse Village	5,025	Not Credible	4,830	Not Credible
Part-time, rural drop-off					
None	-	-	-	-	-
Mixed municipal waste material recovery facility					
None	-	-	-	-	-
Total County Population		428,996		411,527	
Total Population Credit		385,934		365,393	
Percent of Population		90%		89%	

Note: County population adjusted to exclude Swanton Township (see Appendix C for explanation).

“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. Political jurisdictions denoted as “Not Creditable” and are not included in the total calculations for access credit. Due to the population credit exceeding the population, these locations are not credited at all locations. According to Ohio Administrative Code Rule 3745-27-90, to

be creditable, a subscription service must be available to residents that have trash service due to an ordinance, franchise agreement, or another mechanism established by the political subdivision. Subscription curbside services provided by waste haulers that offer residents a recycling option only when they subscribe to trash service does not qualify for the 25 percent credit. Due to the non-subscription communities not having an agreement, these communities are denoted as "Not Credible".

The District demonstrates at least 80% of the population has the opportunity to recycle.

B. Commercial Sector Opportunity to Recycle

Table J-2 Demonstration of Commercial Opportunity to Recycle

	Type of Recycling Service Provided	Cardboard	Newspaper	Mixed Paper	Steel Containers	Aluminum Containers
A.R.S Refuse Service	Hauler Collection	X	X	X	X	X
Action Disposal	Hauler Collection	X	X	X	X	X
Certified Document Destruction	Hauler Collection	X	X	X	X	X
Gateway	Hauler Collection	X	X	X	X	X
Great Lakes Waste Services	Hauler Collection	X	X	X	X	X
Joe's Hauling & Dumpster Service	Hauler Collection	X	X	X	X	X
Republic Services	Hauler Collection	X	X	X	X	X
State Paper and Metal	Hauler Collection	X	X	X	X	X
Waste Management	Hauler Collection	X	X	X	X	X

The District obtains data for commercial infrastructure to meet Goal 1 from recycling services that offer collection to commercial/industrial generators throughout the county. The nine service providers above met the minimum material requirements: cardboard, newspaper, mixed paper, steel containers, aluminum cans.

C. Demonstration of Meeting Other Requirements for Achieving Goal 1

1. Residential/Commercial Waste Reduction and Recycling Rate

To achieve Goal 2 the District must show that the District achieved a 25% residential/commercial waste reduction and recycling rate or achieve annual reduction rate increases during the planning period. Appendix K calculates the residential/commercial solid waste reduction and recycling rate for the reference

year and planning period. The reference year rate is 36%. Appendix K calculates that the future rate will increase throughout the planning.

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 of the 2020 Ohio's Solid Waste Management Plan states: "The SWMD shall reduce and recycle at least 25% of the solid waste generated by the residential/commercial sector".

Table K-1 Residential/Commercial Annual Rate of Waste Reduction

Year	Population	Recycled	Disposed	Total Generated	Waste Reduction & Recycling Rate (%)	Per Capita Waste Reduction & Recycling Rate (ppd)
2021	427,495	219,339	382,243	601,582	36.46%	2.81
2022	426,650	214,548	424,243	638,836	33.58%	2.76
2023	425,806	219,028	423,404	642,476	34.09%	2.82
2024	424,964	223,651	422,566	646,262	34.61%	2.88
2025	424,123	228,423	421,730	650,199	35.13%	2.95
2026	423,284	239,659	420,896	660,600	36.28%	3.10
2027	422,447	244,349	420,064	664,457	36.77%	3.17
2028	421,612	249,195	419,233	668,473	37.28%	3.24
2029	420,778	254,204	418,404	672,653	37.79%	3.31
2030	419,946	259,392	417,577	677,013	38.31%	3.38
2031	419,115	264,754	416,751	681,549	38.85%	3.46
2032	418,286	264,754	416,751	681,549	38.85%	3.47
2033	417,459	264,754	416,751	681,549	38.85%	3.48
2034	416,633	264,754	416,751	681,549	38.85%	3.48
2035	415,809	264,754	416,751	681,549	38.85%	3.49
2036	414,987	264,754	416,751	681,549	38.85%	3.50
2037	414,166	264,754	416,751	681,549	38.85%	3.50
2038	413,347	264,754	416,751	681,549	38.85%	3.51
2039	412,530	264,754	416,751	681,549	38.85%	3.52

Source(s):

Population – Appendix C, Table C-1

Recycled – Appendix E, Table E-4 and E-5

Disposed – Appendix D, Table D-3

Sample Calculation:

Total Generated = Recycled + Disposed

Waste Reduction & Recycling Rate = Recycled / Total Generated

Per Capita Waste Reduction & Recycling Rate = (Recycled x 2000 lbs/ton) / (Population x 365 days)

The District achieved a 36% residential/commercial waste reduction and recycling rate in the reference year, above the state goal of 25%. As shown in **Table K-1**, the District's recycling totals are projected to decrease throughout the planning period, and the total waste generated is expected to decrease as well. As a result, the District is projecting the recycling rates to continue to be above the state goal of 25%.

Table K-1a Actual Annual Rate of Waste Reduction Comparison to Approved Plan

2021 Calendar Year	Projected in 2018 Approved Plan	Actual
Recycled (tons)	185,396	219,339
Disposed (tons)	423,733	382,243
Total Generated (tons)	609,128	601,582
Waste Reduction & Recycling Rate	30%	36%
Per Capita Waste Reduction & Recycling Rate (ppd)	2.37	2.81

The approved 2018 Plan projected a diversion rate of 30% in year 2021, also above the 25% state goal. Actual achieved diversion rate is 36%. Compared to projections in the 2018 Plan the actual disposal tonnage was lower, recycling tonnage was higher resulting in the higher diversion rate. Diversion increases were reported from businesses, programs, and composting facilities pushing the diversion to 36%.

Table K-2 Industrial Annual Rate of Waste Reduction

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Non-Recyclable Waste	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2021	184,409	51,625		236,034	78.13%
2022	184,444	51,217		235,661	78.27%
2023	184,251	50,812		235,063	78.38%
2024	184,059	50,411		234,470	78.50%
2025	183,867	50,013		233,880	78.62%
2026	183,676	49,617		233,294	78.73%
2027	183,486	49,225		232,711	78.85%
2028	183,296	48,837		232,132	78.96%
2029	183,106	48,451		231,557	79.08%
2030	182,917	48,068		230,985	79.19%
2031	182,729	47,688		230,417	79.30%
2032	182,729	47,688		230,417	79.30%
2033	182,729	47,688		230,417	79.30%
2034	182,729	47,688		230,417	79.30%
2035	182,729	47,688		230,417	79.30%
2036	182,729	47,688		230,417	79.30%
2037	182,729	47,688		230,417	79.30%
2038	182,729	47,688		230,417	79.30%
2039	182,729	47,688		230,417	79.30%

Source(s):

Recycled – Appendix F, Table F-4 and F-5

Disposed – Appendix D, Table D-3

Sample Calculation:

Total Generated = Recycled + Disposed

Waste Reduction & Recycling Rate = Recycled / Total Generated

As shown in table K-2, in the reference year the District had an industrial reduction and recycling rate of 78.13%. The District is projecting this rate to increase through 2031 and flatlined after. The 2020 State Plan removed the requirement from Goal 2 that a SWMD must achieve a 66% industrial reduction and recycling rate.

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	403,749	433,867	837,616	48.20%
2022	398,992	475,504	874,496	45.63%
2023	403,279	474,261	877,539	45.96%
2024	407,710	473,022	880,732	46.29%
2025	412,291	471,788	884,078	46.64%
2026	423,335	470,558	893,894	47.36%
2027	427,834	469,334	897,168	47.69%
2028	432,491	468,114	900,605	48.02%
2029	437,311	466,899	904,210	48.36%
2030	442,309	465,689	907,998	48.71%
2031	447,483	464,483	911,966	49.07%
2032	447,483	464,483	911,966	49.07%
2033	447,483	464,483	911,966	49.07%
2034	447,483	464,483	911,966	49.07%
2035	447,483	464,483	911,966	49.07%
2036	447,483	464,483	911,966	49.07%
2037	447,483	464,483	911,966	49.07%
2038	447,483	464,483	911,966	49.07%
2039	447,483	464,483	911,966	49.07%

Source:

Recycled – Appendix F, Table F-4 and F-5 and Appendix E, Table E-4 and E-5

Disposed – Appendix D, Table D-3

Sample Calculation:

Total Generated = Recycled + Disposed

Waste Reduction & Recycling Rate = Recycled / Total Generated

Notes: Excludes exempt waste



APPENDIX L

MINIMUM REQUIRED EDUCATION PROGRAMS: OUTREACH AND MARKETING PLAN AND GENERAL EDUCATION REQUIREMENTS



APPENDIX L.**MINIMUM REQUIRED EDUCATION PROGRAMS: OUTREACH AND MARKETING PLAN AND GENERAL EDUCATION REQUIREMENTS****A. Minimum Required Education Program**

This analysis discusses State Plan Goals 3 and 4 and the District's strategies to meet each goal's requirements. In accordance with Ohio EPA's Plan Format 4.1, the requirements are as follows:

Goal 3: Waste Reduction and Recycling Rates

- A website
- A comprehensive resource list
- Infrastructure inventory
- A speaker or presenter

Goal 4: Outreach and Education – Outreach Plan and General Requirements

- The District shall provide education, outreach, marketing, and technical assistance regarding reduction, recycling, composting, reuse, and other alternative waste management methods to target audiences using best practices.

1) Website

The District maintains a website at www.lucascountyrecycles.org. Lucas County manages the website. The District uses this site to promote and educate residents on various programs. The website is branded, well organized, easy to navigate, and includes information households and businesses would search for managing their waste. The website includes quick links, FAQs, contact information, and access to the most current solid waste management plan. The website also provides users with special recycling collection events, litter supplies, and educational opportunities for adults and youth organizations. The District added a widget called The Waste Wizard in the reference year, to allow users to search for how to recycle various types of materials properly.

The District advertises the availability of its website using a variety of mechanisms:

- The District's partners, such as Keep Toledo/Lucas County Beautiful, Inc., include links to the District's website on their websites and social media posts.
- The District's website is displayed on many promotional items that are distributed at local special events and community activities.
- The website is further promoted by the inclusion of a direct link on the District's Facebook page.

In addition to the District website, Keep Toledo/Lucas County Beautiful (KT/LCB) manages a website at <https://www.ktlcb.org/>. The website received an update in 2022 adding more capability to track web stats and regularly add new updates.

Lucas County SWMD also has an app called "LC Recycles" for residents to search if items are recycled or not accepted in curbside containers or at drop-off locations. The app also lists drop-off locations for hard-to-recycle items (paint, tires, electronics, etc.). This app launched in 2021 and can be downloaded from the App Store or Google Play. The app also has an interactive game to hone recycling skills.

Target for Next 5 Years: Track number of visits to the website and total number of subscribers to notification system.

2) Comprehensive Resource Guide

The District's "Recycler's List" is a comprehensive compilation of all the locations accepting various types of recyclable and reusable materials within Lucas County. The "Recycler's List" is no longer updated as of 2020, instead, everyone is directed to the Waste Wizard.

The District's Waste Wizard is an interactive tool for the most up-to-date information regarding recycling outlets for materials such as televisions, Styrofoam, mattresses, microwaves, etc. The online tool offers the ability to search or navigate through an alphabetical list of materials for proper disposal of materials not accepted in curbside or drop-off collection. This list is updated frequently and located on the District's website, KT/LCB's webpage and as an app "LC Recycles" located in the app store.

3) Inventory

Infrastructure inventory can be found in the Solid Waste Management Plan Update, updated every five years, and specific information is identified on the District's website.

4) Speaker

The District partners with KT/LCB to perform education and outreach activities. KT/LCB employs a full-time education specialist to conduct youth education presentations and programming for youth clubs, day camps, afterschool programs, community groups, teacher workshops, and other presentations to the public. KT/LCB hired a Community Education Specialist in December 2021 and teaches classes and workshops in recycling, creative reuse, composting, and sustainability. Classroom and school focused education programming is tailored to each grade level. Classroom presentations are provided for no cost.

PreK – Adults

- **Waste Sorting:** Students learn about different waste disposal options and ways to recycle correctly. Students work together in groups to correctly sort a bag of waste.

Grade-level appropriate worksheets and recycling games are also introduced for supplemental learning and comprehension.

Kindergarten - 8th Grade

- *Composting*: Students learn about composting and the importance and impact of all elements involved in the process. Hands-on activities include creating compost in a plastic bottle for students to observe the breakdown process and simulating a compost ecosystem.
- *Papermaking*: Students simulate a recycling facility taking old paper, making it into paper pulp, and pressing it into new paper, learning the importance of trees and proper paper recycling habits.

2nd – 8th Grade

- *Pack to Reuse*: Students learn the 3Rs and reusable options. This involves working in groups to evaluate different packed lunch options, ultimately choosing the most sustainable option and alternatives to single-use items. Additionally, older students create plans to limit their single-use plastic consumption in their packed lunches.

7th – 12th Grade

- Students learn how to recycle correctly in their County and various sustainability-related job opportunities.

Educators may schedule a presentation by calling KT/LCB at 419-213-2252, or by submitting a request online from the organization's website.

B. Outreach and Education – Outreach Plan and General Education Requirements

As the 2020 State Plan prescribes, each District will provide education, outreach, marketing, and technical assistance regarding reduction and reuse through an outreach and marketing plan. Per *Format 4.1*, the Outreach and Marketing Plan requires the following components:

- Address five target audiences.
- Follow basic best practices when developing and selecting outreach programs.
- Select an outreach priority and provide 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 District will address all five target audiences.
- Explain how the District will align its outreach and education programs with recycling opportunities (both existing and needed).
- Explain how the District will incorporate principles and tools for changing behavior into the outreach and marketing plan.

Outreach and education are essential components to the success of a recycling program. Strategic communications campaigns provide some of the most powerful results in creating position behavior change. See Appendix H for the evaluation of the programs.

To align with *Format 4.1*, the District's existing programs were organized by target audience. Some programs crossed several target audiences.

Education/Outreach Programs	Target Audience				
	Residents	Schools	Industries	Institutions & Commercial Businesses	Communities & Elected Officials
District Website	✓	✓	✓	✓	✓
Distributing Publications at Community Events	✓	✓			✓
Social Networking	✓				
Presentations	✓	✓		✓	✓
Keep Toledo/Lucas County Beautiful	✓	✓			
Lending Library		✓			
Toledo-Lucas County Sustainability Commission	✓	✓	✓	✓	✓
Market Development Grant Technical Assistance				✓	
Community Curbside Solid Waste and Recyclables Technical Assistance					✓
Waste Assessments		✓	✓	✓	
Total Program per Group	6	7	4	4	5

1) Audience: Residents

The District has several programs targeted toward this audience sector and deploys various outreach strategies and marketing collateral. In 2015, the District added a Mascot, Riley, for outreach. Riley is used alone and with "his friends" to conduct educational puppet shows.

Name	Start Date	End Date	Goal
Distributing Publications at Community Events	Ongoing	Ongoing	4

The District uses printed flyers to disseminate information about recycling and waste reduction opportunities. Materials are available at community events such as the Toledo Zoo Party for the Planet and other events, at the District office, and through the District's partner, KT/LCB. A few flyers distributed include Choose to Refuse Single-Use Plastic and SWANA's Recycling Myths vs. Facts. Providing information directly to residents achieves the District's goal of raising awareness amongst residents about which materials can be recycled and nearby locations that accept recyclables.

Lucas County has the third largest Hispanic population out of Ohio's counties. The Census Bureau's American Community Survey 1-year Estimates indicate that 5.7% of Lucas County's population that is aged 18 and over speaks a language other than English. Spanish was the most common language spoken by a wide margin. Approximately 19.5% of residents who speak a language other than English reported speaking English less than "very well," which translates to approximately 4,500 residents who may have language barrier issues. This represents a very small portion of the District's overall population. The District developed bilingual materials for targeted outreach activities.

The District focuses on increasing connection with residents by speaking with them at community events, drop-off sites and over the phone when applicable. Members from the KT/LCB attend many in-person and virtual events throughout the year. Members from KT/LCB attend Block Watch meetings, public events, Engage Toledo events, Great Toledo Cleanup, Going Green on the Green, Mid Story Gala, marathons, One Yoga Festival, German American Festival, Toledo Jeep Fest, Blade Holiday Parade, and many more events throughout the year.

Target for Next 5 Years: Incorporate a behavior change element by offering the opportunity for residents to sign "pledges" to participate in the month long Plastic Free July challenge. Include bi-lingual information.



Name	Start Date	End Date	Goal
Social Networking	Ongoing	Ongoing	4

Social networking refers to the use of internet-based **social media** sites to stay connected. Social media covers a broad universe of apps and platforms that allows the District to share content, interact online, and build communities. The District uses Facebook to share digital content. Facebook is updated with Friday Tip of the Week posts, community collection events, holiday event guide, and more. Social media is used to inform residents of available outlets and promotes a variety of local organizations that collect hard-to-recycle items including HHW, electronics, scrap tires and batteries. The District tracked 335 followers and 292 total likes on Facebook.

Reaching out to residents on social media reaches segments of the population that might not otherwise be reached through other existing education and outreach programs. KT/LCB uses Facebook, Twitter, Instagram, and LinkedIn. KT/LCB promotes community events, drop off events, recycling news, board member spotlights and more. KT/LCB in 2021 tracked 2,214 Facebook, 46 LinkedIn, 42 Twitter, and 68 Instagram followers. TikTok was also used and totaled 26 interactions.

The social media presence of the District and KT/LCB saw a 150% increase over the past two years. This has resulted from more active postings and engagements on Facebook, as well as KT/LCB launching a Twitter, Instagram, and LinkedIn account.

Target for Next 5 Years: KT/LCB set a goal to increase social media by 30%, create at least 4 campaigns, and 10 media interactions.

Name	Start Date	End Date	Goal
Keep Toledo/Lucas County Beautiful	Ongoing	Ongoing	4

The District continued to partner with KT/LCB for outreach activities. KT/LCB maintains detailed information about tours and field trips. The information includes the contact person at each location for educators to set up a field trip, as well as the address, operating hours, duration of tour or program, and any types of fees per student if applicable.

The table below tracks the education and outreach programs conducted from 2018 to 2021.

Programs	2018	2019	2020	2021
School Presentations				
Number of Presentations	50	54	25	12
Number Reached	1,415 Students 97 Adults	1,435 Students 204 Adults	556 Students	252 Students
Library / YMCA / Other Presentations				
Number of Presentations			8	
Number Reached			80 youth	

Programs	2018	2019	2020	2021
Riley's Adventure Puppet Show and Coloring Book				
Target Audience: K-5				
Number of Presentations	13	9	7	4
Number Reached	3,517 Students 207 Adults	1,260 Students	1,083 Students	261
School Paper Recycling				
Number of Participating Schools	67 Schools	67 Schools	-	
Adopt A Street/Road				
Streets	26	21	6	
Roads	31		Replace signage 17	
Clean Up Supplies				
Bags	8,530	9,210	3,070	8,297
Gloves	2,797	4,594	1,341	2,612
Vests	99	273	154	355
Tongs	182	803	361	987
Trash Toss Boxes				
Groups	128	163	88	
Boxes	2,690	3,289	2,006	2,295
Lids	1,034	807	504	565
Great American Clean Up				
Groups Participated	12	22	23	
Volunteers			1,980	
Pounds Collected			4,000	
Mall Clothes Collection				
Pounds Collected	3,980 pounds	4,000 pounds	0 pounds	
Special Events (# of Participants)				
Mud Hens Event	300			
Great Toledo Cleanup		87		
Going Green on Green		375		
Mid Story Gala		2,000		
Marathons		5,000		
One Yoga		1,000		
German American		60,000		
Jeep Fest		60,000		
Blade Holiday Parade		2,000		
Correct Recycling			33 Presentations 1,441 Reached	807 Reached
Low Waste Events			6 Recycling Events 4 Composting Events 88,700 Participants	12 Recycling Events 3 Composting Events
Hard to Recycle Initiatives				
Candy Wrappers				150 pounds
Political Signs				2,614 pounds
Styrofoam				2,160 pounds
Boat Wrap and Plastic Film				2,700 pounds
Textiles				1,000 pounds

Programs	2018	2019	2020	2021
Pumpkins and Other Compostables				18,380 pounds

In 2021, KT/LCB added grant writing assistance to their list of outreach activities. One online family activity took place serving 31 youth and multiple "Storybook Paths" were put up at local parks. Each story chosen had a sustainability theme. KT/LCB provided residents with a variety of opportunities for hard-to-recycle items including candy wrappers, yard signs, and pumpkins. In 2021, KTLCB collected 7 boxes full of candy wrappers, over 2,000-yard signs and 21.6 tons of pumpkins to be recycled or composted. Both the District and KT/LCB shared this on their website and Facebook Accounts. The District and KT/LCB had 15 media interactions with significant outlets to advertise proper recycling and litter reduction.

Target for Next 5 Years:

Priority	Measurable Goal	Target Audience				
		Residents	Schools	Industries	Institutions & Commercial Business	Communities & Elected Officials
Outreach and Education	Create at least 4 Social Media Campaigns	X				
	Facilitate 10 Media Interactions	X		X	X	X
	Host a vendor table at 10 events	X	X		X	
	Create 10 KTLCB print/online resources	X	X	X	X	X
	Facilitate 3 education meetings with new community partners					X

2) Audience: Schools

Name	Start Date	End Date	Goal
Presentations	Ongoing	Ongoing	4

The District continued to partner with Keep Toledo/Lucas County Beautiful, Inc. (KT/LCB) for educational activities. KT/LCB provides schools in Lucas County with comprehensive education and awareness activities for students as well as educators. The school programs are designed for students from K-12, as well as pre-school, youth groups, and scout troops. Some hands-on instructional activities include making recycled paper, jewelry and an edible landfill. Presentations can be scheduled online or by calling 419-213-2252. Presentations are available for no cost, making these opportunities available to any student, teacher, scout group, or school in the county. This hands-on approach allows for individualized education themes. The puppet show reaches much larger

audiences with key reduce, reuse, recycle messaging. Many demonstrations teach students that waste materials have value through hands-on learning.

In 2021 KT/LCB increased the number of youth served in education programming by 25%. Despite this, numbers served are still below annual averages prior to COVID. As the pandemic restrictions continue to wane, the goal for 2022 will be to return to these historic averages.

Methods of measurable success include increasing the number of students, educators, and school districts reached and requesting that educators complete a feedback form after a presentation or attending a workshop. KT/LCB gave presentations to schools in 2021 resulting in additional questions, interest, and discussions. KT/LCB implemented a formal survey for all youth programming in order to gauge effectiveness of the program. In 2021, of the 12 youth presentations given, 100% of the educator feedback evaluation forms KT/LCB received rated "good" to "excellent". An opportunity, is to estimate recycling tonnages from schools with recycling programs to identify if there is a correlation between presentations given and waste diverted.

Target for Next 5 Years:

- Reach 3,000 youth and 500 adults through interactive programming teaching them the benefits of recycling
- Reach 30 unique schools/community partners to increase how much they recycle through in-school recycling programs
- Teach to each of the 8 major school districts
- Reach 1,000 individuals with Riley's Puppet Show

Name	Start Date	End Date	Goal
Lending Library	Ongoing	2023	4

KT/LCB provided a lending library which housed a wide variety of environmental education books, videos, activities, and informational brochures that were available to teachers and educators throughout the District. This program was advertised on the District's and KT/LCB's website.

Target for Next 5 Years: Discontinue. Media is outdated and most information is readily available online.

3) Audience: Industries

Name	Start Date	End Date	Goal
Waste Assessment/Waste Audits	Ongoing	Ongoing	4

The District continues to provide funding to University of Toledo Business Waste Reduction Assistance Program (UT Commercial/Industrial Outreach Program). To encourage wider participation, the District takes the responsibility of advertising the program's invaluable services on their District website. By doing so, they make the community and local businesses cognizant of the program's benefits and foster a culture of responsible waste management and energy conservation. Through their communication channels, the District readily responds to inquiries and offers guidance, making it easier for businesses to actively engage in the waste assessment/waste audit program.

The District utilizes best practices by encouraging behavior change rather than just creating awareness by providing businesses that participate in the Waste Assessment program with implementable waste reduction solutions that have measurable outcomes. Each year, UT provides the District with a summary of activities completed, waste assessments conducted, and pounds of waste identified for diversion. By encouraging behavior change and providing implementable waste reduction solutions with measurable outcomes, the program sets a high standard for sustainable practices, and inspires others to follow suit.

Target for Next 5 Years: Continue through planning period.

4) Institutions and Commercial Businesses

Name	Start Date	End Date	Goal
Presentations	Ongoing	Ongoing	4

The District's ongoing partnership with KT/LCB represents a significant commitment to environmental education and outreach within the community. This collaborative effort goes beyond mere awareness-raising and emphasizes the importance of behavior change tactics to drive meaningful and lasting sustainability practices among the residents and businesses.

Throughout 2021, the partnership between the District and KT/LCB proved highly effective in delivering educational workshops on various sustainability topics. The full-time Executive Director of KT/LCB played a crucial role in leading these workshops, which were targeted at High School, College, and Adult/Corporate groups. The workshops focused on Correct Recycling and other relevant sustainability subjects, aiming to empower participants with the knowledge and understanding necessary to make informed and environmentally responsible choices.

In total, the workshops conducted by KT/LCB, successfully reached and engaged 1,584 individuals. This significant number reflects the program's broad reach and impact, fostering a greater understanding of Correct Recycling practices and instilling a sense of environmental stewardship among participants from various age groups and professional backgrounds.

The educational workshops play a vital role in driving behavior change within the community. Beyond raising awareness, these sessions empowered individuals to implement sustainable practices in their daily lives and workplaces. This proactive approach contributes to the overall environmental consciousness of the community and encourages participants to become advocates for sustainability in their social and professional circles.

Target for Next 5 Years: Reach 3,000 youth and 500 adults through interactive programming.

Name	Start Date	End Date	Goal
Waste Assessment/Waste Audits	Ongoing	Ongoing	4

The District continued to partner with KT/LCB on education and outreach activities for the commercial sector, similar to the initiatives mentioned for the industrial sector. See Waste Assessment/Waste Audits program above in the industrial sector.

Target for Next 5 Years: Continue through the planning period.

5) Audience: Communities & Elected Officials

Name	Start Date	End Date	Goal
Community Curbside Solid Waste and Recyclables Technical Assistance	Ongoing	Ongoing	4

This program combines the District Management of Collection Contracts program and the Municipal Assistance program. The District continued to provide technical assistance to communities upon request. Technical assistance provided to communities can include, but is not limited to, assisting with service provider contracts for trash, recycling and yard waste services, bundling multiple services together and pay-as-you through (PAYT) assistance. It may also include assisting participating local units with collection contracts by contracting for service delivery and directly billing either generators or participating local units.

KT/LCB assists the City of Toledo in organizing Engage Toledo Recycling Events with a minimum of 2 events in each City Council District. Additionally, KT/LCB also assisted in organizing a similar event in the City of Oregon.

The program provides political subdivisions with one-on-one assistance for implementing improvements to waste management and recycling related programming. The District's assistance can help political subdivisions achieve consistent levels of both waste

management and reduction services over time while improving contracts by including provisions for recycling incentives, stronger education/outreach services, and increasing the materials accepted. Technical assistance with contracts focuses on creating opportunities that change the behavior of residents by helping municipalities expand the services available to them.

Target for Next 5 Years: Provide assistance to municipalities to convert to PAYT or include PAYT in bundled services. Continue to assist with curbside contracting and expanding non-subscription.

Name	Start Date	End Date	Goal
Toledo-Lucas County Sustainability Commission	2008	Ongoing	4

The Toledo-Lucas County Sustainability Commission is a group of representatives from local businesses, governments, and non-profit organizations that work to promote and educate about sustainability in the region and housed out of the Board of Lucas County Commissioners Office.

The group's vision is "...to enhance the health of ecological, social, and economic systems to produce vibrant, sustainable communities and happy, healthy citizens." The mission is, "...centered on three directives - to educate, to engage, and to act throughout the region around all issues connecting natural, social, and economic systems. Using the Going Beyond Green Sustainability Plan as our framework, we support and tell the story of sustainability efforts for our region."

The District remains involved in the full Commission in an advisory capacity and through the direct involvement of KT/LCB in Commission programs. The Toledo-Lucas County Sustainability Commission supports the goals of the District; serving on the commission has allowed the District's voice to be incorporated into planning documents and collaborate with other partners throughout the region. Additionally, the group aims to incorporate educational programs specific to climate issues into schools and community empowerment initiatives. An environmentally literate community can self-organize and build programs such as local gardens, recycling programs, and civic campaigns for pro-environmental policy. Education empowers citizens to be guardians of their natural world.

Target for Next 5 Years: Facilitate 3 education meetings with new community partners.

Outreach Priority

The goal of the District's outreach priority is to change resident behavior to improve recycling efforts in Lucas County. In addition to providing messages to residents in water bills, the District is using a multi-faceted approach to reaching the target audience by delivering messages about proper recycling on social media, on the website, and in printed publications.

Name	Start Date	End Date	Goal
Correct Recycling Campaign	2018	Ongoing	3 and 4

The "Correct Recycling" Campaign represents a vital and ongoing outreach initiative dedicated to educating the public about responsible recycling practices. The primary purpose of the outreach campaign is to educate and inform community members in Lucas County about the correct recycling practices, emphasizing the types of materials acceptable for recycling both at the curb and designated drop-off locations. The goal is to reduce recycling contamination and increase the recovery of acceptable materials.

CORRECT RECYCLING

NO!
FOOD WASTE



YES!
BOTTLES



Identifying the Behavior Change:

The District aims to change the following behaviors:

- Decreasing contamination: Ensuring that residents understand what can and cannot be recycled, reducing non-recyclable items in recycling bins.
- Increasing recovery of acceptable materials: Encouraging residents to recycle more of the acceptable materials they generate.

Audiences:

- Residents
- Schools and educational institutions
- Community organizations

Key Objectives:

One of the key objectives of the "Correct Recycling" Campaign is to raise awareness about recycling guidelines and best practices. Many individuals may be unsure about what items can and cannot be recycled, leading to contamination in recycling streams.

However, the campaign goes beyond mere awareness-raising efforts. It strives to instigate positive behavior change among the public. The goal is to encourage individuals to adopt proper recycling habits and ensure that recyclable materials are processed efficiently and effectively. Contamination in recycling streams can have significant consequences, including higher processing costs, reduced recycling rates, and even rendering some recyclable materials unusable. By providing clear and accessible information, the campaign aims to empower residents with the knowledge needed to make informed recycling decisions.

To achieve its objectives, the "Correct Recycling" Campaign employs various outreach strategies, such as public awareness campaigns, educational workshops, social media engagement, informational materials, and community events. These activities are designed to engage and connect with residents at multiple touchpoints, reinforcing the message of responsible recycling and making it a pervasive part of everyday life.

The launch of the "Correct Recycling" Campaign in 2018 was a robust and multifaceted effort, utilizing various communication channels to reach and engage the public. The campaign's initial rollout involved three key components: a press conference, sandwich boards, and direct mailing flyers. In addition, the City of Toledo reinforced these efforts by using "OOPS tags" to notify residents when incorrect materials are placed in curbside recycling containers.



In 2021, KTLCB continued its efforts to promote correct recycling initiatives, reaching an impressive total of 807 individuals.

Starting in 2022, KT/LCB took an innovative and proactive approach to promote correct recycling practices by designating November as Correct Recycling Month. The District began to minimize contamination and littering at drop-off sites by maintaining and updating signage boards with four messages and flyers at the 22 sites. In tangent with Correct Recycling Month, other hard to recycle opportunities were available. These include candy wrapper recycling, pumpkin composting, campaign sign recycling, holiday light recycling, and Styrofoam recycling. The significant increase of 34,010 pounds in the total amount of hard-to-recycle materials collected from 2021 to 2022 shows the effectiveness of the Correct Recycling Month campaign and the enhanced efforts in social media coverage and outreach events.

Steps Involved in Developing and Implementing the Strategy:

- Tailor messaging and methods to cater to residents with curbside service and those using drop-off locations.
- Determine the best channels for outreach (social media, community events, local newspapers, websites).
- Ensure that both groups receive clear and relevant information based on their recycling options.
- Continuously gather feedback and data to refine the campaign.
- Regularly measure the weight or volume of recyclable materials collected from curbside and drop-off locations. Make necessary adjustments based on evaluation results to achieve the campaign's goals.
- Conduct a waste audit before and after the campaign to assess the level of contamination rate in the recycling stream.

Measuring Success:

- Reducing Contamination:
 - Decrease contamination in Toledo's curbside by 10%.

- Increasing Material Recovery:
 - Increase pounds recycled through "Correct Recycling" to 55,000 pounds.
 - Identify one new item/material for collections and recycling.

Name	Start Date	End Date	Goal
Material Recovery Facility (MRF) Launch	2025	Ongoing	3 and 4

As the Material Recovery Facility (MRF) launches, the District is planning extensive outreach and education surrounding the MRF facility. The District's MRF launch is a strategic effort to change behavior by educating and engaging residents in understanding the correct materials to recycle, what happens to the materials at the MRF, and what markets support end of life to create the circular economy. The campaign aims to create awareness, promote participation, and ultimately shift behaviors towards better recycling and waste disposal habits.

The outreach campaign to the residents will consist of development of an outreach and communications plan. The outreach and communication plan will define 1) target audience 2) call to action 3) measurable communication objectives 4) communication tactics and 5) a timeline.

1. Identifying the Target Audience:

- The first step is defining the target audience. The target audience will include homeowners, renters, businesses, and other stakeholders in the community. It's essential to understand the demographics, interests, and needs of these groups to tailor the messaging effectively.

2. Establishing a Clear Call to Action (CTA):

- The launch will articulate a specific and actionable CTA for the target audience. In this case, the primary CTA is encouraging residents to utilize the MRF for recycling and proper waste disposal. This will involve providing information on the usage of the facility, recycling sorting guidelines, and the benefits of responsible waste management. The call to action should be straightforward, motivating, and easily actionable, such as "Recycle Responsibly with the New MRF."

3. Measurable Communication Objectives:

- The District will establish measurable objectives to gauge the MRF launch's effectiveness. These objectives include:
 - Reducing contamination rates in recycling bins by 4%.
 - Receiving 20 number of inquiries or visits to the MRF.
 - Gaining 3% more social media followers.

4. Communication Tactics:

- To achieve the campaign objectives, the District has various communication tactics for execution. Some tactics include:
 - **Media Launch:** An official event or press conference to introduce the MRF to the community.
 - **Flyers and Brochures:** Informative materials explaining the MRF services, benefits, and guidelines for proper waste disposal and recycling.
 - **Utility Bill Mailer:** Sending information about the MRF and its services along with utility bills for maximum visibility.
 - **Social Media Campaign:** Regular posts and updates on social media platforms (e.g., Facebook) to engage the community and share information.
 - **Collaborative Video:** Creating a video highlighting the MRF's operations, its environmental impact, and testimonials from satisfied users.
- All campaign materials and content, including flyers, brochures, videos, and social media posts, should carry the District's branding. Consistency in branding helps build trust and recognition.

5. Timeline:

2025: Develop and Promote Three Communication Tactics

a. Media Launch (Q1):

- Host an official event or press conference to introduce the MRF to the community.
- Invite local media outlets and key stakeholders.
- Create a compelling narrative highlighting the facility's benefits and its importance in the community.
- Distribute press releases before the event to generate interest and coverage.

b. Flyers and Brochures (Q2 and Q3):

- Design informative materials, including flyers and brochures, explaining the MRF's services, benefits, and proper waste disposal and recycling guidelines.
- Ensure these materials are visually appealing and easy to understand.
- Begin distribution to key community locations, such as libraries, community centers, and local businesses.

c. Utility Bill Mailer (Q4):

- Develop and design the utility bill mailer containing information about the MRF, its services, and recycling guidelines.
- Collaborate with the billing department to coordinate the inclusion of this information with utility bills.
- Monitor and track the delivery and receipt of these mailers to assess their impact.

2026: Increase Engagement to the Public**a. Community Workshops (Q1):**

- Organize a series of community workshops focused on educating residents about the MRF and responsible recycling.
- Promote these workshops through local media, social media, and community bulletin boards.
- Aim to reach and engage at least 150 residents through these workshops.

b. School Information Sessions or Tours (Q2):

- Collaborate with local schools to arrange information sessions or tours of the MRF for students and their families.
- Customize the content to be age-appropriate and engaging for students.
- Plan and execute tours, ensuring safety and educational value.
- Target participation from at least 150 students and their families.

c. Advanced Educational Initiatives (Q3):

- Explore advanced educational initiatives that can deepen understanding of recycling and waste management.
- Consider partnerships with local environmental organizations, universities, or industry experts to provide specialized workshops or seminars.
- Continue promoting the MRF's services and benefits through social media, press releases, and other communication channels.

d. Scaling Effective Tactics (Q4):

- If certain tactics have proven highly effective in promoting responsible recycling behavior, consider expanding them.
- For example, if community workshops have been successful, plan additional sessions or events to reach a broader audience.

Throughout the launch of the MRF, the District should regularly assess its progress toward achieving the defined objectives. If necessary, adjustments can be made to tactics or messaging based on the feedback and data collected. Conducting year-end reviews to assess behavior change can provide planning for the following year, setting new objectives and strategies to further promote responsible recycling.

By implementing this comprehensive outreach and education campaign, the District aims to inform and engage the community effectively, leading to a positive change in behavior towards responsible waste management and the increased utilization of the MRF facility.



APPENDIX M

WASTE MANAGEMENT CAPACITY ANALYSIS



APPENDIX M. Waste Management Capacity Analysis

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 for recyclables and, if needed, access to transfer facilities.

A. Access to Publicly Available Landfill Facilities

Table M-1. Remaining Operating Life of Publicly Available Landfills

Facility	Location	Years of Remaining Capacity ¹	Status (enter no change, planned expansion, pending expansion, or closing)	Applicable Dates ²
Defiance County Sanitary Landfill	Defiance	51		31-Dec-21
Evergreen Recycling & Disposal	Wood	33		31-Dec-21
Hancock County Landfill	Hancock	24		31-Dec-21
Hoffman Road Sanitary Landfill	Lucas	80		31-Dec-21
Pine Grove Regional Facility	Coshocton-Fairfield-Licking-Perry	88		31-Dec-21
Port Clinton Landfill Inc	Ottawa	120		31-Dec-21
Rumpke of Northern Ohio Inc				
Noble Road Landfill	Richland	16		31-Dec-21
Stony Hollow Landfill Inc	Montgomery	4		31-Dec-21
Wood County Landfill	Wood	114	111 Year Expansion	4-May-22
County Environmental of Wyandot	Wyandot	105		31-Dec-21
County Line Landfill	Indiana	Published data was not available		31-Dec-21
Earthmovers Landfill	Indiana	Published data was not available		31-Dec-21
National Serv-All Landfill (Now Closed)	Indiana	Closed		31-Dec-21
Medassure of Indiana Treatment Facility	Indiana	n/a		31-Dec-21
Tradebe Treatment & Recycling LLC	Indiana	n/a		31-Dec-21
Merrell Brothers Inc Indy Disposal Solutions	Indiana	n/a		31-Dec-21
EQ Industrial Services Processing	Indiana	n/a		31-Dec-21
Covanta Environmental	Indiana	n/a		31-Dec-21
Vienna Junction Landfill, Republic Services	Michigan	7		31-Dec-21

Source(s) of Information:

Ohio EPA 2021 Ohio Facility Data Report Tables, September 2022.
Michigan Department of Environment Energy and Great Lakes, January 2023,
<https://www.eble.state.mi.us/wdspi/SolidWaste/AnnualLandfillReports.aspx?w=470393>

Note:

¹The 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-1 presents the municipal solid waste landfills where waste was disposed from the District in the reference year. The landfills listed are both ones that accepted direct hauled waste and that accepted transferred waste.

Over the reference year, the District sent material to be disposed of to 18 landfills, 9 in state and 9 out of state.

Hoffman Road and Vienna Junction landfills listed in Table M-1 combined accepted more than 86% of the District's waste that was disposed in landfill facilities in 2021. The largest portion, 50% was disposed at the Vienna Junction Landfill in Michigan. The next largest portion, over 35%, was disposed at the Hoffman Road Sanitary Landfill in Lucas County, Ohio. Hoffman Road Sanitary Landfill has adequate remaining capacity to continue accepting waste throughout the planning period. Vienna Junction Landfill has 7 years of remaining life, according to the Michigan EGLE information posted their website. Excluding Vienna Junction Landfill, the region has adequate capacity to take waste throughout the planning period.

B. Access to Captive Landfill Facilities**Table M-2 Remaining Operating Life of Privately Available Landfills**

Facility	Location	Years of Remaining Capacity
None		

Source(s) of Information: 2020 Ohio Facility Report.

The District did not send any waste to captive landfill 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 gasses 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, Lucas County disposed of 382,243 tons of waste from the residential and commercial sectors, and diverted 219,547 tons (36%) from landfills. The tons diverted was input in WARM calculations to determine the GHG emission savings from the diverted materials.

Table N-1: Reference Year Waste Diversion

Total GHG Emissions from Baseline – Year 2021	(432,315.11) MTCO ₂ e
Total GHG Emissions from Alternative – Year 2030	(529,816.46) MTCO ₂ e
Incremental GHG Emissions Savings	(97,501.35) MTCO ₂ e

By the District having diversion programs, the diverted tons of residential/commercial material in the reference year resulted in 432,315.11 MTCO₂e prevented from being emitted into the atmosphere. To better illustrate the amount saved by the District, the diversion programs are equivalent to:

- Removing 92,826 passenger vehicles from the road
- Conserving 49,196,541 gallons of gasoline
- Conserving 18,217,069 cylinders of propane

With the projected decrease in diversion by 2030, there is an estimated additional reduction of 97,501.35 MTCO₂e of greenhouse gases. Savings of 97,501.35 MTCO₂e is equivalent to:

- Removing 20,701 passenger vehicles to the road
- Conserving 10,971,234 gallons of gasoline
- Conserving 4,062,556 propane tanks



APPENDIX O

FINANCIAL DATA



Appendix O. Financial Data

This Appendix summarizes the District's funding mechanisms, projected revenues, and expenses for the planning period from 2024 to 2039. The District prepared the budget section of this *Plan Update* to meet the requirements in the Ohio Revised Code, Section 3734.53 (A)(13)(d):

The methods of financing implementation of the plan and a demonstration of the availability of financial resources for that purpose.

The budget tables prepared for this 2024 Plan Update demonstrates financial funding throughout the planning period to implement the planned programs and initiatives. Nothing contained in these budget projections should be construed as a binding commitment by the District to spend a specific amount of money on a particular strategy, facility, program and/or activity. The Board, with the advice and assistance of the Sanitary Engineer and District Manager, will review and revise the budget as needed to implement the planned strategies, facilities, programs and/or activities as effectively as possible with the funds available. Revenues, not otherwise committed to an existing strategy, facility, program, or activity may be used to increase funding to improve the effectiveness of an existing strategy, facility, program, or activity and to provide funding for a new strategy, facility, program, or activity the Board concludes is justified based on the Sanitary Engineer's and District Manager's recommendations and the content of this 2024 Plan Update.

The District reserves the right to revise the budget and reallocate funds as programs change or when otherwise determined to be in the best interest of the District. If the budget in this 2024 Plan Update is affected to the point that it must be revised, the District will first determine if a material change in circumstance has occurred. If a material change in circumstance has not occurred but budget revisions are needed that go beyond normal adjustments, the District may revise the budget per ORC Section 3734.56(E) and follow the appropriate ratification requirements to finalize the budget revisions.

The District is committed to implementing planned strategies, facilities, programs and/or activities in a cost-effective manner. The District is committed to improving the effectiveness and reduce the cost of all District strategies, facilities, programs, and activities. The District Board is authorized to expend District funds among other uses included in the 2024 Plan Update when costs are reduced. Additionally, the Board is authorized to use reduced costs to provide grant funds or direct funding to evaluate, test and/or implement new strategies, facilities, programs, and activities that are in compliance with this 2024 Plan Update are not a "material change in circumstance" regarding the implementation of this 2024 Plan Update.

A. Funding Mechanisms and Revenue Generated

This section identifies the Districts funding mechanisms and anticipated revenues from each source listed below for each year of the planning period.

1. Disposal Fee

The District does not receive revenues from disposal fees; therefore, Table O-1 has been omitted.

2. Generation Fee

In accordance with ORC 3734.573, a SWMD may levy fees on the generation of solid wastes within the District. The District levies a generation fee on all solid waste that is generated in the District in the amount of \$2.20 per ton.

Table O-2 Generation Fee Schedule and Revenue

	Year	Generation Fee Schedule (\$ per ton)	Tons Disposed in Ohio Facilities (tons)	Total Revenue from Generation Fee (\$)
ACTUAL	2017	\$2.20	220,651	\$485,431
	2018	\$2.20	194,509	\$427,920
	2019	\$2.20	222,390	\$489,261
	2020	\$2.20	198,084	\$435,785
	2021	\$2.20	209,706	\$461,352
	2022	\$2.20	171,001	\$376,202
PROJECTED	2023	\$2.20	209,437	\$437,723
	2024	\$2.20	208,850	\$436,497
	2025	\$2.20	208,266	\$435,275
	2026	\$2.20	207,683	\$434,058
	2027	\$2.20	207,104	\$432,847
	2028	\$2.20	206,526	\$431,639
	2029	\$2.20	205,951	\$430,437
	2030	\$2.20	205,559	\$429,618
	2031	\$2.20	205,168	\$428,800
	2032	\$2.20	204,777	\$427,984
	2033	\$2.20	204,388	\$427,170
	2034	\$2.20	203,999	\$426,357
	2035	\$2.20	203,611	\$425,546
	2036	\$2.20	203,223	\$424,737
	2037	\$2.20	202,837	\$423,929
	2038	\$2.20	202,451	\$423,123
	2039	\$2.20	202,066	\$422,318

Source(s):

2017 – 2022 Actual Revenue: Lucas County Reports

2023 – 2039 projected generation fee revenue

Sample Calculations:

2023 Calculated Revenue = \$2.20 per ton x Estimated Tons Disposed in Ohio Landfills x 95%

The generation fee schedule and revenues are shown in **Table O-2**. Revenue from 2017 to 2022 is actual received revenue. Revenue fluctuated annually but on average over this period, approximately \$446,000 annually was received from the generation fee.

Revenues from 2023 to 2039 are projected. Generation fee revenue is collected from disposal or transfer facilities in Ohio. The District tracks waste disposal tonnages from all facilities receiving District waste. A portion of the District's waste flows to out of state facilities. Out-of-state landfills/transfer station facilities receiving District waste have a contract with the District and do not pay the generation fee, but instead a contract fee. Separating the total tonnage into tons disposed in Ohio facilities and tons disposed in Michigan facilities, the District was able to estimate a projected generation fee revenue. **Table O-2** shows the projected disposal used to calculate the revenue.

Total disposal for the planning period is calculated in Appendix D, Table D-6. The projected disposal in Table D-6 was multiplied by 47% to obtain the portion of the total disposal disposed in Ohio facilities. (Note: from 2012 to 2022, the average percent of waste disposed in Ohio facilities was 47%.) As shown in Table O-2 using the estimated tons multiplied by the per ton generation fee estimates revenues at higher levels than historically documented. An adjustment was made to align to the average tonnages documented. Another adjustment was made to estimate for accrual versus cash accounting. To adjust for accrual and cash-based accounting for when the waste is received in a calendar year the total revenue projected in Table O-2 was determined by assuming 95% of the revenue is received.

As part of a settlement agreement, the District's Board currently grants a waiver to OmniSource for all of the auto-shredder residue (ASR) produced by OmniSource in Lucas County. In granting the waiver, it is the Board's intent that OmniSource's ASR shall not be subject to the District's generation fee. This waiver applies to ASR produced by OmniSource within Lucas County on and after April 1, 2006. The settlement agreement may be terminated by the Board after twenty years from the effective date (September 2007) provided the Board pays OmniSource a termination fee. A copy of the settlement agreement is included in Appendix X.

3. Designation Fee

Per Ohio Revised Code 343.014, a solid waste management district may adopt designation fees to ensure adequate financing to implement the approved solid waste plan. The District levies a contract disposal designation fee on all in-state and out-of-state solid waste facilities designated to receive District solid waste. The District's fee is \$3.00 per ton on waste disposed of at Ohio landfills and \$5.20 per ton on waste disposed of at out-of-state landfills.

The District may evaluate the amount of that fee, as part of its annual budgeting cycle, and may consider decreasing or increasing it, depending on the economic conditions facing the District throughout the planning period. Any changes to the designation fee

would follow all required procedures of the Ohio Revised Code for establishing and adjusting solid waste management district fees for openness, transparency, inclusiveness, and public input and approval. Currently, there are no plans to change the designation fee.

Table O-3. Designation Fee Schedule and Revenue

	Year	Designation Fee Schedule on Ohio Facilities (\$ per ton)	Revenue From Ohio Facilities	Designation Fee Schedule on Michigan Facilities (\$ per ton)	Revenue From Michigan Facilities	Total Designation Fee Revenue (\$)
ACTUAL	2017	\$3.00	\$661,952	\$5.20	\$1,094,134	\$1,756,090
	2018	\$3.00	\$583,527	\$5.20	\$1,222,515	\$1,806,027
	2019	\$3.00	\$667,174	\$5.20	\$1,324,997	\$1,875,749
	2020	\$3.00	\$594,252	\$5.20	\$1,283,275	\$1,877,527
	2021	\$3.00	\$629,117	\$5.20	\$1,289,629	\$1,920,456
	2022	\$3.00	\$513,002	\$5.20	\$1,436,276	\$1,949,279
PROJECTED	2023	\$3.00	\$628,310	\$5.20	\$1,210,408	\$1,838,718
	2024	\$3.00	\$626,550	\$5.20	\$1,207,017	\$1,833,567
	2025	\$3.00	\$624,797	\$5.20	\$1,203,640	\$1,828,437
	2026	\$3.00	\$623,050	\$5.20	\$1,200,275	\$1,823,326
	2027	\$3.00	\$621,311	\$5.20	\$1,196,924	\$1,818,235
	2028	\$3.00	\$619,578	\$5.20	\$1,193,586	\$1,813,163
	2029	\$3.00	\$617,852	\$5.20	\$1,190,260	\$1,808,112
	2030	\$3.00	\$616,676	\$5.20	\$1,187,995	\$1,804,671
	2031	\$3.00	\$615,503	\$5.20	\$1,185,735	\$1,801,237
	2032	\$3.00	\$614,331	\$5.20	\$1,183,479	\$1,797,810
	2033	\$3.00	\$613,163	\$5.20	\$1,181,227	\$1,794,390
	2034	\$3.00	\$611,996	\$5.20	\$1,178,980	\$1,790,976
	2035	\$3.00	\$610,832	\$5.20	\$1,176,737	\$1,787,569
	2036	\$3.00	\$609,670	\$5.20	\$1,174,499	\$1,784,169
	2037	\$3.00	\$608,511	\$5.20	\$1,172,265	\$1,780,776
	2038	\$3.00	\$607,353	\$5.20	\$1,170,036	\$1,777,389
	2039	\$3.00	\$606,198	\$5.20	\$1,167,811	\$1,774,009

Source(s):

2017 – 2022 Actual Revenue: Lucas County Reports

Facility reports and receipts received as reported to Lucas County SWMD.

2023 – 2039 projected designation fee revenue

Sample Calculations:

2022 Total Designation Fee Revenue = Revenue From Ohio Facilities + Revenue from Michigan Facilities

The designation fee schedule and revenues are shown in **Table O-3**. Revenue received from 2017 to 2022, is actual revenue. Revenues are stable and showed signs of growth. On average over this period, approximately \$1,860,000 annually were received from the designation fee.

Revenues from 2023 to 2039 are projected. Designation fee revenue is collected from disposal or transfer facilities that hold a designation agreement with the District. The District tracks waste disposal tonnages from all facilities receiving District waste. A portion of the District's waste flows to out of state facilities. Separating the total tonnage into tons disposed in Ohio facilities and tons disposed in Michigan facilities, the District was able to estimate a projected designation fee revenue. **Table O-3** shows the projected disposal used to calculate the revenue.

Total disposal for the planning period is calculated in Appendix D, Table D-6. The projected disposal in Table D-6 was multiplied by 47% to obtain the portion of the total disposal disposed in Ohio facilities. (Note: from 2012 to 2022, the average percent of waste disposed in Ohio facilities was 47%.) An adjustment was made to align to the average tonnages documented. The difference between total disposal and the calculated Ohio disposal is the projected disposal to Michigan.

4. Loans

The District obtained a \$1.2 million loan from the Ohio Water Development Authority in 2009 to purchase a facility located at 1011 Matzinger Road. Financing this over 20 years, the annual payment is \$100,913. Semiannual payments are made of \$50,456.49. The District began making payments on the loan in January of 2009. The 20-year loan is scheduled to retire in July of 2028.

The District is planning a major facility project to build a material recovery facility in this planning period. A loan for \$11 million is expected to be secured in 2024 for development and building costs.

Table O-4. Loans

Year Debt Was/Will be Obtained	Outstanding Balance	Lending Institution	Repayment Term (years)	Annual Debt Service (\$)
2009	\$1,200,000.00	Ohio Water Development Authority	20	\$100,913
2024	\$11,000,000	TBD (assume 4%)	20	\$810,000

Source: District Records

5. Other Sources of District Revenue

The District receives other revenue streams from rates and charges, recycling revenue, user fees, reimbursements, grants, and other.

a. Rates and Charges

Per the ORC 343.08, a solid waste management district may adopt rate and charges to ensure adequate financing to implement the approved solid waste plan. Rates and charges are levied on improved parcels in Lucas County. Rates and

charges supplement funding to implement the plan and were needed for sustainable funding source to support infrastructure and programs. Beginning in 2014 rates and charges were fixed at \$5.00 per improved parcel collected on property taxes. The District is estimating \$750,000 annual revenue throughout the planning period.

Table O-5.1 Historical Revenue From Rate and Charges (2017-2022)

Years	Revenue from Rates and Charges
2017	\$767,595.63
2018	\$779,094.71
2019	\$776,680.87
2020	\$782,817.50
2021	\$781,707.49
2022	\$781,245.23
Average	\$778,190

b. Recycling Revenue

Some District operations generate revenue from the sale of recyclable commodities. Cardboard only route collection and operations revenue fluctuated annually and averaged roughly \$146,000 from 2017 to 2022. Commodity markets fluctuate and can be volatile. The District is estimating \$90,000 annually in revenue. Maintaining a flat projection below the 5-year average from 2017 to 2021 is a conservative approach. Projections are estimated through the planning period.

Table O-5.2 Historical Recycling Revenue (2017-2022)

Years	Revenue from Recycling Revenue
2017	\$125,391.07
2018	\$85,257.63
2019	\$74,397.44
2020	\$73,047.50
2021	\$312,820.49
2022	\$207,577.36
Average	\$146,415.25

c. User Fees

HHW User Fee: The District accepts HHW at the permanent Matzinger Road facility. The user fee is \$1 per pound for materials that are costly to manage. The revenue helps offset the cost for the District to manage the HHW. The 2017 through 2022 revenues shown in Table O-5 are actual.

Table O-5.3 Historical HHW User Fee Revenue (2017-2022)

Years	Revenue from HHW User Fees
2017	\$549
2018	\$12,747
2019	\$14,967
2020	\$18,134
2021	\$17,056
2022	\$16,599
Average	\$13,342

Health Department: Revenue is received from the Lucas County Health Department for construction and demolition debris. The District receives \$0.06 per ton and /or \$0.03 per year of C&DD that is disposed in the Hoffman Road Landfill and the Creekside Landfill.

Table O-5.4 Historical Health Department Revenue (2017-2022)

Years	Revenue from TLCHD
2017	\$19,122.27
2018	\$14,341.42
2019	\$7,958.13
2020	\$13,931.62
2021	\$19,218.28
2022	\$16,200.77
Average	\$15,128.75

User fee projections from 2023 through 2039 assumed a constant budget of \$32,800 annually. No user fee increases are projected through the planning period.

d. Reimbursements

This is money the District disbursed but that the receiving entity did not spend and returned to the District as unspent. In this line item of revenue, the District is reimbursed from the Lucas County Sanitary Engineer for the Sustainability Commission, miscellaneous items, and from municipal and township contract pass-throughs.

Lucas County Sanitary Engineer and miscellaneous items averaged roughly \$25,000 in annual revenue. Projections for the future were held slightly less at \$24,000 through the planning period.

The District serves as a pass-through entity for the City of Toledo's curbside collection services contract. The District makes payments on behalf of the City to the City's contractor. The City of Toledo reimburses the District.

The District also serves as a pass-through entity for Monclova, Waterville, and Jerusalem waste contracts. This arrangement with Monclova and Waterville began in 2018. Jerusalem arrangement began in 2022.

Since these are not actual revenues the District is providing a budget that shows the pass-through separately in the tables in this Appendix.

The City of Toledo's contract negotiated in 2016 is for 10 years. This contract set a 2.5% annual increase through the term which is applied through 2026 as shown in Table O-5. For planning projections, the 2.5% increase was extended through the end of the planning period.

Table O-5.5 Historical Reimbursement Revenue (2017-2022)

Year	Lucas County Engineers	Miscellaneous	TOTAL	TOTAL With Pass Through	
				City of Toledo Pass Through Contract	Other Pass Through Contracts
2017	\$21,529.04	\$4,452.50	\$25,981.54	\$9,134,248.00	\$0.00
2018	\$17,988.07	\$5,985.96	\$23,974.03	\$9,548,595.70	\$399,738.95
2019	\$19,844.98	\$68.54	\$19,913.52	\$9,871,050.00	\$245,420.99
2020	\$5,285.63	\$30,476.10	\$35,761.73	\$9,137,916.96	\$535,117.39
2021	\$22,214.16	\$11.00	\$22,225.16	\$10,233,375.48	\$572,275.76
2022	\$11,136.80	\$11,025.07	\$22,161.87	\$11,029,073.33	\$727,433.54
Average	\$15,293.93	\$9,513.33	\$24,807.26	\$9,964,002.29	\$495,997.33
					\$10,484,806.88

e. Grants

Historically, the District consistently received grants. Table O-5.6 shows the historical revenue from grants for the District.

In 2021, the District received an Ohio EPA Community Development grant in the amount of \$100,000. This grant is intended for equipment for the hybrid MRF. An extension was awarded through December 31, 2023, because of delays in obtaining a scope and plans to purchase equipment. Change of direction to move forward with a full MRF the District returned the grant in 2022 and the grant was closed without spending any funds.

In 2022, the District received an Ohio EPA Community Development grant for \$70,000 (\$35,000 each received in 2022 and 2023). The District also received a Brownfield Remediation Grant for \$81,277 to conduct Phase I and II site assessment in 2022 and \$7,014,327 for redevelopment.

Table O-5.6 Historical Revenue From Grants (2017-2021)

Years	Grant Revenue
2017	\$33,731
2018	\$92,500
2019	\$92,500
2020	\$0
2021	\$100,000
2022*	\$116,235
2023*	\$7,049,237

* Includes Brownfield Assessment Grant

Notes:

The grant received in 2021 for \$100,000 was returned and closed in 2022 without spending any funds.

Funding from grants is competitive and therefore are not a guaranteed source of income. Revenues from grants are not projected in the planning period.

f. Other (Miscellaneous Revenue)

Other includes other miscellaneous revenue that averages about \$11,000 annually. This form of revenue is not stable from year to year and is conservatively projected at \$10,000 annually into the planning period.

g. MRF Tipping Fees

The District anticipates that the new single stream MRF will be operating in 2026. A separate analysis developed for the MRF projected tipping fee revenue at roughly \$525,000 annually (see Table O-5). This revenue projection assumed the City of Toledo commits to send their tonnage to the District's facility as well as other communities and haulers in the District.

For budgetary purposes, the MRF tipping fee is estimated to be \$20.00 for each ton of single stream recyclable material delivered to the facility by the City of Toledo (estimated to be 20,000 tons) and \$25.00 for each ton delivered by others (estimated to be 5,000 tons). The District may adjust tip fees based on market conditions regarding the operation of the MRF. Agreements for receipt of recyclable tons are anticipated and negotiations may alter the terms of these tip fee estimates.

The MRF may be operational at the end of 2025. In 2025, MRF tipping fee revenue may be 25% of the annual revenue projected to reflect that the MRF will operate during the last quarter of the year. For planning purposes this revenue was not added to Table O-5.

h. MRF Commodity Revenue

Based on regional low market value scenarios the annual projected estimated revenue for commodity sales is \$2.6 million. The District anticipates a revenue share

arrangement with the selected operator. This could be a share of the net revenues (gross revenue minus service fees), a flat or scaled per ton rate, a combination with floor pricing, etc. Modeled in Table O-5, the District assumed a minimum of \$15 per ton for commodity revenue assuming 35,000 tons per year.

Table O-5. Other Revenues and Other Revenues Sources

	Year	Rates and Charges	Recycling Revenue	User Fee	Reimbursements	Grants	Other	MRF Tipping Fees	MRF Commodity Revenue	Total Revenue	Pass-Through Contracts	Total Revenue with Pass-Through Contracts
ACTUAL	2017	\$767,596	\$125,391	\$22,921	\$25,982	\$33,731	\$10,000	\$0	\$0	\$985,621	\$9,134,248.00	\$10,119,868.51
	2018	\$779,095	\$85,258	\$31,346	\$23,974	\$92,500	\$14,435	\$0	\$0	\$1,026,607	\$9,948,334.65	\$10,974,941.87
	2019	\$776,681	\$74,397	\$26,395	\$19,845	\$122,309	\$14,332	\$0	\$0	\$1,033,959	\$10,116,470.99	\$11,150,430.38
	2020	\$782,818	\$73,048	\$32,818	\$35,762	\$0	\$11,173	\$0	\$0	\$935,618	\$9,673,034.35	\$10,608,652.09
	2021	\$781,707	\$312,820	\$36,274	\$22,225	\$100,000	\$376	\$0	\$0	\$1,253,403	\$10,805,651.24	\$12,059,053.94
	2022	\$781,245	\$207,577	\$32,800	\$22,162	\$116,235	\$16,033	\$0	\$0	\$1,176,052	\$11,756,506.87	\$12,932,559.35
PROJECTED	2023	\$750,000	\$90,000	\$32,800	\$24,992	\$7,049,327	\$10,000	\$0	\$0	\$7,957,118	\$12,062,176.05	\$20,019,294.37
	2024	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$0	\$0	\$906,800	\$12,375,792.63	\$13,282,592.40
	2025	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$0	\$0	\$906,800	\$12,697,563.23	\$13,604,363.00
	2026	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$13,027,699.88	\$14,984,499.65
	2027	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$13,366,420.08	\$15,323,219.85
	2028	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$13,713,947.00	\$15,670,746.77
	2029	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$14,070,509.62	\$16,027,309.39
	2030	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$14,436,342.87	\$16,393,142.64
	2031	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$14,811,687.78	\$16,768,487.55
	2032	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$15,196,791.67	\$17,153,591.44
	2033	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$15,591,908.25	\$17,548,708.02
	2034	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$15,997,297.86	\$17,954,097.63
	2035	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$16,413,227.61	\$18,370,027.38
	2036	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$16,839,971.53	\$18,796,771.30
	2037	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$17,277,810.79	\$19,234,610.56
	2038	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$17,727,033.87	\$19,683,833.64
	2039	\$750,000	\$90,000	\$32,800	\$24,000	\$0	\$10,000	\$525,000	\$525,000	\$1,956,800	\$18,187,936.75	\$20,144,736.52

Source(s):
 2017 to 2022 actual revenue Lucas County Reports
 2023 to 2039 projected revenue

Table O-5 above presents the District's projected other sources of revenue through the planning period.

6. Summary of District Revenues

Table O-6 Total Revenues (in accordance with ORC 3734.57, ORC 3734.572 and ORC 3734.573)

	Year	Generation Fees	Designation Fees	Other Revenue	Total Revenue	Pass-Through Contracts	Total Revenue with Pass-Through Contracts
ACTUAL	2017	\$485,431	\$1,756,090	\$985,621	\$3,227,141	\$9,134,248.00	\$12,361,389.35
	2018	\$427,920	\$1,806,027	\$1,026,607	\$3,260,554	\$9,948,334.65	\$13,208,889.05
	2019	\$489,261	\$1,875,749	\$1,033,959	\$3,398,970	\$10,116,470.99	\$13,515,440.58
	2020	\$435,785	\$1,877,527	\$935,618	\$3,248,929	\$9,673,034.35	\$12,921,963.56
	2021	\$461,352	\$1,920,456	\$1,253,403	\$3,635,211	\$10,805,651.24	\$14,440,861.94
	2022	\$376,202	\$1,949,279	\$1,176,052	\$3,501,533	\$11,756,506.87	\$15,258,040.00
PROJECTED	2023	\$437,723	\$1,838,718	\$7,597,118	\$10,233,559	\$12,062,176.05	\$22,295,735.30
	2024	\$436,497	\$1,833,567	\$906,800	\$3,176,864	\$12,375,792.63	\$15,552,656.27
	2025	\$435,275	\$1,828,437	\$906,800	\$3,170,511	\$12,697,563.23	\$15,868,074.69
	2026	\$434,058	\$1,823,326	\$1,956,800	\$4,214,184	\$13,027,699.88	\$17,241,883.84
	2027	\$432,847	\$1,818,235	\$1,956,800	\$4,207,881	\$13,366,420.08	\$17,574,301.10
	2028	\$431,639	\$1,813,163	\$1,956,800	\$4,201,603	\$13,713,947.00	\$17,915,549.50
	2029	\$430,437	\$1,808,112	\$1,956,800	\$4,195,348	\$14,070,509.62	\$18,265,857.88
	2030	\$429,618	\$1,804,671	\$1,956,800	\$4,191,088	\$14,436,342.87	\$18,627,431.33
	2031	\$428,800	\$1,801,237	\$1,956,800	\$4,186,837	\$14,811,687.78	\$18,998,524.87
	2032	\$427,984	\$1,797,810	\$1,956,800	\$4,182,594	\$15,196,791.67	\$19,379,385.78
	2033	\$427,170	\$1,794,390	\$1,956,800	\$4,178,360	\$15,591,908.25	\$19,770,267.79
	2034	\$426,357	\$1,790,976	\$1,956,800	\$4,174,133	\$15,997,297.86	\$20,171,431.21
	2035	\$425,546	\$1,787,569	\$1,956,800	\$4,169,916	\$16,413,227.61	\$20,583,143.11
	2036	\$424,737	\$1,784,169	\$1,956,800	\$4,165,706	\$16,839,971.53	\$21,005,677.53
	2037	\$423,929	\$1,780,776	\$1,956,800	\$4,161,505	\$17,277,810.79	\$21,439,315.61
	2038	\$423,123	\$1,777,389	\$1,956,800	\$4,157,312	\$17,727,033.87	\$21,884,345.83
	2039	\$422,318	\$1,774,009	\$1,956,800	\$4,153,127	\$18,187,936.75	\$22,341,064.13

Source(s): Lucas County SWMD Quarterly Fee Reports (2017-2021)

Table O-6 above includes all funding mechanisms used and the projected revenue generated by each method for each year of the planning period.

B. Cost of Implementing Plan

Table O-7 Expenses

Line #	Category/Program	2017	2018	2019	2020	2021	2022	2023	2024
1	1. Plan Monitoring/Prep.	\$44,919	\$43,539	\$20,806	\$13,713	\$10,388	\$47,562	\$68,816	\$40,863
1.a	a. Plan Preparation	\$25,904	\$6,585	\$4,882	\$0	\$0	\$0	\$29,700	\$0
1.b	b. Plan Monitoring	\$8,935	\$19,104	\$8,206	\$9,273	\$8,425	\$20,094	\$10,000	\$10,000
1.c	c. Other	\$10,080	\$17,850	\$7,718	\$4,440	\$1,963	\$27,468	\$29,116	\$30,863
2	2. Plan Implementation	\$2,012,838	\$1,739,586	\$3,909,656	\$2,095,380	\$2,397,889	\$2,730,670	\$2,693,599	\$3,430,359
2.a	a. District Administration	\$1,014,214	\$981,295	\$1,673,599	\$1,024,002	\$1,219,224	\$1,067,116	\$1,131,142	\$1,199,011
2.a.1	Personnel	\$815,122	\$807,430	\$757,263	\$845,942	\$907,857	\$906,830	\$961,240	\$1,018,914
2.a.2	Office Overhead	\$199,092	\$173,866	\$906,626	\$178,060	\$311,368	\$160,286	\$169,903	\$180,097
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$0	\$0	\$307,319	\$0	\$164	\$257,150	\$200,000	\$809,399
2.b.1	MRF/Recycling Center	\$0	\$0	\$3,103	\$0	\$164	\$3,350,670	\$6,729,393	\$809,399
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$304,216	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$643,782	\$340,644	\$1,397,446	\$751,170	\$802,774	\$934,315	\$990,374	\$1,049,797
2.d.1	Curbside	\$0	\$0			\$0		\$0	\$0
2.d.2	Drop-off	\$643,782	\$340,644	\$1,397,446	\$751,170	\$802,774	\$934,315	\$990,374	\$1,049,797
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e	e. Special Collections	\$42,105	\$14,849	\$8,692	\$7,638	\$23,997	\$34,639	\$21,169	\$21,239
2.e.1	Tire Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e.2	HHW Collection	\$22,105	\$14,849	\$8,692	\$7,638	\$20,483	\$33,536	\$20,000	\$20,000
2.e.3	Electronics Collection	\$0	\$0	\$0	\$0	\$3,514	\$1,103	\$1,169	\$1,239
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e.5	Other Collection Drives	\$20,000	\$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	\$149,187	\$218,640	\$302,354	\$138,020	\$164,945	\$133,876	\$160,000	\$160,000
2.g.1	Education Staff	\$139,611	\$144,165	\$162,500	\$138,020	\$164,945	\$150,000	\$150,000	\$150,000
2.g.2	Advertisement/Promotion	\$9,567	\$74,385	\$200	\$0	\$0	-\$16,124	\$10,000	\$10,000
2.g.3	Other	\$9	\$90	\$139,654	\$0	\$0	\$0	\$0	\$0
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.i	i. Service Contracts	\$0	\$0	\$2,375	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.k	k. Waste Assessments/Audits	\$90,203	\$83,245	\$116,958	\$73,638	\$85,872	\$102,660	\$90,000	\$90,000
2.l	l. Dump Cleanup	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$50,456	\$100,913	\$100,913	\$100,913	\$100,913	\$100,913	\$100,913	\$100,913
2.p	p. Other	\$22,890	\$0	\$0	\$0	\$0	\$100,000	\$0	\$0
3	3. Health Dept. Enforcement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	4. County Assistance	\$171,000	\$91,000					\$100,000	\$100,000
5	5. Well Testing								
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement								
7.a	a. Health Departments								
7.b	b. Local Law Enforcement								
7.c	c. Other								
8	8. Health Department Training								
9	9. Municipal/Township Assistance								
10	10. Compensation to Affected Community (ORC Section 3734.35)								
	Total Expenses	\$2,228,757	\$1,874,125	\$3,920,752	\$2,109,093	\$2,408,277	\$6,051,750	\$8,941,808	\$3,571,222
2.d.3	Combined Curbside/Drop-off	\$9,134,048	\$8,729,769	\$10,096,729	\$10,790,143	\$10,805,708	\$11,756,564	\$12,062,176	\$12,375,793
	TOTAL EXPENSES with Pass Through Contracts	\$11,362,805	\$10,603,894	\$14,017,481	\$12,899,236	\$13,213,985	\$17,808,314	\$21,003,984	\$15,947,015

Line #	Category/Program	2025	2026	2027	2028	2029	2030	2031	2032
1	1. Plan Monitoring/Prep.	\$42,715	\$44,023	\$45,384	\$76,500	\$48,272	\$49,803	\$51,395	\$53,050
1.a	a. Plan Preparation	\$0	\$0	\$0	\$29,700	\$0	\$0	\$0	\$0
1.b	b. Plan Monitoring	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
1.c	c. Other	\$32,715	\$34,023	\$35,384	\$36,800	\$38,272	\$39,803	\$41,395	\$43,050
2	2. Plan Implementation	\$3,565,362	\$3,660,764	\$3,759,982	\$3,863,169	\$3,869,570	\$3,981,177	\$4,097,248	\$4,217,962
2.a	a. District Administration	\$1,270,952	\$1,321,790	\$1,374,661	\$1,429,648	\$1,486,834	\$1,546,307	\$1,608,159	\$1,672,486
2.a.1	Personnel	\$1,080,049	\$1,123,251	\$1,168,181	\$1,214,908	\$1,263,504	\$1,314,044	\$1,366,606	\$1,421,270
2.a.2	Office Overhead	\$190,903	\$198,539	\$206,481	\$214,740	\$223,329	\$232,263	\$241,553	\$251,215
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$809,399							
2.b.1	MRF/Recycling Center	\$809,399							
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$1,112,784	\$1,157,296	\$1,203,588	\$1,251,731	\$1,301,800	\$1,353,872	\$1,408,027	\$1,464,348
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$1,112,784	\$1,157,296	\$1,203,588	\$1,251,731	\$1,301,800	\$1,353,872	\$1,408,027	\$1,464,348
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e	e. Special Collections	\$21,314	\$21,366	\$21,421	\$21,478	\$21,537	\$21,598	\$21,662	\$21,729
2.e.1	Tire Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e.2	HHW Collection	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
2.e.3	Electronics Collection	\$1,314	\$1,366	\$1,421	\$1,478	\$1,537	\$1,598	\$1,662	\$1,729
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$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	\$160,000							
2.g.1	Education Staff	\$150,000							
2.g.2	Advertisement/Promotion	\$10,000							
2.g.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.k	k. Waste Assessments/Audits	\$90,000							
2.l	l. Dump Cleanup	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$100,913	\$100,913	\$100,913	\$100,913	\$0	\$0	\$0	\$0
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	3. Health Dept. Enforcement								
4	4. County Assistance	\$100,000							
5	5. Well Testing								
6	6. Out-of-State Waste Inspection								
7	7. Open Dump, Litter Law Enforcement								
7.a	a. Health Departments								
7.b	b. Local Law Enforcement								
7.c	c. Other								
8	8. Health Department Training								
9	9. Municipal/Township Assistance								
10	10. Compensation to Affected Community (ORC Section 3734.35)								
	Total Expenses	\$3,708,077	\$3,804,787	\$3,905,366	\$4,039,669	\$4,017,842	\$4,130,979	\$4,248,643	\$4,371,012
2.d.3	Combined Curbside/Drop-off	\$12,697,563	\$13,027,700	\$13,366,420	\$13,713,947	\$14,070,510	\$14,436,343	\$14,811,688	\$15,196,792
	TOTAL EXPENSES with Pass Through Contracts	\$16,405,640	\$16,832,487	\$17,271,786	\$17,753,616	\$18,088,351	\$18,567,322	\$19,060,330	\$19,567,804

Line #	Category/Program	2033	2034	2035	2036	2037	2038	2039
1	1. Plan Monitoring/Prep.	\$84,473	\$56,563	\$58,426	\$60,363	\$62,377	\$64,473	\$96,351
1.a	a. Plan Preparation	\$29,700	\$0	\$0	\$0	\$0	\$0	\$29,700
1.b	b. Plan Monitoring	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
1.c	c. Other	\$44,773	\$46,563	\$48,426	\$50,363	\$52,377	\$54,473	\$56,651
2	2. Plan Implementation	\$4,343,504	\$4,474,069	\$4,609,855	\$4,751,074	\$4,897,941	\$5,050,682	\$5,209,534
2.a	a. District Administration	\$1,739,385	\$1,808,961	\$1,881,319	\$1,956,572	\$2,034,835	\$2,116,228	\$2,200,877
2.a.1	Personnel	\$1,478,121	\$1,537,246	\$1,598,736	\$1,662,685	\$1,729,193	\$1,798,360	\$1,870,295
2.a.2	Office Overhead	\$261,264	\$271,714	\$282,583	\$293,886	\$305,642	\$317,868	\$330,582
2.a.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b	b. Facility Operation	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399
2.b.1	MRF/Recycling Center	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399	\$809,399
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$1,522,922	\$1,583,839	\$1,647,193	\$1,713,080	\$1,781,604	\$1,852,868	\$1,926,982
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$1,522,922	\$1,583,839	\$1,647,193	\$1,713,080	\$1,781,604	\$1,852,868	\$1,926,982
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	\$21,798	\$21,870	\$21,945	\$22,022	\$22,103	\$22,187	\$22,275
2.e.1	Tire Collection	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.e.2	HHW Collection	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
2.e.3	Electronics Collection	\$1,798	\$1,870	\$1,945	\$2,022	\$2,103	\$2,187	\$2,275
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	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000
2.g.1	Education Staff	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
2.g.2	Advertisement/Promotion	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000
2.g.3	Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.k	k. Waste Assessments/Audits	\$90,000	\$90,000	\$90,000	\$90,000	\$90,000	\$90,000	\$90,000
2.l	l. Dump Cleanup	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0
3	3. Health Dept. Enforcement	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	4. County Assistance	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
5	5. Well Testing							
6	6. Out-of-State Waste Inspection							
7	7. Open Dump, Litter Law Enforcement							
7.a	a. Health Departments							
7.b	b. Local Law Enforcement							
7.c	c. Other							
8	8. Health Department Training							
9	9. Municipal/Township Assistance							
10	10. Compensation to Affected Community (ORC Section 3734.35)							
	Total Expenses	\$4,527,977	\$4,630,632	\$4,768,281	\$4,911,437	\$5,060,318	\$5,215,155	\$5,405,885
2.d.3	Combined Curbside/Drop-off	\$15,591,908	\$15,997,298	\$16,413,228	\$16,839,972	\$17,277,811	\$17,727,034	\$18,187,937
	TOTAL EXPENSES with Pass Through Contracts	\$20,119,885	\$20,627,930	\$21,181,509	\$21,751,408	\$22,338,129	\$22,942,189	\$23,593,822

The expense line items in Table O-7 are the same as those the District uses to report expenses for the quarterly fee report. In Table O-7 the line items are the same as those the District uses to report expenses in the quarterly fee reports. There are a few line item discrepancies between this 2024 Plan budget appendix and the quarterly fee reports submitted to Ohio EPA from 2017 to 2022. Some of the allocations were adjusted to align with the expenses. It was also noted that some overlapping of expenses from report years occurred. These are minor discrepancies that do not impact the District auditor records or balance. See Appendix A Section E2 for a detailed analysis of the discrepancies.

Explanation of Expenses

Table O-7.1 includes actual expenses for 2017 to 2022 and projected expenses from 2023 to 2039. Line items explained below correspond to the line item numbers in the District's Quarterly Fee Reports. Each expense allocated to line items in Table O-7.1 are explained here:

1. Plan Monitoring/Prep

1.a Plan Preparation

Expenditures for working with consultants to develop solid waste plan updates.

1.b Plan Monitoring

Expenses for assistance with annual reporting and plan implementation monitoring
Expenses are projected at a flat annual estimation through the planning period.

1.c Other

Expenses for legal assistance and an annual recycling audit.

2. Plan Implementation

2.a District Administration

2.a.1 Personnel

2017 – 2022 Actual expenses for salaries, fringes, and benefits.

2023 – 2025 Expenditures are projected to increase 6% annually.

2026 – 2039 Expenditures are projected to increase 4% annually.

2.a.2 Office Overhead

2017 – 2022 The costs shown are actual expenses. This includes drug testing, postage, office rent, utilities, telecommunications, staff training, trade organization memberships, industry-specific subscriptions, asset insurance, etc.

2023 – 2025 Expenditures are projected to increase 6% annually.

2026 – 2039 Expenditures are projected to increase 4% annually.

2.b Facility Operation

2.b.1 MRF/Recycling Center

2021 - 2022 Expenditures for assessment, design, and preliminary engineering costs.

2023 - 2039 Expenditures include debt repayment for \$11,000,000 over 20 years yields a yearly payment of \$810,000. Cost estimated beginning in 2023 are costs for debt service for land, development, and building costs. In addition, the awarded Brownfield Remediation grant of \$7,014,327 required a match. The District's match is \$2,338,675, with 35% budgeted to disburse in 2023 and 65% in 2024.

2.b.3 Transfer

2019 Costs for one compactor and one transfer trailer for the drop-off program. Except for these costs drop-off program costs are allocated in line item 2.d.2.

2.d. Recycling Collection

2.d.2 Drop-Off

2017 – 2022 Actual costs for the drop-off program include operating costs, diesel fuel costs, processing costs, and funding for motor vehicle repairs. Additional purchases in 2019 include two trucks and two transfer trailers. (See line item 2.b.3 for other equipment purchases.)

2023 – 2025 Expenditures are projected to increase 6% annually.

2026 – 2039 Expenditures are projected to increase 4% annually.

2.d.3 Combined Curbside/Drop-off

Note: there are two placeholders in Table O-7 for this line item. The first placeholder shows no expenses for this program. The second placeholder (located at the very bottom of the table) shows the waste contract pass-through costs.

2017 – 2022 Actual costs for the City of Toledo, Monclova, Waterville, and Jerusalem collection services contract. This line item is a pass-through expense.

2023 – 2039 Expenditures are projected to match the revenue on Table O-5 listed as Reimbursements. An inflation factor of 2.5% was applied annually.

2.e Special Collections

2.e.2 HHW Collection

2017 – 2022 Actual costs for the HHW Collection program.

2023 – 2039 Projected costs are budgeted at \$20,000 annually.

2.e.3 Electronics

2021 - 2022 Actual costs for the electronics collection program.

2023 – 2025 Expenditures are projected to increase 6% annually.

2026 – 2039 Expenditures are projected to increase 4% annually.

2.g Education/Awareness

2.g.1 Education Staff

2017 - 2022 Expenditures for a service agreement between the District and KT/LCB, which includes a speaker, education, outreach, advertisement and promotion costs. Additional costs include other education campaigns.

2023 – 2039 The agreement between the District and KT/LCB is expected through the planning period and is estimated at \$150,000 annually.

2.g.2 Advertisement/Promotion

2017 - 2022 Costs for advertisements and promotions for District programming. In 2018 costs were higher with the implementation of a targeted campaign.

2023 – 2039 Projected costs are held flat at \$10,000 annually through the planning period.

2.g.3 Other

2017 - 2023 Costs for re-branding, including re-developing the website, updating flyers, and other collateral.

2023 – 2039 Projected costs are not expected through the planning period.

2.i Service Contracts

2019 - Actual costs, but no further costs are projected.

2.k Waste Assessments/Audits

2017 – 2022 Costs for waste assessments and audits performed by the University of Toledo (UT) on behalf of the District.

2023 – 2039 The District holds an MOU agreement with UT to conduct waste assessments and budgets \$90,000 annually through the planning period.

2.o Loan Payment

2017 – 2022 Actual costs for the \$1.2 million loan acquired in 2009.

2023 – 2029 Loan payment retirement expected in 2028.

2.p Other

2017 Actual costs for an incentive program which aims to assist political subdivisions and other entities with upgrading/expanding residential recycling services.

2022 Ohio EPA grant returned in amount of \$100,000. No funds were spent.

4. County Assistance

4.d Providing Other Public Services

2017 – 2018 Actual costs for Toledo-Lucas County Sustainability Commission.

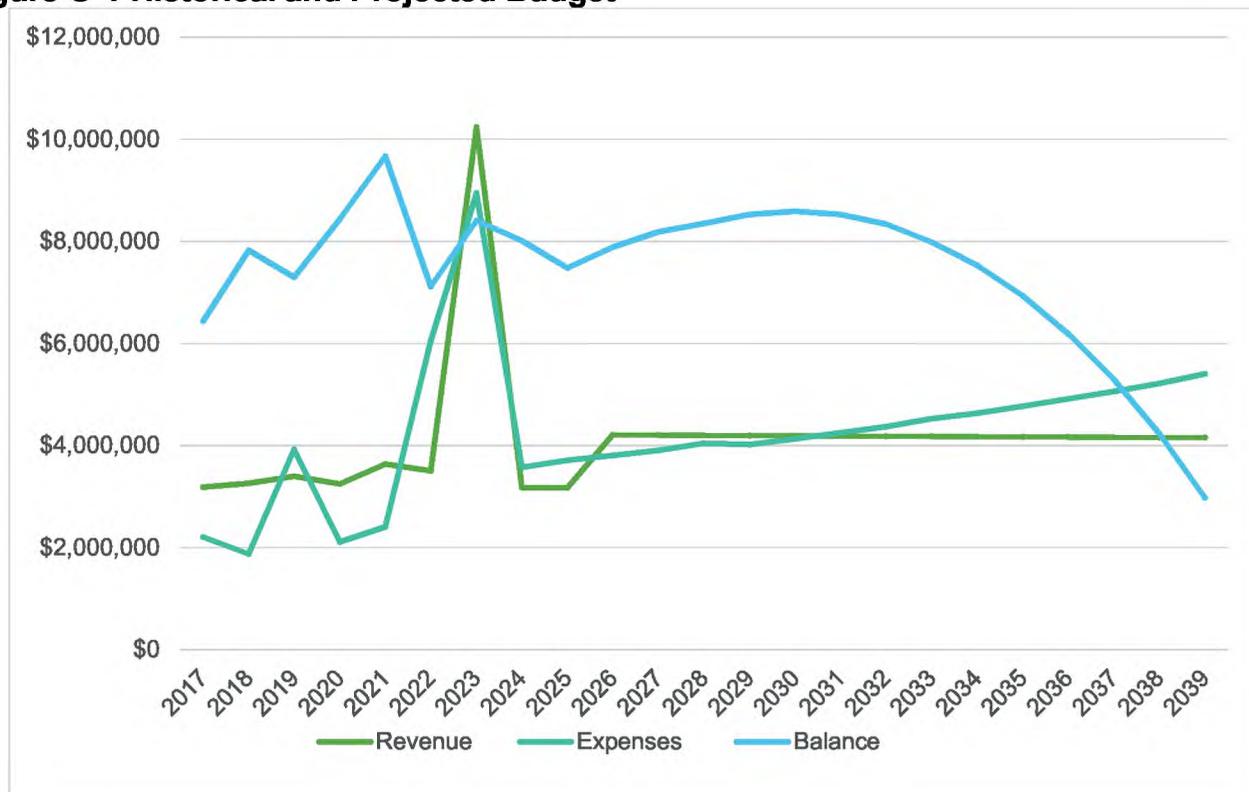
2023 – 2039 Projected costs include a flat amount of \$100,000 through the planning period.

Costs in the planning period are projections and do not hold the District to a binding commitment to spend a certain amount of money on a particular program, facility, or strategy. The District can review and revise the budget as needed in implement programs, facilities and/or strategies as best as possible with the available funds.

Table O-8 Budget Summary

	Year	Revenue	Expenses	Annual Surplus/Deficit (\$)	Balance	Pass-Through Contracts Revenue	Pass-Through Contracts Expenses	Balance with Pass-Through Contracts
ACTUAL	2016							
				Ending Balance	\$5,459,971			
	2017	\$3,183,410	\$2,208,757	\$974,653	\$6,434,624	\$9,134,248	\$9,134,048	\$6,434,824
	2018	\$3,260,554	\$1,874,125	\$1,386,429	\$7,821,054	\$9,948,335	\$8,729,769	\$9,039,620
	2019	\$3,398,970	\$3,920,752	-\$521,783	\$7,299,271	\$10,116,471	\$10,096,729	\$7,319,013
	2020	\$3,248,929	\$2,109,093	\$1,139,837	\$8,439,108	\$9,673,034	\$10,790,143	\$7,321,999
	2021	\$3,635,211	\$2,408,277	\$1,226,934	\$9,666,042	\$10,805,651	\$10,805,708	\$9,665,984
PROJECTED	2022	\$3,501,533	\$6,051,750	-\$2,550,217	\$7,115,824	\$11,756,507	\$11,756,564	\$7,115,767
	2023	\$10,233,559	\$8,941,808	\$1,291,752	\$8,407,576	\$12,062,176	\$12,062,176	\$8,407,576
	2024	\$3,176,864	\$3,571,222	-\$394,359	\$8,013,218	\$12,375,793	\$12,375,793	\$8,013,218
	2025	\$3,170,511	\$3,708,077	-\$537,565	\$7,475,652	\$12,697,563	\$12,697,563	\$7,475,652
	2026	\$4,214,184	\$3,804,787	\$409,397	\$7,885,049	\$13,027,700	\$13,027,700	\$7,885,049
	2027	\$4,207,881	\$3,905,366	\$302,515	\$8,187,563	\$13,366,420	\$13,366,420	\$8,187,563
	2028	\$4,201,603	\$4,039,669	\$161,934	\$8,349,497	\$13,713,947	\$13,713,947	\$8,349,497
	2029	\$4,195,348	\$4,017,842	\$177,506	\$8,527,004	\$14,070,510	\$14,070,510	\$8,527,004
	2030	\$4,191,088	\$4,130,979	\$60,109	\$8,587,113	\$14,436,343	\$14,436,343	\$8,587,113
	2031	\$4,186,837	\$4,248,643	-\$61,806	\$8,525,307	\$14,811,688	\$14,811,688	\$8,525,307
	2032	\$4,182,594	\$4,371,012	-\$188,418	\$8,336,889	\$15,196,792	\$15,196,792	\$8,336,889
	2033	\$4,178,360	\$4,527,977	-\$349,617	\$7,987,272	\$15,591,908	\$15,591,908	\$7,987,272
	2034	\$4,174,133	\$4,630,632	-\$456,499	\$7,530,773	\$15,997,298	\$15,997,298	\$7,530,773
	2035	\$4,169,916	\$4,768,281	-\$598,366	\$6,932,407	\$16,413,228	\$16,413,228	\$6,932,407
	2036	\$4,165,706	\$4,911,437	-\$745,731	\$6,186,676	\$16,839,972	\$16,839,972	\$6,186,676
	2037	\$4,161,505	\$5,060,318	-\$898,813	\$5,287,863	\$17,277,811	\$17,277,811	\$5,287,863
	2038	\$4,157,312	\$5,215,155	-\$1,057,843	\$4,230,020	\$17,727,034	\$17,727,034	\$4,230,020
	2039	\$4,153,127	\$5,405,885	-\$1,252,758	\$2,977,262	\$18,187,937	\$18,187,937	\$2,977,262

Revenues and expenses shown in year 2017 are forced in and do not align with the revenues and expenditures shown in earlier tables of this Appendix O. Historically there was an issue with fund ending balances between Ohio EPA reports and District auditor reports. Auditor reports do not track the pass-through contracts as a District spending line item. Auditor reports also keep the grant revenue and spending separate from the District fund.

Figure O-1 Historical and Projected Budget

C. Alternative Budget

The District does not anticipate the need to identify any type of contingent funding or financing that would be necessary to fund any type of program activity in conjunction with Plan implementation efforts.

As such, Tables O-8 through O-11 are not included in this analysis.

The District will annually evaluate each program and strategy to determine its progress in meeting the State Plan goals described earlier in Chapter 1. In the event that a program's progress is deemed insufficient by the District, the District will conduct a feasibility analysis to determine the most economically feasible program modification or the most economically feasible alternative.

D. Major Facility Project

The District is planning on developing a material recovery facility to process approximately 35,000 tons of source separated recyclables. Throughout this Appendix potential revenues and costs are projected and described.

The MRF will be designed to include the latest technology for automated sorting and processing and will be designed to service the capacity needs for the region into the future. The facility is also anticipated to include options for educating

residents and businesses on recyclable materials processing through tours and other educational activities.

The revenue from tipping fees and commodity sales will help fund the operation of the MRF. The District will need to provide some subsidy for the operation.



APPENDIX P

DESIGNATION



APPENDIX P. DESIGNATION

A. Statement Authorizing/Precluding Designation

Ohio law gives each SWMD the ability to control where waste generated from within the SWMD can be taken. Such control is generally referred to as flow control. In Ohio, SWMDs establish flow control by designating facilities. SWMDs can designate any type of solid waste facility, including recycling, transfer, and landfill facilities.¹

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

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

Once the board of directors designates facilities, only designated facilities can receive the SWMD's waste. In more explicit terms, no one can legally take waste from the SWMD to undesignated facilities and undesignated facilities cannot legally accept waste from the SWMD. The only exception is when the board of directors grants a waiver to allow an undesignated facility to take the SWMD's waste. Ohio law prescribes the criteria that the board must consider when deciding whether to grant a waiver and the time period available to the board for making a decision on a waiver request.

1. Authorization Statement to Designate

The District is hereby authorized to establish facility designations in accordance with ORC Section 343.013, 343.014 and 343.015.

2. Description of the SWMD's Designation Process

¹ Source-separated recyclables delivered to a “legitimate recycling facility” as defined in Ohio law are not subject to the requirements of designation. (A legitimate recycling facility is loosely defined as a facility which consistently recycles a majority of the materials processed on-site.)

Decisions regarding designation or the granting of a designation waiver shall be made by the District, following a review of the request by the Policy Committee. Copies of applicable resolutions for the District's most recent designation process are included in Appendix Y.

Where the District designates facilities, it may grant a waiver to a non-designated entity to provide solid waste disposal, transfer or resource recovery facilities or activities at any time after the plan update is approved and in accordance with the criteria specified in ORC 343.01(I)(2). The Policy Committee will evaluate each request for designation or waiver based upon, at least, the following general criteria:

- The facility's compatibility with the District's Solid Waste Management Plan.
- The facility's compliance with all rules promulgated by the District and the District's Solid Waste Management Plan.

The full procedure for granting a designation waiver is included in the District's *Designation Procedure and Evaluation Document*, found in Appendix Y.

B. Designated Facilities

Table P-1 Designated Facilities

The currently designated facilities for the solid waste generators are shown in Table P-1.

Table P-1. Facilities Designated

Facility Name	Location		Facility Type	Year Designated
	County	State		
<i>In-District</i>				
Hoffman Road Landfill	Lucas	OH	Landfill	2013
<i>Out-of-District</i>				
Port Clinton Landfill	Ottawa	OH	Landfill	2013
Wood County Landfill	Wood	OH	Landfill	2013
Erie County Sanitary Landfill	Erie	OH	Landfill	2013
County Environmental of Wyandot	Wyandot	OH	Landfill	2013
Williams County Landfill	Williams	OH	Landfill	2013
Hancock County Landfill	Hancock	OH	Landfill	2013

Facility Name	Location		Facility Type	Year Designated
	County	State		
Evergreen Landfill	Wood	OH	Landfill	2013
ARS Refuse Service	Fulton	OH	Transfer Station	2013
Defiance County Landfill	Defiance	OH	Landfill	2015
Rumpke Noble Road Landfill	Richland	OH	Landfill	2016
Stony Hollow Landfill	Montgomery	OH	Landfill	2015
Sunny Farms Landfill	Seneca	OH	Landfill	2013
WMI Suburban Landfill	Perry	OH	Landfill	2013
Henry County Landfill	Henry	OH	Landfill	2013
WMI American Landfill	Stark	OH	Landfill	2013
Out-of-State				
Adrian Landfill	Lenawee	MI	Landfill	2013
Vienna Junction Landfill	Monroe	MI	Landfill	2013
Steven's Disposal and Transfer Facility	Monroe	MI	Transfer Station	2013

C. Documents

Appendix Y contains the related documents including resolutions pertaining to designation.



APPENDIX Q

DISTRICT RULE



APPENDIX Q. DISTRICT RULES

A. Existing Rules

The District does not currently have any existing rules.

1. *Rule Making Authority - ORC 343.01*

The solid waste management plan provides the authority to the Board of County Commissioners to adopt, publish, and enforce all of the rule-making powers authorized by Ohio Revised Code 343.01, Divisions (G)(1), (G)(2), (G)(3) and (G)(4) including the following:

ORC 343.01(G)(1)

To the extent authorized by the solid waste management plan of the district approved under section 3734.521 or 3734.55 of the Revised Code or subsequent amended plans of the district approved under section 3734.521 or 3734.56 of the Revised Code, the board of county commissioners of a county district or board of directors of a joint district may adopt, publish, and enforce rules doing any of the following:

- (1) Prohibiting or limiting the receipt of solid wastes generated outside the district or outside a service area prescribed in the solid waste management plan or amended plan, at facilities covered by the plan, consistent with the projections contained in the plan or amended plan under divisions (A)(6) and (7) of section 3734.53 of the Revised Code, except that the director of environmental protection may issue an order modifying a rule adopted under division (G)(1) of this section to allow the disposal in the district of solid wastes from another county or joint solid waste management district if all of the following apply:
 - (a) The district in which the wastes were generated does not have sufficient capacity to dispose of solid wastes generated within it for six months following the date of the director's order;
 - (b) No new solid waste facilities will begin operation during those six months in the district in which the wastes were generated and, despite good faith efforts to do so, it is impossible to site new solid waste facilities within the district because of its high population density;
 - (c) The district in which the wastes were generated has made good faith efforts to negotiate with other districts to

incorporate its disposal needs within those districts' solid waste management plans, including efforts to develop joint facilities authorized under section 343.02 of the Revised Code, and the efforts have been unsuccessful;

- (d) The district in which the wastes were generated has located a facility willing to accept the district's solid wastes for disposal within the receiving district;
- (e) The district in which the wastes were generated has demonstrated to the director that the conditions specified in divisions (G)(1)(a) to (d) of this section have been met;
- (f) The director finds that the issuance of the order will be consistent with the state solid waste management plan and that receipt of the out-of-district wastes will not limit the capacity of the receiving district to dispose of its in-district wastes to less than eight years. Any order issued under division (G)(1) of this section shall not become final until thirty days after it has been served by certified mail upon the county or joint solid waste management district that will receive the out-of-district wastes.

ORC 343.01(G)(2)

Governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located within its district. The rules adopted under division (G)(2) of this section shall not establish design standards for solid waste facilities and shall be consistent with the solid waste provisions of Chapter 3734. of the Revised Code and the rules adopted under those provisions. The rules adopted under division (G)(2) of this section may prohibit any person, municipal corporation, township, or other political subdivision from constructing, enlarging, or modifying any solid waste facility until general plans and specifications for the proposed improvement have been submitted to and approved by the board of county commissioners or board of directors as complying with the solid waste management plan or amended plan of the district. The construction of such a facility shall be done under the supervision of the county sanitary engineer or, in the case of a joint district, a county sanitary engineer designated by the board of directors, and any person, municipal corporation, township, or other political subdivision proposing or constructing such improvements shall pay to the county or joint district all expenses incurred by the board in connection therewith. The sanitary engineer may enter upon any public or private property for the purpose of making surveys or examinations necessary for designing solid waste facilities or for supervising the construction, enlargement, modification, or operation of any such facilities.

No person, municipal corporation, township, or other political subdivision shall forbid or interfere with the sanitary engineer or his authorized assistants entering upon such property for that purpose. If actual damage is done to property by the making of the surveys and examinations, a board shall pay the reasonable value of that damage to the owner of the property damaged, and the cost shall be included in the financing of the improvement for which the surveys and examinations are made.

“Governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located within its district. The rules adopted under division (G)(2) of this section shall not establish design standards and shall be consistent with the solid waste provisions of Chapter 3734. of the Revised Code and the rules adopted under those provisions. The rules adopted under division (G)(2) of this section may prohibit any person, municipal corporation, township, or other political subdivision from constructing, enlarging, or modifying any solid waste facility under general plans and specifications for the proposed improvement have been submitted to and approved by the Board of County Commissioners as complying with solid waste management plan or amended plan of the District. The construction of such a facility.”

ORC 343.01(G)(3)

Governing the development and implementation of a program for the inspection of solid wastes generated outside the boundaries of this state that are disposed of at solid waste facilities included in the district's solid waste management plan or amended plan. A board of county commissioners or board of directors or its authorized representative may enter upon the premises of any solid waste facility included in the district's solid waste management plan or amended plan for the purpose of conducting the inspections required or authorized by the rules adopted under division (G)(3) of this section. No person, municipal corporation, township, or other political subdivision shall forbid or interfere with a board of county commissioners or directors or its authorized representative entering upon the premises of any such solid waste facility for that purpose.

ORC 343.01(G)(4)

Exempting the owner or operator of any existing or proposed solid waste facility provided for in the plan or amended plan from compliance with any amendment to a township zoning resolution adopted under section 519.12 of the Revised Code or to a county rural zoning resolution adopted under section 303.12 of the Revised Code that rezoned or redistricted the parcel or parcels upon which the facility is to be constructed or modified and that became effective within two years prior to the filing of an application for a

permit required under division (A)(2)(a) of section 3734.05 of the Revised Code to open a new or modify an existing solid waste facility.

2. Rule Making Authority - ORC 3734.53

The solid waste management plan provides the authority to the Board of Directors to adopt, publish, and enforce all of the rule-making powers authorized by Ohio Revised Code 3734.53, Division (C) including the following:

- (1) Prohibiting or limiting the receipt at facilities covered by the plan of solid wastes generated outside the district or outside a prescribed service area consistent with the projections under divisions (A)(6) and (7) of this section, except that the director of environmental protection may issue an order modifying a rule authorized to be adopted under division (C)(1) of this section to allow the disposal in the district of wastes from another county or joint solid waste management district if all of the following apply:
 - (a) The district in which the wastes were generated does not have sufficient capacity to dispose of solid wastes generated within it for six months following the date of the director's order;
 - (b) No new solid waste facilities will begin operation during those six months in the district in which the wastes were generated and, despite good faith efforts to do so, it is impossible to site new solid waste facilities within the district because of its high population density;
 - (c) The district in which the wastes were generated has made good faith efforts to negotiate with other districts to incorporate its disposal needs within those districts' solid waste management plans, including efforts to develop joint facilities authorized under section 343.02 of the Revised Code, and the efforts have been unsuccessful;
 - (d) The district in which the wastes were generated has located a facility willing to accept the district's solid wastes for disposal within the receiving district;
 - (e) The district in which the wastes were generated has demonstrated to the director that the conditions specified in divisions (C)(1)(a) to (d) of this section have been met;
 - (f) The director finds that the issuance of the order will be consistent with the state solid waste management plan and

that receipt of the out-of-district wastes will not limit the capacity of the receiving district to dispose of its in-district wastes to less than eight years. Any order issued under division (C)(1) of this section shall not become final until thirty days after it has been served by certified mail upon the county or joint solid waste management district that will receive the out-of-district wastes.

- (2) Governing the maintenance, protection, and use of solid waste collection, storage, disposal, transfer, recycling, processing, and resource recovery facilities within the district and requiring the submission of general plans and specifications for the construction, enlargement, or modification of any such facility to the board of county commissioners or board of directors of the district for review and approval as complying with the plan or amended plan of the district;
- (3) Governing development and implementation of a program for the inspection of solid wastes generated outside the boundaries of the state that are being disposed of at solid waste facilities included in the district's plan;
- (4) Exempting the owner or operator of any existing or proposed solid waste facility provided for in the plan from compliance with any amendment to a township zoning resolution adopted under section 519.12 of the Revised Code or to a county rural zoning resolution adopted under section 303.12 of the Revised Code that rezoned or redistricted the parcel or parcels upon which the facility is to be constructed or modified and that became effective within two years prior to the filing of an application for a permit required under division (A)(2)(a) of section 3734.05 of the Revised Code to open a new or modify an existing solid waste facility.

B. Proposed Rules

The District is not proposing any new rules in this Plan Update.

C. Rule Approval Process

Proposed rules shall be adopted and enforced by the Board of Directors as provided in Section 343.01(G).



APPENDIX R

BLANK SURVEY FORMS AND RELATED INFORMATON



Board of County
Commissioners
Tina Skeldon Wozniak
President
Pete Gerken
Gary L. Byers

Solid Waste
Management District
James P. Shaw III, P.E.
Sanitary Engineer
Julie Riley
District Manager

February 2023

Dear Facility Manager:

THE LUCAS COUNTY SOLID WASTE DISTRICT NEEDS YOUR HELP.

You can help us track local recycling efforts and fulfill our state reporting obligations by participating in a brief survey regarding the total pounds/tons recycled by your workplace in 2022. The data you provide will be combined with other businesses' data, so your individual company's or organization's information will not be identified. The information you supply will help us provide programs that meet the needs of our local community.

How to participate in our brief survey:

The survey asks for the total tons recycled in 2022, which can typically be found on hauler invoices or receipts from processors/brokers of recyclable materials. If weights are not provided to you, you may be able to request this information from your service provider. Completing the survey should take only a few minutes.

Please complete your survey by **March 31, 2023** by following the steps below:

1. Visit <http://bit.ly/3YtnX4w>*
2. Follow the instructions for completing the survey and check for accuracy
3. Click "Submit Survey"

If you have questions about the survey or would like to complete a paper survey, please contact Lizzie Van Desuen, the District's consultant, at GT Environmental. Lizzie can be reached at lvandeusen@gtenvironmental.com or **614-297-9946**.

We greatly appreciate your willingness to participate and value your feedback.

Sincerely,

Julie Riley
Lucas County Solid Waste District Manager

*In the event you cannot reach the survey by the shortened link above,
please use: <https://survey.alchemer.com/s3/7208008/dbde96d96af8>

or scan:



Board of County
Commissioners
Tina Skeldon Wozniak
President
Pete Gerken
Gary L. Byers

Solid Waste
Management District
James P. Shaw III, P.E.
Sanitary Engineer
Julie Riley
District Manager

February 2023

Dear Lucas County Community:

THE LUCAS COUNTY SOLID WASTE DISTRICT NEEDS YOUR HELP.

You can help us track local recycling efforts and fulfill our state reporting obligations by participating in a brief survey regarding the total amount recycled by your community programs in 2022. The data you provide will be combined with other communities' data. The information you supply will help us provide programs that meet the needs of our District residents.

How to participate in our brief survey:

The survey asks for the total tons recycled in 2022, which can typically be found on hauler invoices or receipts from processors/brokers of recyclable materials. If weights are not provided to you, you may be able to request this information from your service provider. Completing the survey should take only a few minutes.

Please complete your survey by **March 31, 2023** by following the steps below:

1. Visit <http://bit.ly/3HEqCRU>*
2. Follow the instructions for completing the survey and check for accuracy
3. Click "Submit Survey"

If you have questions about the survey or would like to complete a paper survey, please contact Lizzie Van Deusen, the District's consultant, at GT Environmental. Lizzie can be reached at lvandeusen@gtenvironmental.com or **614-297-9946**.

We greatly appreciate your willingness to participate and value your feedback.

Sincerely,

Julie Riley
Lucas County Solid Waste District Manager

*In the event you cannot reach the survey by the shortened link above, please use:
<https://survey.alchemer.com/s3/7207987/89902b7678ed> or scan:



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Solid Waste
Management District
James P. Shaw III, P.E.
Sanitary Engineer
Julie Riley
District Manager

February 2023

Dear Facility Manager:

THE LUCAS COUNTY SOLID WASTE DISTRICT NEEDS YOUR HELP.

You can help us track local recycling efforts and fulfill our state reporting obligations by participating in a brief survey regarding the total pounds/tons recycled by your workplace in 2022. The data you provide will be combined with other businesses' data, so your individual company's or organization's information will not be identified. The information you supply will help us provide programs that meet the needs of our local community.

How to participate in our brief survey:

Please complete the survey using only calendar year 2022 information. Only materials generated within Lucas County in Ohio should be reported. Completing this survey should take only a few minutes.

Please complete your survey by **March 31, 2023** by following the steps below:

1. Visit [http://bit.ly/40wmyvP*](http://bit.ly/40wmyvP)
2. Follow the instructions for completing the survey and check for accuracy
3. Click "Submit Survey"

If you have questions about the survey or would like to complete a paper survey, please contact Lizzie Van Deusen, the District's consultant, at GT Environmental. Lizzie can be reached at lvandeusen@gtenvironmental.com or **614-297-9946**.

We greatly appreciate your willingness to participate and value your feedback.

Sincerely,

Julie Riley
Lucas County Solid Waste District Manager

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<https://survey.alchemer.com/s3/7208000/f7b0b6602588> or scan:





APPENDIX S

SITING STRATEGY



APPENDIX S. SITING STRATEGY

This section outlines the strategy to be used for evaluating proposals for siting solid waste facilities within the District to meet the need for additional disposal and/or processing capacity to serve the District. While the District does not believe it has a capacity concern or will need to consider a landfill siting contingency plan, if the need would arise, the following siting procedures would be followed.

Included in the strategy is a delineation of the functional roles to be performed by the District, the Solid Waste Management District Policy Committee ("Policy Committee") and its operational subcommittees, local governmental jurisdictions and the public. Additionally, the categories of criteria that will be employed to evaluate sites and/or facilities are identified. A Siting Evaluation and Ranking document discussing the criteria more specifically, as well as, how it will be applied to a site or facility during the evaluation process will be available, upon request, at the Solid Waste District offices. Finally, a process of dispute resolution and mediation is outlined and recommended for use in reducing potential conflicts, fostering communication between involved parties and resolving impasses.

The District's siting strategy has been developed to provide a process for evaluating proposed solid waste facilities and the sites upon which they may be constructed. This strategy is not meant to replace current review and evaluation processes conducted by Ohio Environmental Protection Agency, local zoning and planning commissioner, or other state or local agencies. Rather the District's siting strategy is meant to supplement those reviews by evaluating a proposed facility's conformity with the goals and objectives of the District Solid Waste Management Plan and providing a forum for public participation in the siting process. The District may alter this strategy to assure that it consistently meets these objectives. Such changes in the strategy will be published as part of the District's Siting Evaluation and Ranking document. The evaluation and siting strategy applies to all facilities regardless of ownership, except solid waste facilities sited within the district prior to plan approval. The strategy consists of three components:

- Preliminary site survey;
- Evaluation of proposed sites and requests for designation; and
- Resolving site impasses through mediation

A. Preliminary Site Analysis

The District will charge the Policy Committee or a special task force formed for such purpose, with responsibility for performing a preliminary site and black-out analysis. The Policy Committee or special task force, in cooperation with Ohio Environmental Protection Agency, the Ohio Department of Natural Resources, the U.S. Army Corps of Engineers, the Soil & Water Conservation Service and the Lucas County Plan Commissions, will identify all areas of the District that for statutory, regulatory, geologic, zoning or other reasons are determined to be

“environmentally sensitive areas” and unavailable for construction of a new solid waste facility.

The results of the District’s black-out analysis will be presented to the proper legal authorities within the District for adoption and implementation. Additionally, the District may assist local subdivisions, upon request, with developing responsible strategies for siting solid waste facilities within their jurisdictions through the utilization of their zoning and planning authority. This may include the addition of specific solid waste facilities to existing zoning categories, development of special zoning classifications for solid waste facilities, or the requirement of conditional use or special use permits for solid waste facilities.

Information concerning preferred sites identified by local subdivisions and black-out areas will be made available to developers proposing to site solid waste facilities within the District through the District office.

Exemption for Lucas County Solid Waste District Facilities and Anticipated Facilities:

The Board has determined that the expansion, modification or development of the proposed material recovery facility and any other complimentary operation such as recycling drop-off sites, curbside programs or yard waste drop-off sites to the District’s material recovery facility is in the best interest of the District, its residents and businesses and complies with the Plan. Board approval of the costs associated with any expansion, modification or development of the material recovery facility shall constitute a continuing determination by the Board that the proposed expansion, modification or development of the District’s material recovery facility complies with the Plan.

Finally, the Board believes that additional processing facilities may be constructed by the District on behalf of its residents including special waste collection facilities and one or more Material Recovery Facilities. Board approval of the costs associated with any construction, expansion or modification of the material recovery facility or additional processing facilities shall constitute a continuing determination by the Board that the proposed Modification expansion or renovation of these facilities complies with the Plan.

B. Evaluation of Proposed Sites and Designation Requests

General Requirements

Developers of proposed solid waste facilities within the District must comply with all federal, state and local statutes, regulations and guidance documents governing the siting, construction, expansion or modification of a solid waste facility. Certification of such compliance shall be provided to the District. Sources of information include:

- A copy of current state solid waste regulations and other applicable siting criteria is available from the Northwest District Office of Ohio Environmental Protection Agency, 347 N. Dunbridge Road, P.O. Box 466, Bowling Green, Ohio 43402; (419) 352-8461.
- Information on zoning restrictions, building code requirements and special use permits is available through the Toledo/Lucas County Planning Commission, One Government Center #1620, Toledo, Ohio 43604; (419) 245-1200 or the applicable municipality, village or township offices.
- Information on siting or operating licenses required by the Board of Health is available at the Lucas County Board of Health, 635 North Erie Street, Toledo, OH 43604 (419) 213-4100.

District Requirements

As required by the statutes and regulations referred to above, a developer of a solid waste facility may be required to submit a Permit-to-Install (PTI) application to Ohio Environmental Protection Agency for approval prior to construction or modification of the facility. Within 10 days of submission of such PTI to Ohio Environmental Protection Agency, a copy is required to be submitted to the District along with, at a minimum, the following data to support the District's evaluation process. Most of the information listed below is available from the Ohio Department of Natural Resources, Ohio Environmental Protection Agency, the Toledo/Lucas County Planning Commission, the Lucas County Soil and Water Conservation District, the Ohio Historic Preservation Office or the applicable local governmental jurisdiction. The minimum District requirements are:

- A description of the site and its location, including property boundaries and their relationship to political subdivisions, highways, roads, and utilities.
- Descriptions of each of the following located within one-half mile of the proposed site:
 - Residential, commercial, industrial and institutional buildings;
 - Zoning and land use classifications;
 - Roads and railroads;
 - Floodplains;
 - Existing topography including vegetation, rivers, creeks, intermittent streams, lakes, ponds, wetlands, and other surface waters;
 - Parks, nature preserves, wildlife areas, scenic rivers and exceptional wildlife habitats; and
 - Any other significant features.
- Surface drainage patterns within 500 feet in all directions beyond the facility's borders.

- Location of public and private water supply wells with 1,000 feet in all directions beyond facility boundaries.

Local Zoning and Planning Requirements

The District's Siting Strategy encourages a responsible and effective local community response to zoning and planning issues related to the siting and operation of solid waste facilities within the District. Developers of a proposed solid waste facility must provide certification to the District that such proposed facility is in compliance with the zoning and planning regulations of the local jurisdiction in which it is to be sited.

District Siting Process and Designation Review

The District, the Policy Committee, its applicable operating committees, the Solid Waste Management District staff and the local subdivision where the facility is proposed to be sited will follow a specific review process for the evaluation of a proposed facility. The siting process will consist of an evaluation of the proposed solid waste facility's compliance with the goals and objectives of the District Solid Waste Management Plan and the District's siting criteria. District approval of a proposed site will be conditioned upon receipt of certification that a proposed facility has complied with all Ohio Environmental Protection Agency and U.S. Environmental Protection Agency regulations and siting criteria, as well as, local zoning and planning regulations.

The District will charge the Policy Committee or a special task force appointed by the Policy Committee with responsibility for evaluating compliance of a proposed facility with the District's goals, objectives, and siting criteria. The Policy Committee or special task force will include members from the Policy Committee's applicable operating committees, members of the public with appropriate technical expertise, representatives of the Lucas County Health department, representatives from affected communities and landowners. The County's planning and engineering staff may support the Policy Committee or special task force in its technical review of all pertinent information regarding the facility.

Upon completion of its evaluation, the Policy Committee or special task force shall hold a public hearing to solicit comments on its report and recommendations. The Policy Committee or special task force shall submit its written report, including information obtained from the public hearing, to the Policy Committee within 60 days of receiving the proposed facility's siting information. The Policy Committee shall submit a resolution stating its recommendation to the District within 15 days of receiving the Policy Committee's or special task force's report.

The District will, by resolution, make a final determination and notify all relevant parties of its action within 15 days of receipt of the Policy Committee's resolution.

The District's resolution shall make reference to any agreement reached and shall direct, upon approval of the facility where required by Ohio Environmental Protection Agency, that the facility be incorporated in the list of designated facilities stipulated in Section 2 of the plan update as long as said facility has entered into the required designation agreement as provided for in the plan update. A copy of the agreement between the facility and the District shall be added to the Appendices of the plan update.

The District may, upon request, extend the time periods within which the various committees or task forces are required to accomplish their review. Such request shall be submitted, in writing, to the District with the reason for the extension clearly stated. All parties to the evaluation process shall be advised whenever such extension of the review process is granted.

The District shall forward its final decision on the siting of each proposed facility and a copy of any agreement entered into with the facility owner to Ohio Environmental Protection Agency. Any agreement entered into with a facility operator shall set forth negotiated limitations placed upon the facility and shall bind all parties. A list of issues subject to negotiation and incorporation into a final agreement may include but not be limited to:

- Compensation to any person for substantial economic impacts that result directly from the facility;
- Compensation to any affected political subdivision for substantial economic impacts that results directly from the facility, including allowing an affected township or municipality to impose fees under Division (C) of Section 3734.57 of the Ohio Revised Code that are in excess of the twenty-five cents per ton limit;
- Reimbursement to the District for reasonable costs incurred in handling negotiation, mediation, and arbitration activities;
- Screening and fencing related to the appearance of the facility;
- Operational concerns, including noise, dust, debris, odors, and hours of operation;
- Traffic flows and patterns resulting from the facility;
- Use of the site of the facility after it is closed;
- Compliance with any local zoning and planning requirements related to the type of facility being sited;
- Compliance with any rule adopted under Division (F) of Section 343.01 of the Ohio Revised Code;
- Limits on community liability for actions brought under Comprehensive Environmental Response Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA) at the facility;
- Standard reporting requirements by the facility on a format provided by the District;
- Overall sizing and capacity of the facility and periodic intake limits; and

- Intake and processing grantees for materials generated in the District.

C. Siting Criteria

As described above, the Policy Committee or special task force shall evaluate proposed facilities against engineering, environmental, and socio-economic criteria for siting the facility in an area within the District that has not previously been eliminated under the black-out analysis. The following is a general, non-exclusive list of issues that may be considered in each of these categories for purposes of evaluating a proposed solid waste facility site plan:

- *Engineering Criteria*: May include such considerations as the site location; accessibility to and from the site; site size; site shape; existing zoning; and access to utilities.
- *Environmental Criteria*: May include such considerations as traffic; noise; dust; screening; topography; soils; and geology.
- *Socio-economic Criteria*: May include such considerations as negative neighborhood image; negative impact on property values; public attitude; and access to markets.

D. Evaluation and Ranking Scheme

A proposed solid waste facility will be evaluated in terms of engineering, environmental and socio-economic criteria. The exact scheme of ranking will depend upon the type of solid waste facility and will be described in the District's Siting Evaluation and Ranking document available, upon request, from the District office. This quantitative scheme will help the District, Policy Committee, and/or special task force examine a specific site according to its suitability. The ranking scheme will be easily understood so people other than the Policy Committee or special task force can perform the method and arrive at similar results. The method will also be replicable in a reasonable amount of time.

The Policy Committee or special task force will begin evaluation of a proposed site by determining which criterion to include on a "must list". The criteria determined to be on the "must list" will not be ranked or weighted by the Policy Committee or special task force. A potential site would have to meet every criterion included on the "must list". Those sites meeting all of the criteria on the "must list" will be further evaluated in terms of other criteria which will be ranked and weighed by the Policy Committee or special task force. For each criterion, this ranking can be a simple low, medium or high ranking, or can easily be converted to a quantitative ranking to show their relative importance.

E. Resolving Site Impasses Through Mediation

Mediation is a technique widely used by government, industry, labor and management to resolve impasses. This formal process brings together representatives of opposing positions to work through a mediator (or a team of mediators) to resolve their conflicts. The mediator may clarify areas of agreement and disagreement by suggesting possible solutions to the conflict, and recommending methods to implementing the solutions.

Mediation will be utilized in those instances where the siting of a solid waste facility is perceived to present major, unresolvable controversies and the matters at issue are within the authority of the District. In those cases, a special effort will be made to actively involve the affected public in a series of open-forums. These meetings will be conducted with the assistance of a skilled mediator. Individuals and groups will be encouraged to voice their concerns and to discuss them with the Policy Committee or special task force. Increased public involvement and the assistance of a skilled mediator are expected to aid in final resolution of controversies and the selection of a suitable site.



APPENDIX T

MISCELLANEOUS PLAN DOCUMENTS



APPENDIX T. Miscellaneous Plan Documents

This appendix contains the following:

1. Certification Statement for the Draft of the Solid Waste Management Plan - The policy committee signs this statement to certify that the information presented in the draft plan submitted to the Ohio EPA is accurate and complies with format 4.1.
2. Public Notices
3. Written Comments
4. Resolution adopting the plan - The policy committee passes a resolution after public comment and public hearing before sending the plan to be ratified.
5. Resolution certifying the plan was properly ratified – The policy committee passes a resolution after the Board of County Commissioners, largest municipality, and legislative authorities representing 60% of the District's total population have approved the plan by passing a resolution.

CERTIFICATION STATEMENT FOR THE DRAFT PLAN

We as representatives of the Solid Waste Management Policy Committee (SWMPC) of the Lucas County Solid Waste Management District (District), do hereby certify that to the best of our knowledge and belief, the statements, demonstrations and all accompanying materials that comprise the draft Lucas County Solid Waste Management Plan Update, 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 15- year period covered by the Plan Update are accurate and are in compliance with the requirements in the *District Solid Waste Management Plan Format*, revision 4.1.

Representing the County Commissioners Ben Palka, proxy

4/12/2023

Date Signed

Representing CEO of Largest City

4/12/23

Date Signed

Representing County Health Department

4/13/23

Date Signed

Representing Townships

4/12-23

Date Signed

Representing Commercial/Industrial Generators

4-12-2023

Date Signed

Representing the General Interest of Citizens

4-12-2023

Date Signed

Representing the Public

4/12/2023

Date Signed

The Blade, 541 N Superior St, Toledo, OH 43660

<p>Account: 126721 Name: JODY BALOGH Company: LUCAS COUNTY BOARD COMMISSIONERS-LEGALS Address: ONE GOVERNMENT CENTER. SUITE 800 TOLEDO, OH 43604 Telephone: (419) 213-4511</p>	<p>Ad ID: 651426 Description: Lucas County Solid Waste Management Run Dates: 02/08/24 to 02/08/24 Class: 10 Orig User: TREAGAN Agate Lines: 151 Amount Due: \$684.00</p>
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For any questions concerning your ad please contact: Tammy at treagan@toledoblade.com or Call (419) 724-6511

Lucas County Solid Waste Management District Public Notice

Public Comment Period for Draft Solid Waste Management Plan Update

The Lucas County Solid Waste Management District is establishing a 30-day written comment period (February 4th, 2024, until March 5th, 2024) on the draft Solid Waste Management Plan Update (Plan Update) (Ohio Revised Code Section 3734.54). The District has prepared the draft Plan Update as required by Section 3734.54 of the Ohio Revised Code. The draft Plan Update includes a budget and fees to finance the Plan, a solid waste facility inventory, projections and strategies, facilities, and programs to be used, an analysis of the progress made toward achieving state solid waste reduction goals, and District rules.

This 2024 Plan Update is an update to a previously approved solid waste plan. This Plan Update details existing programs including: Curbside Recycling; Drop-Off Recycling Program; Yard Waste Management; Household Hazardous Waste Management Program; Lead-Acid Battery Management; Electronics Collection; Scrap Tire Management; Appliances Management; Pharmaceuticals Management; School Recycling Collection; Curbside Recycling Technical Assistance; Business Recycling Assistance; Recycling Processing Facility; Matzinger Road Facility; Waste Assessments/Audits; Litter and Community Clean-Up Program; Market Development Grant Technical Assistance; Special Event Container Loan Program; Community Recycling Incentive Grant; Data Collection Surveys; Food Waste Management; and education and outreach with Keep Toledo/Lucas County Beautiful.

The 2024 Plan Update includes a demonstration of access to landfill capacity and determines there are more than fifteen years of landfill capacity available to the District. Based on the landfills used to manage waste generated in the District during the 2021 reference year for the planning period, landfills had an average life expectancy of more than 50 years.

The District has 19 facility designations capable of receiving solid waste produced within the District, facilitated by a contractual agreement with the Board of County Commissioners of the District. Among these, one is within the district, 15 are located outside the district, and three are located in out-of-state locations. Each designated solid waste facility is contractually required to provide monthly reports regarding the generator/hauler, amount of solid waste received, and the type of material received from the county.

The draft Plan update includes District rules contained in Appendix Q. The District does not currently have any existing rules and is not proposing to create any new rules.

The draft Plan Update complies with both State Plan Goal #1: Providing Access to Waste Reduction Opportunities and Goal #2: reducing and recycling at least 25 percent of the solid waste generated by the residential/commercial sector. The District is committed to maintaining its achievement of Goal 1 and Goal 2.

The District primarily funds plan

programs and current operations through a generation fee, designation fees, and rates and charges. A generation fee of \$2.20 per ton is charged on all solid waste generated within Lucas County and disposed at Ohio based transfer stations or landfills. Contract disposal designation fees are charged to all solid waste facilities that are designated by the District to receive District solid waste. The fee is \$3.00 per ton for Ohio facilities and \$5.20 per ton for out-of-state facilities. A \$5 rate and charge is annually assessed on each improved parcel in Lucas County. The District may evaluate increasing/decreasing the fees based on economic conditions throughout the planning period but is not at this time considering changes to the main funding mechanisms.

The District plans to initiate the development of a Material Recovery Facility for processing single-stream recyclables by 2026. This evaluation and development process has been ongoing. The Plan describes the plans for the facility and how the facility will impact the District's budget.

The District will hold a public hearing to obtain oral comments regarding the draft Plan Update on Tuesday, March 5th, 2024, at 2:00 PM at the Commissioner's Hearing Room on the 1st floor of One Government Center, Toledo, Ohio 43604. The District will accept written comments as required by Ohio Revised Code Section 3734.55 on the draft Plan Update from February 4th, 2024, until March 5th, 2024. Written comments should be sent to Ms. Julie Riley, Lucas County Solid Waste Management District, 1011 Matzinger Road, Toledo, Ohio 43612.

The draft Plan Update is available for review at the following locations:

- District Office: 1011 Matzinger Road, Toledo, Ohio 43612, during normal business hours
- County Commissioners Office: One Government Center, Suite 800, Toledo, Ohio 43604, during normal business hours
- District website at <https://co.lucas.oh.us/749/Solid-Waste-Management>

Please call (419) 213-2234 with any questions about the Plan Update.
#651426



**POLICY ADVISORY COMMITTEE
OF THE
LUCAS COUNTY SOLID WASTE MANAGEMENT DISTRICT**

The policy Advisory committee of the Lucas County Solid Waste Management District met in regular session on March 13th, 2024. Upon motion by Bob Wells, seconded by Mr. Hampton the Committee considered the following resolution

*↓
Proxy for Commissioner Gerkens*

**A RESOLUTION OF THE POLICY ADVISORY COMMITTEE
TO ADOPT THE DRAFT SOLID WASTE MANAGEMENT
PLAN AND FORWARD THE PLAN FOR RATIFICATION**

WHEREAS, the Lucas County Solid Waste Management 2024 District Plan update was approved by the Director of Environmental Protection in 2016; and

WHEREAS, the approved plan must be reviewed and revised after five years, and resubmitted to the Director of Environmental Protection for comment; and

WHEREAS, a revised plan, assuring capacity for the fifteen-year period commencing in 2024 and ending in 2039 has been developed by the Committee; and

WHEREAS, notice of a revised plan was published in newspapers of general circulation within the District and a 30-day public comment period was established; and

WHEREAS, the fifty largest generators of solid waste within the District were notified in writing of the availability of the revised-draft solid waste management plan for review during the 30-day public comment period; and

WHEREAS, within 15 days of the completion of the public comment period, on March 6th, 2024, a public hearing was held to solicit additional comments from the public; and

WHEREAS, the Policy Committee has considered the comments submitted during the comment period and at the public hearing meeting;

NOW THEREFORE, be it resolved by the Policy Committee of the Lucas County Solid Waste Management District, that:

Section 1. This Committee hereby adopts the draft plan.

Section 2. The District Manager is further authorized to make the plan available and if requested deliver a separate copy of the plan to each political subdivision within the District, including each Board of County Commissioners, City or Village Council, and Board of Township Trustees, and to request each political subdivision to adopt a resolution ratifying the draft plan.

Section 3. It is found and determined that all formal actions of this Committee concerning and relating to the adoption of this resolution were adopted in an open meeting of this Committee, and that all deliberations of this Committee and any of its subcommittees that resulted in such formal action were in a meeting open to the public in compliance with all legal requirements including Section 121.22, Ohio Rev. Code.

Upon a call of the vote, the resolution was Approved by a vote of 6 yeas, and 0 nays.

Resolved this on the 13th of March 2024.

Signature of Appropriate Officer: *Matthew Marchetti*

Resolution Certifying Ratification of the Solid Waste Management Plan

Resolution No. 2024-02

A resolution declaring that the amended Solid Waste Management Plan for the Lucas County Solid Waste Management District (District) has been ratified in accordance with Section 3734.55 of the Ohio Revised Code.

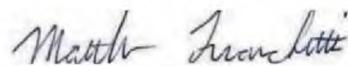
Whereas the District held a 30-day comment period from February 4, 2024 until March 5, 2024, and a public hearing on March 5, 2024, and the Solid Waste Management District Policy Committee adopted the amended Solid Waste Management Plan on March 13, 2024.

Whereas, this Solid Waste Management District Policy Committee has received copies of resolutions and ordinances approving the amended Solid Waste Management Plan from the Board of County Commissioners, the legislative body of the largest municipality in the district and from legislative jurisdictions represented at least 60 percent of the population.

NOW THEREFORE BE IT RESOLVED that the Solid Waste Management District Policy Committee declares the amended Plan for the District to be ratified in accordance with Section 3734.55 of the Ohio Revised Code and shall cause the ratified Solid Waste Management Plan to be submitted to the Director of the Ohio Environmental Protection Agency for their final review.

This resolution shall be in effect immediately upon its adoption.

This is to certify that the foregoing is a true and correct copy of the resolution passed by the Solid Waste Management District Policy Committee on July 10, 2024, and recorded in the Journal of said Policy Committee.



Date: July 10, 2024

Policy Committee Chairman

Total Yes Votes: _____ 5

Total No Votes: _____



APPENDIX U

RATIFICATION RESULTS



Table U-1
Ratification Results

Lucas County					Data Documents Received. Start of 90 Days.	90 Day End
Board of County Commissioners Approval			CHECK IF YES	2024 Population		
Community	Approved	Rejected	Date Resolution Adopted	2024 Population		
Cities						
Maumee city	13,674		5/6/2024	13,674	4/2/24	7/1/24
Oregon city	19,669		4/22/2024	19,669	3/18/24	6/16/24
Sylvania city	18,847		4/15/2024	18,847	3/18/24	6/16/24
Toledo city*	265,863		5/8/2024	265,863	3/25/24	6/23/24
Waterville city	5,960		4/22/2024	5,960	4/2/24	7/1/24
Townships						
Harding township	718		5/13/2024	718	4/3/24	7/2/24
Jerusalem township	2,878		4/23/2024	2,878	4/3/24	7/2/24
Monclova township	14,729		6/3/2024	14,729	3/21/24	6/19/24
Providence township	3,365		3/20/2024	3,365	3/16/24	6/14/24
Richfield township	1,294		4/15/2024	1,294	4/3/24	7/2/24
Spencer township	1,742		4/18/2024	1,742	3/26/24	6/24/24
Springfield township	25,000		4/4/2024	25,000	3/18/24	6/16/24
Swanton township	2,610		6/11/2024	2,610	4/3/24	7/2/24
Sylvania township	31,481		4/16/2024	31,481	3/18/24	6/16/24
Washington township	3,027		6/11/2024	3,027	3/16/24	6/14/24
Waterville township	2,022		4/24/2024	2,022	3/19/24	6/17/24
Villages						
Habor View village	87		5/13/2024	87	3/20/24	6/18/24
Ottawa Hills village	4,767		4/29/2024	4,767	3/18/24	6/16/24
Berkey village				274	3/18/24	6/16/24
Holland village	1,788		4/16/2024	1,788	3/18/24	6/16/24
Whitehouse village				4,976	3/18/24	6/16/24
Swanton village (pt.)	1,200		3/25/2024	Exclude	3/18/24	6/16/24
Total	420,721	0				
2024 County Population	424,771					
Ratification percentage	99%					

*Ratification requires approval of largest city in the District.



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) the District must provide an inventory of the following facilities in the District.

- Solid Waste open dump sites, including scrap tires.
- Disposal facilities for fly ash and bottom ash, foundry sand, and slag.

Solid Waste Management and Recycling Inventories Requirement

Ohio Revised Code Section 3734.53 (A)(2) requires "...an inventory of all existing facilities where solid wastes are being disposed of, all resource recovery facilities, and all recycling activities within the district. The inventory shall identify each such facility or activity and, for each disposal facility, shall estimate the remaining disposal capacity available at the facility. The inventory shall be accompanied by a map that shows the location of each such existing facility or activity.

A. Existing Open Dumps and Waste Tire Dumps

Table V-1 Existing Solid Waste Open Dumps

Site Location (either address or description of site location)	Materials at Site (solid waste and/or scrap tires)
None	

B. Ash, Foundry Sand, and Slag Disposal Sites

Table V-2 Existing Ash, Foundry Sand, and Slag Disposal Sites

Site Location (Address, description of site location)	Materials at Site (fly ash, bottom ash, foundry sand, and/or slag)
None	



APPENDIX W

DISTRICT MAP



APPENDIX W DISTRICT MAP

Figure W-1. District Access to Drop-Off Recycling

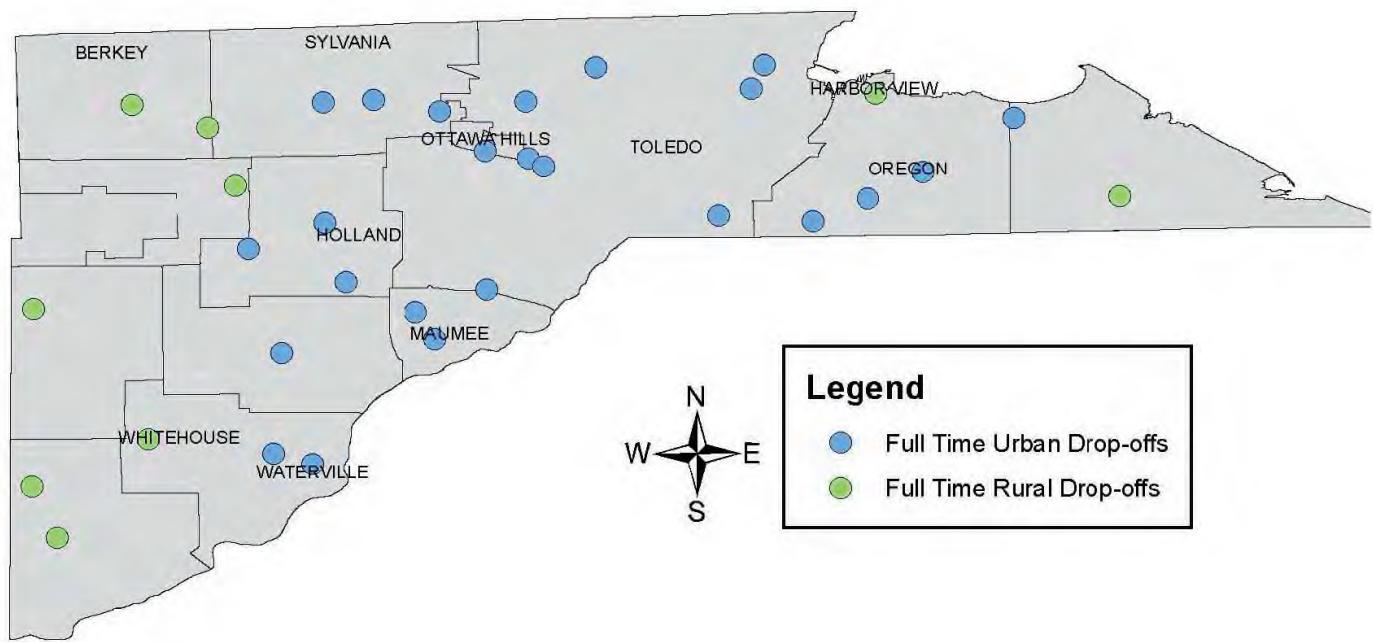


Figure W-2. District Curbside Recycling

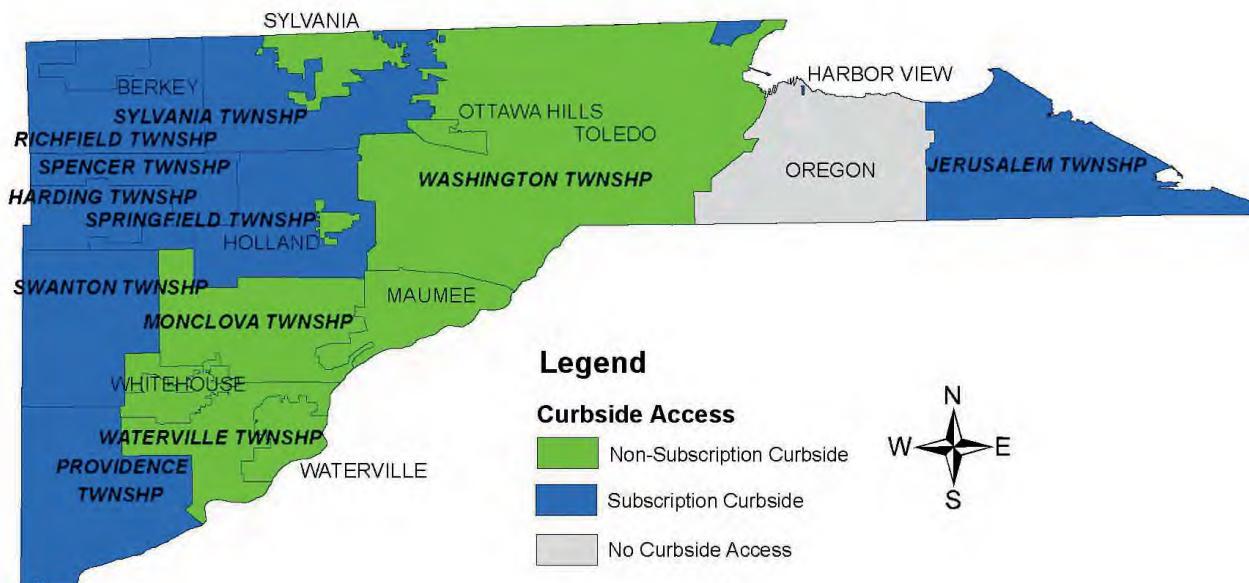


Figure W-3. Regional Recovery Facilities Used in the Reference Year

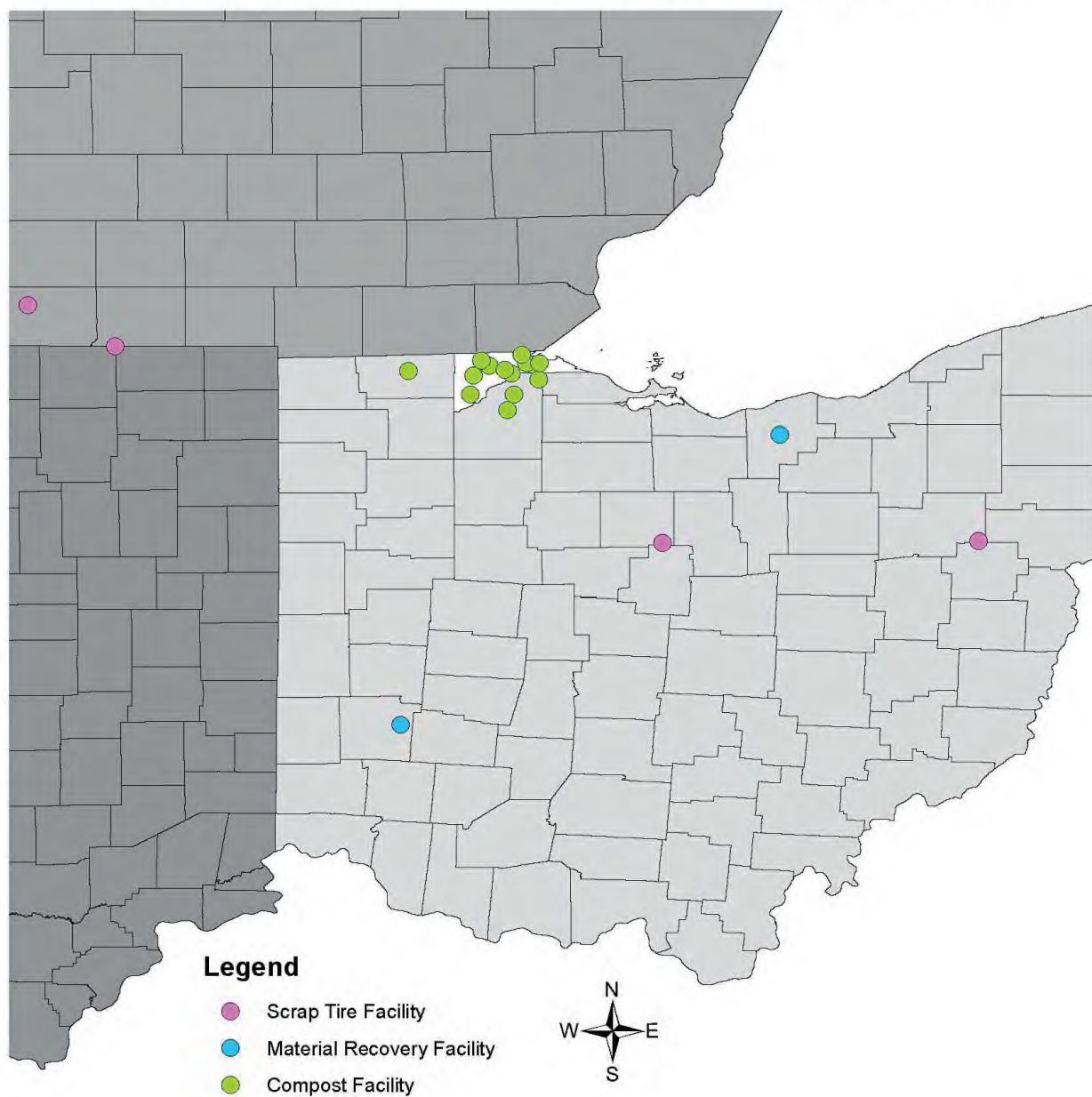
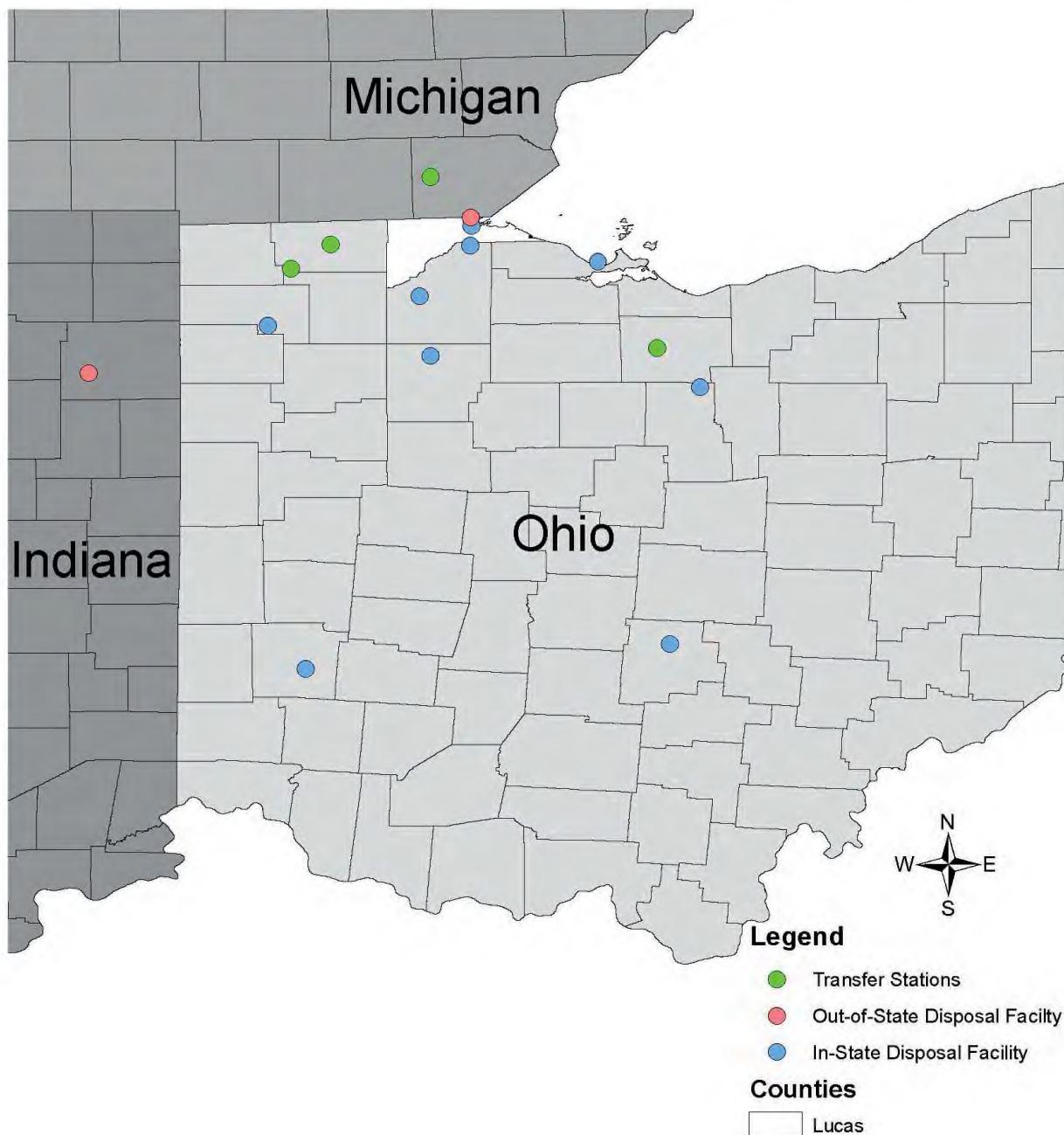


Figure W-4. Landfills and Transfer Stations Used to Manage District Waste





APPENDIX X

SETTLEMENT AGREEMENT



Date: August 14, 2007

Resolution No. 07-1086

Title: Authorizing the Settlement of Litigation Involving the Lucas County Commissioners

Department/Agency: Lucas County Prosecutor

Contact: John Borell/Jim Walter

Summary/Background: The Board, pursuant to *R.C. 343.01* and *343.022*, has entered into Solid Waste Disposal and Guaranty Agreements with solid waste disposal facilities located in Ohio And Michigan to designate those facilities to receive solid waste generated within the Lucas County Solid Waste Management District, and requiring the designated facilities to remit to the District a fee on each ton of solid waste generated within the District that is disposed at the designated facilities. OmniSource shreds automobiles and produces material at its Toledo, Ohio scrap metal processing facility referred to as Auto Shredder Residue (ASR).

OmniSource disputes that ASR is subject to this fee. OmniSource initiated litigation, in the United States District Court, challenging the Board's authority to collect this fee on ASR generated in Lucas County. OmniSource dismissed that litigation, but the claims asserted by OmniSource have not been resolved and a complaint could be refilled.

This Board and OmniSource wish to resolve this dispute. The proposed terms of this settlement are described in the attached Settlement Agreement.

Budget Impact: Not Applicable

Statutory Authority/ORC: 305.26

Commissioner Gerken offered the following resolution:

WHEREAS, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This matter shall be settled and resolved under the terms and conditions specified in the attached Settlement Agreement.

Section 2. Julia R. Bates, Lucas County Prosecuting Attorney, or an assistant Lucas County Prosecuting Attorney designated by her, is hereby authorized to execute all appropriate documents necessary to finalize this settlement, including, but not limited to a dismissal entry, judgment entry and release.

Section 3. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

August 14, 2007

Authorizing the Settlement of Litigation Involving the Lucas County Commissioners

Page 2

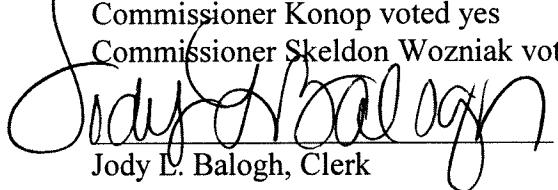
Section 4. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Gerken voted yes

Commissioner Konop voted yes

Commissioner Skeldon Wozniak voted yes

A handwritten signature in black ink, appearing to read "Jody E. Balogh".

Jody E. Balogh, Clerk

Settlement Agreement

This Settlement Agreement is by and between the Board of County Commissioners of Lucas County, Ohio (the “Board”) with its offices at One Government Center, Suite 800, Toledo, Ohio 43604 and OmniSource Corporation (“OmniSource”) with offices located at 5130 N. Detroit Ave., Toledo, Ohio 43612.

W I T N E S S E T H

WHEREAS, pursuant to Sections 343.01(I)(2) and 343.022 of the Ohio Revised Code the Board has entered into Solid Waste Disposal and Guaranty Agreements with solid waste disposal facilities located in Ohio and Michigan to designate those facilities to receive solid waste generated within the Lucas County Solid Waste Management District (the “District”), and requiring the designated facilities to remit to the District a fee on each ton of solid waste generated within the District that is disposed at the designated facilities (the “Fee”), which is currently set at \$3.00 per ton; and

WHEREAS, OmniSource shreds automobiles and produces material at its Toledo, Ohio scrap metal processing facility referred to as Auto Shredder Residue (“ASR”) consisting of foam, textiles, plastics, and other materials that have been separated from reusable metals, which the Board asserts, and OmniSource disputes, is subject to the Fee; and

WHEREAS, the dispute between the Board and OmniSource was the subject of litigation, and the parties’ respective claims in the litigation have not been adjudicated; and

WHEREAS, on the terms and conditions contained herein, OmniSource and the Board desire to compromise and fully and completely satisfy any and all claims of either party arising from the dispute regarding whether ASR is subject to the Fee.

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements contained herein, the parties hereby agree that the foregoing recitals are incorporated herein and as follows:

1. On the terms and conditions contained herein, OmniSource, upon the Effective Date (as hereinafter defined), shall pay \$100,000.00 to the Board. Thereafter, OmniSource, without interest or penalty, shall pay \$400,000.00 to the Board in four (4) equal, annual installments of \$100,000.00 each on the anniversary of the Effective Date in 2008, 2009, 2010 and 2011. Except for the obligation of OmniSource to make the foregoing installment payments, upon receipt of the initial \$100,000.00 payment by the Board, the Board shall release OmniSource and the designated solid waste disposal facilities of and from any and all claims the Board may have against OmniSource or the designated solid waste disposal facilities regarding payment of the Fee on the ASR. This release includes any and all claims of the Board against either OmniSource or the designated solid waste disposal facilities pursuant to the Board’s Solid Waste Disposal and Guaranty Agreement to impose the fee on ASR generated by OmniSource at its Toledo facility from and after May 1, 2003.

2. Upon the Effective Date, OmniSource hereby releases the Board from any and all claims arising from the dispute regarding whether ASR is subject to the Fee.
3. Within four (4) years of the Effective Date, in addition to the payments described in paragraph 1 hereof, OmniSource shall contribute and donate \$75,000.00 to community projects recommended by the Board and reasonably acceptable to OmniSource. The Board shall adopt a resolution of its recommendations to OmniSource regarding funding of a community project as provided in this Settlement Agreement. In the event that all or any portion of the \$75,000.00 has not been disbursed by OmniSource by the fourth (4th) anniversary of the Effective Date, OmniSource shall pay all of the remaining funding for such community projects to Lucas County Improvement Corporation (the "LCIC") for expenditure by the Board of Directors of LCIC, if the Board of LCIC determines it is in furtherance of the goals and objections of LCIC. The payment to LCIC by OmniSource of any remaining funds for community projects shall satisfy the obligation of OmniSource pursuant to this paragraph and Settlement Agreement.
4. Simultaneously with the execution of this Settlement Agreement, OmniSource shall execute and deliver the Option Agreement attached hereto and made a part hereof as Exhibit A.
5. The Board hereby grants a waiver to OmniSource pursuant to Section 343.01(I)(2) of the Ohio Revised Code for all of the ASR produced by OmniSource within Lucas County. In granting this waiver, it is the Board's intent that OmniSource's ASR shall not be subject to the Fee paid to the District pursuant to the Solid Waste Disposal and Guaranty Agreements between the Board and designated solid waste disposal facilities. This waiver applies to all of the ASR produced by OmniSource within Lucas County on and after April 1, 2006, and, except as otherwise provided herein, shall continue in effect as long as OmniSource produces ASR within Lucas County. The Board finds that granting this waiver is not inconsistent with the District's projections concerning solid waste volumes, composition, and origin; solid waste recycling, reuse and minimization; or the need for solid waste management facilities or additional capacity. The Board also finds that granting this waiver will not adversely affect the implementation and financing of the District's solid waste management plan according to the plan's implementation schedule. The Board hereby agrees that as long as OmniSource continues to produce ASR in Lucas County, the Board shall not: (a) collect or attempt to collect the Fee on the ASR; (b) ratify, agree to or approve, any contract with the Board, an amendment to the District's solid waste management plan, a resolution adopted by the District's Policy Committee, or other action by the Board or the District's Policy Committee, that establishes or reinstates, directly or indirectly, the Fee, generation fee, tax, charge or similar exaction imposed on ASR produced by OmniSource in Lucas County.
6. This Settlement Agreement may be terminated by the Board after twenty years from the Effective Date provided the board pays to OmniSource a termination fee calculated as follows: the total weight of ASR produced by OmniSource within Lucas County during the five years prior to the termination of this Settlement Agreement multiplied by the average Fee during the same five years. The Board further agrees that, in the event of termination by the Board, the Fee applicable to ASR at the time of such termination shall

not exceed the lowest fee levied on the generation or disposal of ASR by other counties or host communities located in Ohio and Michigan. This obligation shall survive the termination of the Settlement Agreement.

7. OmniSource and the Board further agree that this Settlement Agreement is being executed solely in order to avoid additional costs and expenses associated with the dispute concerning the Fee and its applicability to the ASR generated by OmniSource. Nothing contained herein shall constitute an admission by either party of the validity of any claims which are, were or could have been asserted by either party regarding the Fee and its applicability to the ASR.
8. The Effective Date of this Settlement Agreement shall be the date of last execution hereof.
9. This Settlement Agreement shall be construed in accordance with and under the laws of the State of Ohio and contains all of the promises and covenants of the parties and may be amended or revised only in writing and signed by the parties hereto.
10. Any notice, including any notice of breach by either party, shall be mailed to the notified party as follows:

As to the Board of County Commissioners:

Board of County Commissioners
One Government Center, Suite 800
Toledo, Ohio 43604
Attention: Board President

As to OmniSource Corporation:

OmniSource Corporation
The Northern Ohio Group
2453 Hill Avenue
Toledo, Ohio 43607
Attention: Thomas E. Tuschman,
Senior Vice-President

11. This Settlement Agreement and any exhibits attached hereto contain the entire agreement of the Board and OmniSource and there are no agreements, representations, or warranties, oral or written which are not set forth herein. This Settlement Agreement may not be amended or revised, except by a writing signed by the parties.

IN WITNESS WHEREOF, on the dates set forth below, the parties have executed this Settlement Agreement in Toledo, Ohio.

**BOARD OF COMMISSIONERS
LUCAS COUNTY, OHIO**

By: Tina Skeldon Wozniak
Commissioner Tina Skeldon Wozniak

9-26-07
Date

By: Pete Gerkin
Commissioner Pete Gerkin

9-25-07
Date

By: Ben Konop
Commissioners Ben Konop

9-26-07
Date

OMNISOURCE CORPORATION

By: Thomas E. Tuschman
Thomas E. Tuschman, Senior Vice President

August 16, 2007 —
Date

APPROVED AS TO FORM:
JULIA R. BATES
PROSECUTING ATTORNEY

by John A. Barrell 9/14/07
Assistant Prosecuting Attorney Date

EXHIBIT A

OPTION AGREEMENT

PARTIES:

This Option Agreement (this “*Agreement*”) is made and entered into as of the latest date set forth below (the “*Effective Date*”) by and between **OMNISOURCE CORPORATION (“Optionor”)** whose address is 2453 Hill Avenue, Toledo, Ohio 43607 and **LUCAS COUNTY IMPROVEMENT CORPORATION (“Optionee”)** whose address is 300 Martin Luther King Jr. Drive, Suite 200, Toledo, Ohio 43604.

RECITALS:

A. Optionor is the successor in interest to KTI Properties, an Ohio general partnership.

B. Optionor is the owner of the real estate legally described on Exhibit A attached hereto and made a part hereof consisting of approximately 32.28 acres, more or less (the “*Property*”).

C. Optionor desires to grant to Optionee an exclusive option to purchase the Property, all in accordance with and subject to the terms and conditions hereinafter set forth.

CONSIDERATION AND AGREEMENT:

In consideration of good and valuable consideration, the receipt and sufficiency of which is acknowledged, Optionor and Optionee agree as follows:

1. **Grant of Option.** Optionor hereby grants to Optionee an exclusive option to purchase the Property (the “*Option*”), together with all improvements, tenements, hereditaments, privileges, rights and appurtenances thereto belonging or in any way appertaining thereto, and all of Optionor’s right, title and interest, if any, in and to any land lying within any street, alley or roadway adjoining the Property.

2. **Term.** The Option shall remain in full force and effect for a period of four (4) years after the Effective Date (the “*Term*”). During the last twelve (12) months of the Term, Optionor shall have the right to attempt to market and sell the Property to others. In the event that a bona-fide third party offer is received that Optionor intends to accept (an “*Offer*”), Optionor shall give Optionee written notice of such intent along with a copy of the Offer. Optionee shall have a period of sixty (60) days after the date Optionee receives a copy of the Offer from Optionor in which to elect to purchase the Property in accordance with the terms and conditions of the Offer. If Optionee fails to exercise its right of first refusal by delivering written notice to Optionor prior to expiration of such sixty (60) day period, Optionor shall be free to sell the Property to the party identified in the Offer on the terms and conditions contained in the Offer and the Option shall automatically terminate.

3. **Purchase Price**. If the Option is exercised, the purchase price of the Property shall be the greater of the (a) appraised fair market value of the Property as of the date that the Option is exercised (as determined by an MAI certified commercial real estate appraiser selected by Optionor and reasonably acceptable to Optionee) or (b) highest per acre price either paid by Optionee, the Board of County Commissioners of Lucas County, Ohio (the “**Board**”) or any other person or entity acting for or on behalf of Optionee or the Board (collectively, a “**Relevant Party**”) or for which Relevant Party secures an option or purchase contract within the JRS Zone (as hereinafter defined) times the number of acres of the Property (the “**Purchase Price**”). The Purchase Price shall be paid to Optionor at closing by certified check or wire transfer. For purposes of this Agreement, the term “JRS Zone” shall mean any real property bounded by Stickney Avenue, Matzinger Road, Alexis Road and Detroit Avenue.

4. **Memorandum of Option Agreement**. Either party may record a short form Memorandum of Option Agreement against the Property with the County Recorder’s Office for the purpose of evidencing the existence of this Option and the interest of Optionee in the Property. Upon request of one party, the other party shall promptly execute such Memorandum of Option Agreement.

5. **Exercise of Option and Closing**. Written notice of exercise of the Option shall be given, if at all, on or before the expiration of the Term. If the Option is exercised, Optionee shall close the purchase of the Property no later than thirty (30) days following Optionee’s written notice of exercise of the Option delivered to Optionor (the “**Closing Date**”). The closing shall take place at a location mutually agreeable to Optionor and Optionee; provided, however, neither Optionor nor Optionee shall be required to be physically present for closing.

At closing, the Optionor shall execute and deliver a transferable, recordable Limited Warranty Deed (the “**Deed**”) conveying marketable fee simple title to the Property to Optionee subject only to legal highways; governmental ordinances; zoning ordinances; easements, reservations, agreements, conditions and restrictions of record; and taxes and assessments due and payable after closing.

6. **Closing Adjustments**. The following adjustments shall be made at closing:

A. All real estate taxes, assessments certified to the tax duplicate, penalties, charges and interest for the Property, due and payable prior to closing, shall be paid in full by Optionor at closing. The parties shall prorate as of the close of business on the Closing Date (i) the real estate taxes and assessments, both general and special using the rates and valuations shown on the latest available tax duplicate, in accordance with the due and payable method of tax proration customarily used in Lucas County.

B. Optionor shall pay (i) any conveyance fee, (ii) agricultural recoupment charges, if any and (iii) the cost of a Title Guaranty in the amount of the Purchase Price.

C. Optionee shall pay the cost (i) to record the Deed, (ii) of any Title Insurance in excess of a Title Guaranty and (iii) the appraisal referred to in Paragraph 3 above.

D. Each party shall pay one-half (1/2) of closing charges of the title company completing the settlement and their own attorneys' fees.

8. **Possession.** Possession of the Property shall be delivered to Optionee at closing, free of any tenant's rights.

9. **Default; Non-Exercise of Option.**

A. Should Optionor default in the performance of any of its obligations set forth in this Agreement, Optionee shall be entitled to exercise all remedies as may be available to it either by law or in equity. The parties acknowledge that should Optionor default in the performance of any of its obligations under this Agreement, there will be no adequate remedy at law available to Optionee and if Optionee so elects, Optionee shall be entitled to specific performance of all of Optionor's obligations under this Agreement.

B. Should Optionee default in the performance of any of its obligations set forth in this Agreement, Optionor shall be entitled to exercise all remedies as may be available to it either by law or in equity.

10. **Miscellaneous.**

A. **Governing Law.** This Agreement shall be governed by the laws of the State of Ohio.

B. **Binding Effect.** This Agreement shall bind the parties hereto, their respective heirs, administrators, executors, successors and assigns. Time is of the essence.

C. **Right of Entry.** During the term of the Option, Optionee and its agents shall have unrestricted access, during regular business hours and upon reasonable notice to Optionor, to inspect or cause to be inspected any and all aspects of the Property, including, without limitation, soil sampling and analysis for buildability and toxic substances; provided, however, that Optionee shall be responsible for any and all damages to persons or the Property caused by Optionee or its agents in the conduct of any such inspections.

D. **Notices.** Notices shall be deemed given hereunder upon the day of personal delivery to the address set forth above, or on the second business day after being sent by registered or certified mail, postage prepaid to such address, or on the first business day after being posted for delivery with a nationally recognized overnight delivery service (i.e. Federal Express). Notices shall be addressed as provided above.

E. **Entire Agreement.** This Agreement contains the entire agreement between the parties and there are no agreements, representations or warranties, oral or written,

which are not set forth herein. This Agreement may not be amended or modified except by a writing signed by the parties.

F. Tax Deferred Exchange. Each party hereby reserves the right to complete the transaction contemplated hereby as a Section 1031 tax deferred exchange. The parties agree to cooperate in effecting the exchange transaction in accordance with Section 1031 of the Internal Revenue Code, including execution of any documents that may be reasonably necessary to effect the exchange; provided that (i) the party requesting the exchange shall bear all additional costs incurred in connection with the exchange, and (ii) the non-requesting party shall not be obligated to delay the closing or to execute any note, contract or other document providing for any personal liability. If both parties elect to complete the transaction as a Section 1031 exchange, each will bear its own costs relative thereto. Either party's rights under this Agreement may be assigned to a Qualified Intermediary for purpose of completing such an exchange. Each party agrees to cooperate with the other and the Qualified Intermediary in a manner necessary to complete the exchange.

G. No Representations or Warranties. No representations or warranties have been made by Optionor with respect to the condition of the Property or the boundary lines or acreage of the Property. Optionee shall make all investigations as it deems necessary or appropriate and will be relying solely upon its inspection and investigation of the Property for all purposes whatsoever, including, but not limited to, the determination of the conditions of the improvements, soils, subsurface, drainage, surface and groundwater quality, and all other physical characteristics; availability and adequacy of utilities; compliance with governmental laws and regulations; access; encroachments; acreage and other survey matters; and the character and suitability of the Property. Optionee acknowledges and agrees that if the Option is exercised that the Property will be purchased and will be conveyed "AS IS" and "WHERE IS" with all faults and defects, whether patent or latent, as of the date of closing. The provisions of this Paragraph 10.G. shall survive the closing and delivery of the Deed.

Optionor and Optionee have executed this Option Agreement as of the day and year set forth below.

OPTIONOR:

OMNISOURCE CORPORATION

Thomas E. Tschiman

By:

Senior Vice President

Its:

August 16, 2007

Date:

OPTIONEE:

**LUCAS COUNTY IMPROVEMENT
CORPORATION**

By:

Its:

Date:

STATE OF OHIO)
)ss:
COUNTY OF LUCAS)

The foregoing instrument was acknowledged before me this 16 day of August, 2007, by Thomas E. Tschirhart as Senior Vice President of OmniSource Corporation, on behalf of the corporation.

(SEAL)

**DOROTHY C. HAMILTON, Notary Public
State of Ohio
My Commission Expires Sept. 22, 2010**

Dorothy L. Hamilton
Notary Public
My Commission Expires: 9-22-10

The foregoing instrument was acknowledged before me this _____ day of _____, 2007, by _____, as _____ of Lucas County Improvement Corporation, on behalf of the corporation.

(SEAL)

Notary Public
My Commission Expires: _____



APPENDIX Y

RESOLUTIONS PERTAINING TO

DESIGNATION

DESIGNATION PROCEDURE &

EVAULATION DOCUMENT



Date: July 30, 2013

Resolution No. 13-655

Title: Resolution Expressing the Intent to Designate Facilities and Activities for the Receipt of Wastes Generated within and Transported into the Lucas County Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: The Ohio Revised Code, explicitly authorizes the Board of County Commissioners or Board of Directors of the District to designate solid waste facilities and recycling activities pursuant to the Ohio Revised Code and the Board, at any time after the approval of the amendment to the Solid Waste Management plan, may designate solid waste disposal, transfer, or resource recovery facilities or recycling activities.

Budget Impact: Comply with Ohio EPA approved Solid Waste Management Plan

Statutory Authority/ORC: 343.014

Commissioner Skeldon Wozniak offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board, acting in their capacity as Board of Directors for the Solid Waste Management District, hereby expresses their intent to designate facilities and activities for the receipt of wastes generated within and transported into the Lucas County Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

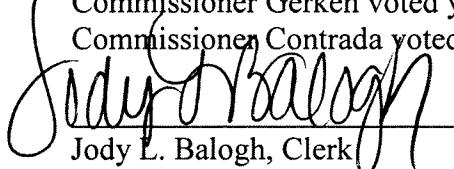
Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Skeldon Wozniak voted yes

Commissioner Gerken voted yes

Commissioner Contrada voted yes



Jody L. Balogh, Clerk

Date: July 30, 2013

Resolution No. 13-655

Title: Resolution Expressing the Intent to Designate Facilities and Activities for the Receipt of Wastes Generated within and Transported into the Lucas County Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: The Ohio Revised Code, explicitly authorizes the Board of County Commissioners or Board of Directors of the District to designate solid waste facilities and recycling activities pursuant to the Ohio Revised Code and the Board, at any time after the approval of the amendment to the Solid Waste Management plan, may designate solid waste disposal, transfer, or resource recovery facilities or recycling activities.

Budget Impact: Comply with Ohio EPA approved Solid Waste Management Plan

Statutory Authority/ORC: 343.014

Commissioner Skeldon Wozniak offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board, acting in their capacity as Board of Directors for the Solid Waste Management District, hereby expresses their intent to designate facilities and activities for the receipt of wastes generated within and transported into the Lucas County Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

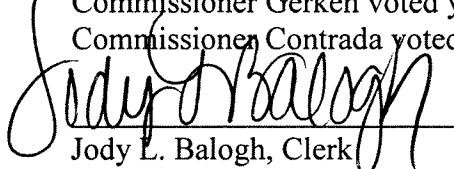
Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Skeldon Wozniak voted yes

Commissioner Gerken voted yes

Commissioner Contrada voted yes



Jody L. Balogh, Clerk

Date: September 10, 2013

Resolution No. 13-780

Title: Authorization to Publish a Notice of a Public Hearing on the Proposed Designation of Facilities for the Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: On July 30, 2013, the Board of County Commissioners, acting as the Board of Directors for the Solid Waste Management District, approved Resolution No. 13-655 expressing the intent to designate solid waste facilities and recycling activities pursuant to the Ohio Revised Code Section 343.014. Said proceedings require publishing a notice of the adoption of the resolution and the date, time and location of a Public Hearing with a description of the types and scope of services subject to the proposed designation. The notice is also required to be sent to potentially interested parties per the Ohio Revised Code. The Sanitary Engineer is recommending that the date of the public hearing occur on October 8, 2013 in conjunction with the Commissioners regularly scheduled meeting.

Budget Impact: Comply with Ohio EPA approved Solid Waste Management Plan

Statutory Authority/ORC: 343.014

Commissioner Gerken offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board, acting in their capacity as Board of Directors for the Solid Waste Management District, hereby authorizes the publishing of a notice for a public hearing to occur on October 8, 2013 on the proposed designation of facilities for the Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

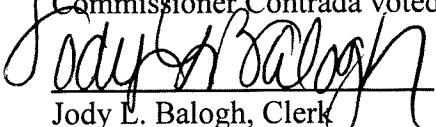
Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Gerken voted yes

Commissioner Skeldon Wozniak voted yes

Commissioner Contrada voted yes


Jody L. Balogh, Clerk

Date: October 15, 2013

Resolution No. 13-900

Title: Authorization of Preliminary Designation for Selecting Facilities to receive Wastes Generated within and Transported into the Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: On July 30, 2013, the Board of County Commissioners, acting as the Board of Directors for the Solid Waste Management District, approved Resolution No. 13-655 expressing the intent to designate solid waste facilities and recycling activities pursuant to the Ohio Revised Code Section 343.014. On October 8, 2013, a Public Hearing was held in conjunction with the Commissioners regularly scheduled meeting and this resolution is required in order to proceed with proposed designation.

Budget Impact: Comply with Ohio EPA approved Solid Waste Management Plan

Statutory Authority/ORC: 343.014

Commissioner Contrada offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board, acting in their capacity as Board of Directors for the Solid Waste Management District, hereby authorizes the preliminary designation for selecting facilities to receive wastes generated within and transported into the Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

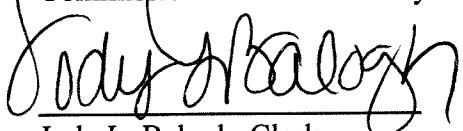
Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Contrada voted yes

Commissioner Skeldon Wozniak voted yes

Commissioner Gerken voted yes



Jody L. Balogh, Clerk

Date: October 22, 2013

Resolution No. 13-914

Title: Authorization Declaring Intent to Establish Designation for Selecting Facilities to Receive Wastes Generated within and transported into the Solid Waste Management District and publishing the same with a comment period

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: On July 30, 2013, the Board of County Commissioners, acting as the Board of Directors for the Solid Waste Management District, approved Resolution No. 13-655 expressing the intent to designate solid waste facilities and recycling activities pursuant to the Ohio Revised Code Section 343.014. On October 8, 2013, a Public Hearing was held and on October 15, 2013, Resolution No. 13-900 was approved for preliminary designation. The following is a list of facilities and activities the board proposes to so designate:

Republic Services - Adrian Landfill
1970 N. Ogden Hwy.
Adrian, MI 49221

Republic Services - Port Clinton
Landfill, Inc.
530 N. Camp Rd.
Port Clinton, OH 43452

Hoffman Rd. Sanitary Landfill
3962 Hoffman Rd.
Toledo, OH 43611

Wood County Landfill
15320 Tontogany Rd.
Bowling Green, OH 43402

WMI Suburban Landfill
3415 Twp Rd 447
Glenford, OH 43739

WMI American Landfill
7916 Chapel St., SE
Waynesburg, OH 44688

City of Riverview - The Riverview
Land Preserve
20863 Grange Rd.
Riverview, MI 48193-7600

Republic Services - Vienna
Junction Landfill
6749 Dixie Hwy.
Erie, MI 48133

Erie County Sanitary Landfill
554 River Rd., Room #122
Huron, OH 44839

Carleton Farms
28800 Clark Rd.
New Boston, MI 48164

Brent Run Landfill
8335 W. Vienna Rd.
Montrose, MI 48457

Henry County Landfill
P O Box 96
Malinta, OH 43535

County Environmental of
Wyandot
11164 County Rd. #4
Carey, OH 43316

Woodland Meadows RDF -
Van Buren
5900 Hannon Rd.
Wayne, MI 48184

Republic Services -
Williams County Landfill
12539 County Road G
Bryan, OH 43506

Hancock County Landfill
300 S Main
Findlay, OH 45840

WMI Evergreen Landfill
2625 E. Broadway St.
Northwood, OH 43619

ARS Refuse Service, Inc.
200 Taylor Pkwy.
Archbold, OH 43502-9364

Steven's Disposal and
Transfer Facility
16929 Ida West Rd.
Petersburg, MI 49270

Sunny Farms Landfill
12500 West County Road
18
Fostoria, OH 44830

October 22, 2013

Authorization Declaring Intent to Establish Designation for Selecting Facilities to Receive Wastes Generated within and transported into the Solid Waste Management District and publishing the same with a comment period

Page 2

Activities

A designation agreement shall be signed by solid waste facilities (including landfills and transfer facilities) for the purpose of collecting and remitting the solid waste fees. Failure to sign designation agreement and obtain final approval by the board will result in a facility no longer being able to accept Lucas County waste for disposal or transfer.

Budget Impact: Comply with Ohio EPA approved Solid Waste Management Plan

Statutory Authority/ORC: 343.014

Commissioner Contrada offered the following resolution:

Section 1. This Board, acting in their capacity as Board of Directors for the Solid Waste Management District, hereby authorizes the declaration of intent to establish designation for selecting facilities to received wastes generated within and transported into the Solid Waste Management District and authorizes publishing the same with a comment period from October 25, 2013 through November 8, 2013.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Contrada voted yes

Commissioner Skeldon Wozniak voted yes

Commissioner Gerken voted yes



Jody L. Balogh, Clerk

Date: November 12, 2013

Resolution No. 13-984

Title: Authorization of Final Designation of Facilities where wastes generated within or transported into the Solid Waste Management District shall be taken for disposal and transfer

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: On July 30, 2013, the Board of County Commissioners, acting as the Board of Directors for the Solid Waste Management District, approved Resolution No. 13-655 expressing the intent to designate solid waste facilities and activities pursuant to the Ohio Revised Code Section 343.014. On October 8, 2013, a Public Hearing was held and on October 15, 2013 and October 22, 2013 resolutions were approved to establish designation. The public comment period began October 25, 2013 and ended November 8, 2013.

Budget Impact: Comply with Ohio EPA approved Solid Waste Management Plan

Statutory Authority/ORC: 343.014

Commissioner Contrada offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board, acting in their capacity as Board of Directors for the Solid Waste Management District, hereby authorizes the final designation of the facilities as listed in this resolution. A designation agreement shall be signed by solid waste facilities (including landfills and transfer facilities) for the purpose of collecting and remitting the solid waste fees. Failure to sign designation agreement and obtain final approval by the board will result in a facility no longer being able to accept Lucas County waste for disposal or transfer.

Sunny Farms Landfill
12500 West County Road 18
Fostoria, OH 44830

Republic Services - Vienna
Junction Landfill
6749 Dixie Hwy.
Erie, MI 48133

Republic Services -
Williams County Landfill
12539 County Road G
Bryan, OH 43506

Republic Services - Port Clinton
Landfill, Inc.
530 N. Camp Rd.
Port Clinton, OH 43452

Erie County Sanitary Landfill
554 River Rd., Room #122
Huron, OH 44839

Hancock County Landfill
300 S Main
Findlay, OH 45840

Hoffman Rd. Sanitary Landfill
3962 Hoffman Rd.
Toledo, OH 43611

Carleton Farms
28800 Clark Rd.
New Boston, MI 48164

WMI Evergreen Landfill
2625 E. Broadway St.
Northwood, OH 43619

November 12, 2013

Authorization of Final Designation of Facilities where wastes generated within or transported into the Solid Waste Management District shall be taken for disposal and transfer

Page 2

Wood County Landfill
15320 Tontogany Rd.
Bowling Green, OH 43402

Brent Run Landfill
8335 W. Vienna Rd.
Montrose, MI 48457

ARS Refuse Service, Inc.
200 Taylor Pkwy.
Archbold, OH 43502-9364

WMI Suburban Landfill
3415 Twp Rd 447
Glenford, OH 43739

Henry County Landfill
P O Box 96
Malinta, OH 43535

Steven's Disposal and
Transfer Facility
16929 Ida West Rd.
Petersburg, MI 49270

WMI American Landfill
7916 Chapel St., SE
Waynesburg, OH 44688

County Environmental of
Wyandot
11164 County Rd. #4
Carey, OH 43316

City of Riverview - The Riverview
Land Preserve
20863 Grange Rd.
Riverview, MI 48193-7600

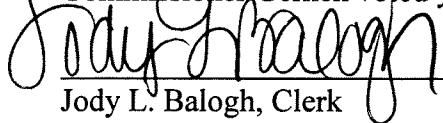
Woodland Meadows RDF -
Van Buren
5900 Hannon Rd.
Wayne, MI 48184

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Contrada voted yes
Commissioner Skeldon Wozniak voted yes
Commissioner Gerken voted yes



Jody L. Balogh, Clerk

Date: February 3, 2015

Resolution No. 15-112

Title: Approval of Solid Waste Designation and Disposal Guaranty Agreement between Defiance County Landfill and the Lucas County Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: The Board, the District and Defiance County Landfill have negotiated a final agreement regarding waste disposal fees associated with waste generated in Lucas County and now seek to fully execute the agreement between the parties

Budget Impact: n/a

Statutory Authority/ORC: Section 3734.52

Commissioner Gerken offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board hereby approves the contract between Defiance County Landfill and the Lucas County Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

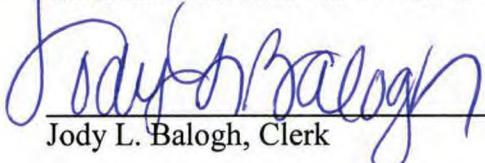
Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Gerken voted yes

Commissioner Contrada voted yes

Commissioner Skeldon Wozniak voted yes



Jody L. Balogh, Clerk

Date: August 4, 2015

Resolution No. 15-623

Title: Approval of Solid Waste Designation and Disposal Guaranty Agreement between Waste Management of Ohio, Inc., dba Stony Hollow Landfill and the Lucas County Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: The Board, the District and Waste Management of Ohio, Inc., dba Stony Hollow Landfill have negotiated a final agreement regarding waste disposal fees associated with waste generated in Lucas County and now seek to fully execute the agreement between the parties

Budget Impact: n/a

Statutory Authority/ORC: Section 3734.52

Commissioner Skeldon Wozniak offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

Section 1. This Board hereby approves the contract between Waste Management of Ohio, Inc., dba Stony Hollow Landfill and the Lucas County Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

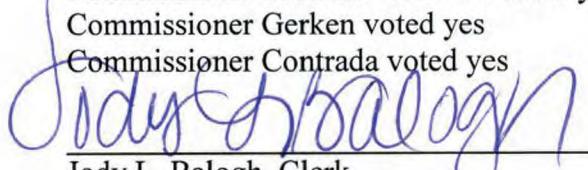
Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Skeldon Wozniak voted yes

Commissioner Gerken voted yes

Commissioner Contrada voted yes


Jody L. Balogh, Clerk

Date: November 1, 2016

Resolution No. 16-907

Title: Approval of Solid Waste Designation and Disposal Guaranty Agreement between Rumpke, Noble Road Landfill (Richland County, OH) and the Lucas County Solid Waste Management District

Department/Agency: Solid Waste Management District

Contact: James P. Shaw, P.E., Sanitary Engineer

Summary/Background: Designating facilities for the collection and remittance of Solid Waste District fees complies with the approved Solid Waste Management Plan. A designation agreement shall be signed by Solid Waste facilities (including landfills and transfer facilities) for the purpose of collecting and remitting the solid waste fees for programs and services to ensure adequate landfill capacity for waste generated in Lucas County. Failure to sign the designation agreement will result in a facility no longer being able to accept Lucas County waste for disposal or transfer. The District and Rumpke, Noble Road Landfill have negotiated a final agreement regarding waste disposal fees associated with waste generated in Lucas County and now seek to fully execute the agreement between the parties.

Budget Impact: Revenue

Statutory Authority/ORC: Section 3734.52

Commissioner Gerken offered the following resolution:

Whereas, in consideration of the above, NOW, THEREFORE BE IT RESOLVED by the Board of County Commissioners, Lucas County, Ohio, that:

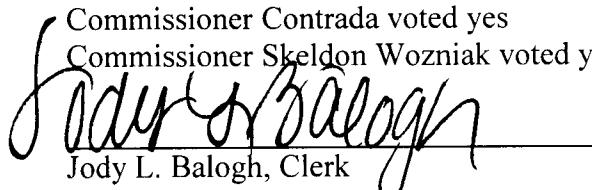
Section 1. This Board hereby approves the contract between Rumpke, Noble Road Landfill and the Lucas County Solid Waste Management District.

Section 2. This Board finds and determines that all formal actions of this Board concerning and relating to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board that resulted in those formal actions were in a meeting open to the public in compliance with the law.

Section 3. This resolution shall be in full force and effect from and immediately upon its adoption.

Action Taken:

Commissioner Gerken voted yes
Commissioner Contrada voted yes
Commissioner Skeldon Wozniak voted yes



Jody L. Balogh, Clerk

**SOLID WASTE
APPROVED
OHIO ENVIRONMENTAL PROTECTION AGENCY**
October 22, 2024
**AS EVIDENCED BY COPY OF
LETTER OF APPROVAL
ATTACHED HERETO**