LORAIN COUNTY
SOLID WASTE MANAGEMENT DISTRICT

2020 – 2029
RATIFIED
SOLID WASTE MANAGEMENT
PLAN UPDATE

August 2019

Prepared by:

GT environmental, inc.

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Section i. Solid Waste Management District Information

Table i-1. Solid Waste Management District Information

SWMD Name	**Lorain County Solid Waste Management District**
Member Counties	Lorain
Coordinator's Name (main contact)	N/A (Position is currently vacant)
Job Title	District Director
Street Address	226 Middle Avenue County Administration Building
City, State, Zip Code	Elyria, Ohio 44035
Phone	(440) 329-5442
Fax	(440) 329-5777
E-mail address	N/A
Webpage	www.loraincounty.us/solidwaste

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

Member Name	Representing
Lorain County	
Matt Lundy	County Commissioners
Chase Ritenauer	Municipal Corporations (City of Lorain)
David Urig	Townships (Amherst Township)
Dave Covell	Health Departments
Barbara Kantola	Industrial Generators (Nordson)
Heather Adelman	Citizens
Dr. David Hintz	Public

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

Name	Dr. David Hintz
Street Address	1170 E Broad St # 103
City, State, Zip Code	Elyria, Ohio 44035
Phone	440-759-7069
E-mail address	davidhintz@yahoo.com

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

Commissioner Name	County	President
Matt Lundy	Lorain	✓
Lori Kokoski		
Sharon Sweda		

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 These issues combined with Ohio's outdated and incomplete solid waste regulations caused Ohio's General Assembly to pass House Bill (H.B.) 592. H.B. 592 dramatically revised Ohio's outdated solid waste regulatory program and established a comprehensive solid waste planning process.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]

[1]Counties 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.

[2]In 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 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 21, 1989, the Lorain County Board of Commissioners created the Lorain 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 mission is to implement the Lorain County Solid Waste Management Plan by educating and encouraging recycling efforts, waste reduction, and litter prevention in Lorain County.

The District's administration consists of one centralized office, which is located at 226 Middle Avenue in Elyria, Ohio.

D. Waste Reduction and Recycling Goals

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

2009 State Plan 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 and at least 66 percent of the solid waste generated by the industrial 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 provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.

Goal 6

- The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.

Goal 7

- The SWMD will use U.S. EPA's Waste Reduction Model (WARM) (or an equivalent model) to evaluate the impact of recycling programs on reducing greenhouse gas emissions.

Goal 8

- The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.

Goal 9

- The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

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

Each SWMD is encouraged to devote resources to achieving both goals. However, each of the 52 SWMDs varies in its ability to achieve both goals. Thus, a SWMD is not required to demonstrate that it will achieve both goals. Instead, SWMDs have the option of choosing either Goal 1 or Goal 2 for their solid waste management plans. This affords SWMDs with two methods of demonstrating compliance with the State's solid waste reduction and recycling goals. Many of the programs and services that a SWMD uses to achieve Goal 1 help the SWMD make progress toward achieving Goal 2 and vice versa.

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

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

CHAPTER 2. District Profile

A. Profile of Political Jurisdictions

1. Counties in the Solid Waste Management District

As its name suggests, the Lorain County Solid Waste Management District is a single-county district comprised of Lorain County, with the addition of the portion of Vermilion city residents located in Erie County.[1]

2. County Overview

Lorain County is the ninth most populous county in Ohio after Franklin, Cuyahoga, Hamilton, Summit, Montgomery, Lucas, Butler, and Stark Counties. The county has a total area of 923 square miles, of which 491 square miles are land and 432 square miles (47%) are water. It is the fourth-largest county in Ohio by total area but only the 28th largest county in Ohio based on land mass. According to the Ohio Development Services Agency's Ohio County Profiles, there are 128,268 housing units in Lorain County. Approximately 91.4% of housing units are occupied (71.3% by owners and 28.7% by renters) and 8.6% of housing units are vacant. Lorain County consists of the following notable communities:

- Lorain is the largest city. In 2016, it had a population of 63,730 people which comprised approximately 20 percent of the county's population.
- Elyria had a population of 53,715 in 2016.
- North Ridgeville had a population of 32,983 in 2016.
- There are nine cities ranging in population from 8,331 to 63,730 people.
- There are six villages ranging in population from 181 people to 6,223 people.
- There are eighteen townships ranging in population from 613 people to 7,438 people.

B. Population

1. Reference Year Population

After adding the population of Vermilion city that was partially located in another SWMD (Erie County SWMD), the District had a total of adjusted population of 310,987 people in 2016.

[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.

Table 2-1 presents the adjusted population, the largest city, and the population of the largest city in the SWMD during the 2016 reference year:

Table 2-1. Population of Lorain County SWMD in 2016

County		Largest Political Jurisdiction		
Name	Population	Community Name	Population	Percent of County Population
Lorain	310,987	City of Lorain	63,730	20%

Source(s) of information: Ohio Development Services Agency, "2016 Population Estimates by County, City, Village, and Township." May 2017.

2. *Population Distribution*

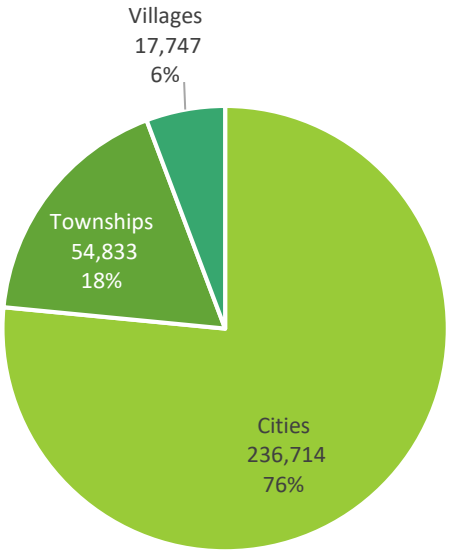
Table 2-2 below presents the distribution of Lorain County's population in cities, villages, and unincorporated areas.

Table 2-2. Population Distribution

County	Percent of Population in:		
	Cities	Villages	Unincorporated Townships
Lorain	76%	6%	18%

Source(s) of information: Ohio Development Services Agency, "2016 Population Estimates by County, City, Village, and Township." May 2017.

Figure 2-1. 2016 Lorain County Population Distribution



According to the Ohio Development Services Agency's profile for Lorain County, it is comprised of nearly equal parts of urban and rural areas. The bullet points below show the largest uses of land in the county:

- 42% of land use was agricultural (cultivated crops and pasture/hay)
- 28% of land use was developed (mostly lower density)
- 30% of land cover was forest, wetlands, open water, shrub/grasslands, or barren (strip mines, gravel pits)

The majority of the District's population is concentrated in the northern-half of the county.

3. Population Change

The District's population is expected to increase by 4.2 percent (or 13,131 residents) from 2016 to 2029.

4. Implications for Solid Waste Management

Based on the population projections, the District does not foresee any major implications related to managing solid waste and providing recycling programs during the planning period.

C. Profile of Commercial and Institutional Sector

There are approximately 9,000 commercial businesses and institutions in Lorain County. The top employers include the health care, education, and local government. The following table lists the top five employers in the commercial and institutional sector.

Major Commercial/Institutional Sector Employers in District

Company Name	NAICS	Employees
University Hospitals Elyria MD*	62	2,000
Mercy Regional Medical Center*	62	1,525
Lorain County Community College	61	1,000
Oberlin College	61	850
Lorain County Administrative Building	92	600

Source: U.S. Business Database. Rep. Reference USA. Web. 3 Feb 2018

The table below shows the number of commercial/institutional establishments within each North American Industry Classification System (NAICS) category.

2016 Commercial/Institutional Establishment Statistics

NAICS Code	NAICS Description	Number of Commercial/ Institutional Establishments
42	Wholesale Trade	280
44-45	Retail Trade	1,184
48-49	Transportation and Warehousing	139
51	Information	153
52	Finance and Insurance	516
53	Real Estate and Rental and Leasing	377
54	Professional, Scientific, and Technical Services	688
55	Management of Companies and Enterprises	14
56	Administrative and Support and Waste Management and Remediation Services	363
61	Educational Services	290
62	Health Care and Social Assistance	2,065
71	Arts, Entertainment, and Recreation	193
72	Accommodation/Food Service	592
81	Other Services (Except Public Administration)	1,259
92	Public Administration	553

E. Profile of Industrial Sector

There are approximately 500 industries operating in Lorain County. About 86% of District industries have an average employment of 10 or more individuals. Only a small percent of industries (7%) have a staff of greater than 100 employees. However, there are more than 30 industries with more than 100 employees; the top 20 industrial sector employers are presented in the table below.

Largest Industrial Sector Employers

Company Name	City	NAICS	Staff
Ford Ohio Assembly Plant	Avon Lake	336	1,800
Invacare Corporation	Elyria	339	675
Poly One Corp	Avon Lake	325	650
Ridge Tool Co	Elyria	332	635
Bendix Commercial Vehicle Systems	Elyria	336	617
Forest City Technologies Inc	Wellington	326	500
AdvancePierre Foods	Amherst	311	500
Camaco LLC	Lorain	336	480
Riddell Sports (opened 2017)	North Ridgeville	339	450
Nordson Corp	Amherst	339	450

Largest Industrial Sector Employers

Company Name	City	NAICS	Staff
NN, Inc. (formerly Whirlaway Corp)	Wellington	336	417
Panel Master LLC	Wellington	335	400
AJ Rose Mfg. Co	Avon	326	350
Diamond Products Inc	Elyria	333	250
Beckett Gas Inc	North Ridgeville	327	250
Shiloh Industries	Wellington	332	250
Parker Hydraulic Valve Division	Elyria	332	240
Nelson Stud Welding Inc	Elyria	333	240
US Steel - Lorain Tubular Operations	Lorain	331	200
Crane Co., Lear Romec Division	Elyria	334	215

According to the Department of Job and Family Services' publication *2024 Job Outlook for the Cleveland-Elyria-Mentor Metropolitan Statistical Area* (MSA), employment in manufacturing is projected to decrease by 4.1 percent from 2014 to 2024. 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

Lorain County is host to the Oberlin College which has an undergraduate student population of approximately 3,000. Approximately 90% of students live in college-owned, operated, or affiliated housing. The students comprise a transitory population that is not included in the count of Lorain 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. Because Oberlin College's student body is moderately small compared to the County's overall population, the effects on per capita generation measurements should be minimal.

CHAPTER 3. Waste Generation

This chapter of the Solid Waste Management Plan provides a summary of the solid waste management district's historical and projected solid waste generation. The District's Policy Committee needs to understand the amounts and types of waste the solid waste management district (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 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 District 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 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

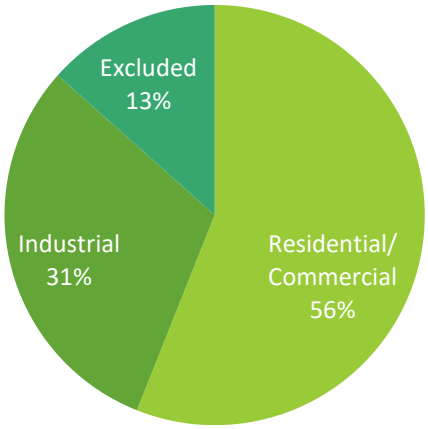
Table 3-1 shows the amounts of residential/commercial (R/C), industrial, and excluded waste generated within the District during 2016 (the reference year). The amount generated is defined by the tons disposed in landfills plus the tons recycled, composted, and otherwise diverted from landfill disposal.

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

Type of Waste	Tons Generated
Residential/Commercial	305,490
Industrial	166,540
Excluded	73,161
Total	**545,191**

As demonstrated in **Figure 3-1**, the R/C sector generates the majority (56%) of the total waste generated in the District, followed by the industrial sector (31%). Excluded waste represents 13% of the total waste generated.

Figure 3-1. Waste Type as Percentage of Total Waste Generated



1. Residential/Commercial Waste Generated in Reference Year

In 2016, 305,490 total tons of solid waste were generated from residential and commercial sources in Lorain County. Waste generation is the sum of tons landfilled, tons recycled, and tons composted. This amounts to a residential/commercial waste generation rate of 5.38 pounds per person per day which is less than the statewide average of 6.09 PPD.

2. Industrial Waste Generated in Reference Year

In 2016, 166,540 total tons of waste were generated from industrial sources in Lorain County.

3. Excluded Waste Generated in Reference Year

Excluded waste includes materials that are excluded from the definition of solid waste in ORC 3734.01(E). This includes slag, uncontaminated earth, non-toxic fly ash, spent non-toxic foundry sand, and materials from mining operations. In 2016, 73,161 tons of excluded waste were generated in Lorain County.

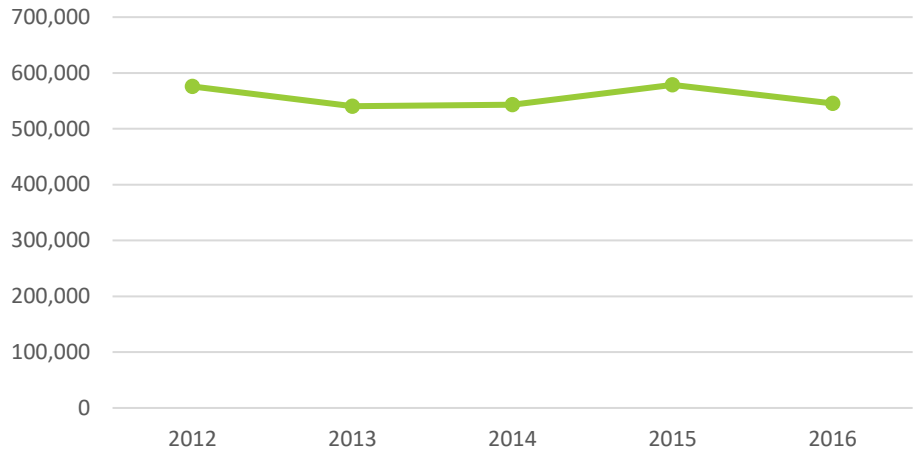
B. Historical Waste Generated

The overall waste generation for Loran County from all sectors from 2012 through 2016 is shown in the table below and **Figure 3-2**. These show that generation is stable; although there are natural fluctuations in overall generation each year, overall trends are neither substantially increasing nor decreasing.

Reference Year and Historical Waste Generated

Year	Pop.	Residential/Commercial				Industrial			Excluded	Total	Annual % Change		
		Disposed	Recycled	Generated	PPD	Disposed	Recycled	Generated			R/C	Ind	Ex
2012	305,818	223,960	78,475	302,435	5.42	46,707	112,139	158,846	114,526	575,807			
2013	307,787	214,534	74,573	289,107	5.15	47,858	90,589	138,447	112,972	540,526	-4%	-13%	-1%
2014	308,536	219,512	86,530	306,042	5.44	52,906	96,542	149,449	87,846	543,336	6%	8%	-22%
2015	309,835	225,583	80,373	305,956	5.41	60,213	87,747	147,961	124,778	578,695	0%	-1%	42%
2016	**310,987**	***229,739***	***75,751***	***305,490***	5.38	***62,428***	***104,112***	***166,540***	***73,161***	***545,191***	***0%***	***13%***	***-41%***

Figure 3-2. District Total Waste Generated



1. Historical Residential/Commercial Waste Generated

Overall, waste generation in the residential/commercial sector has remained fairly constant over the five-year period from 2012 through 2016. **Figure 3-3** shows the breakout of waste recycled (including composted) and waste landfilled which combined, equal generation. **Figure 3-4** shows the per capita waste generation rate for the residential/commercial sector. While the figure shows some fluctuation, the average per capita waste generation in this period was 5.4 pounds per person per day.

Figure 3-3. Residential/Commercial Waste Generation: 2012-2016

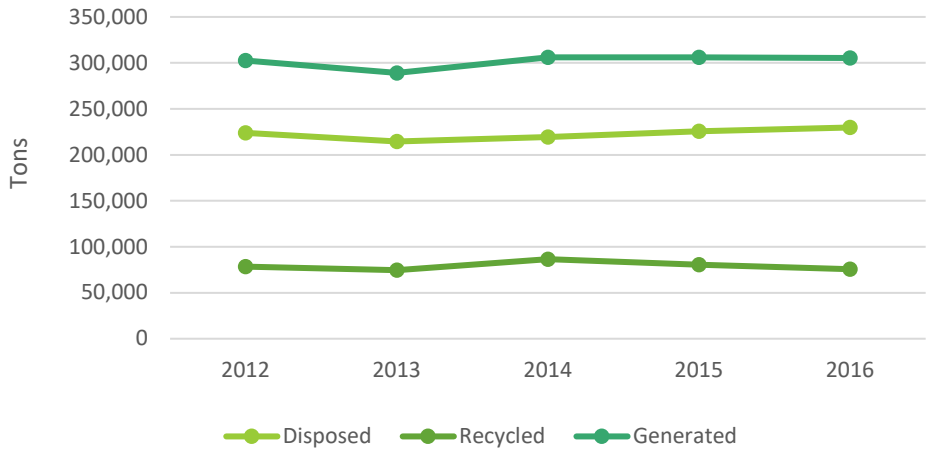
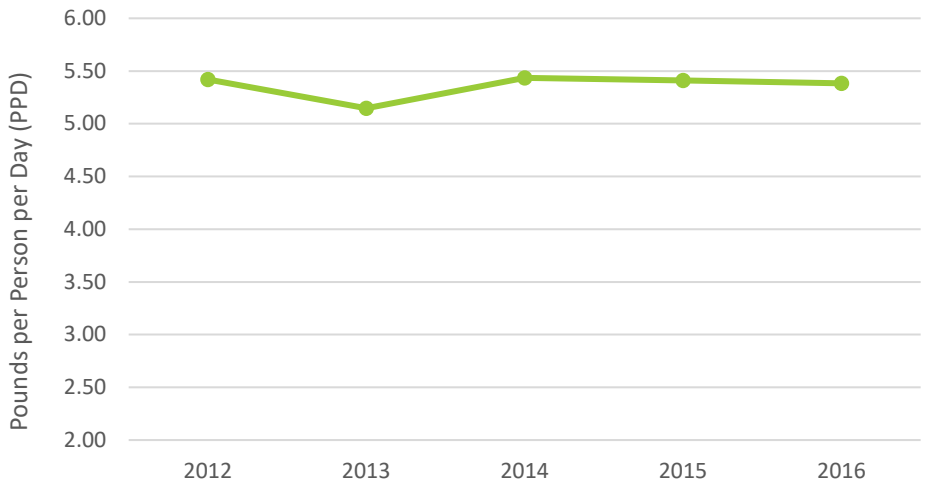


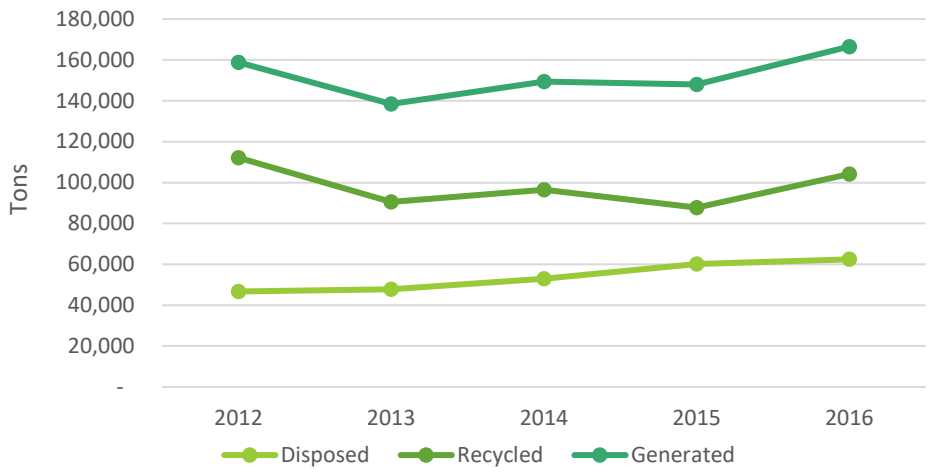
Figure 3-4. Residential/Commercial Waste Generation Per Capita



2. *Historical Industrial Waste Generated*

Industrial waste generation fluctuated over the five-year period from 2012 to 2016 due to fluctuating recycling totals. Disposal increased annually. Annual increases in disposal ranged from 2% to 14% per year.

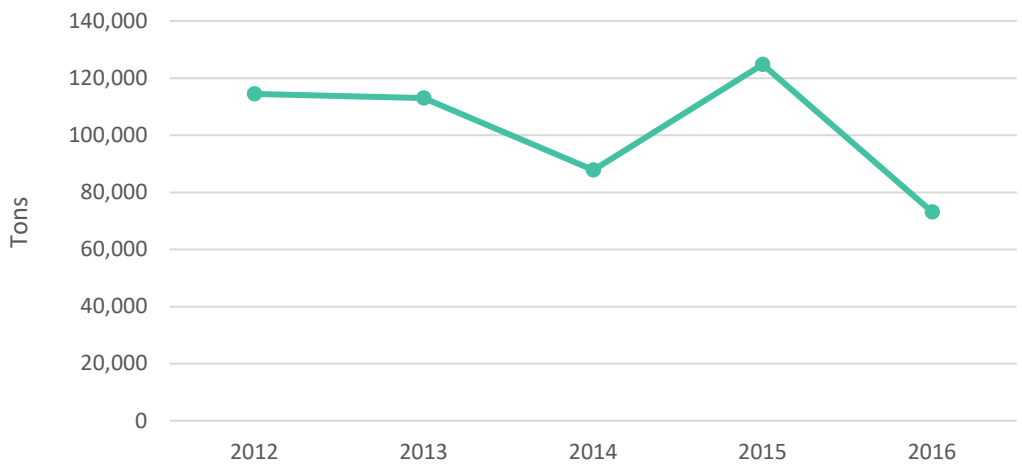
Figure 3-5. Industrial Waste Generation: 2012-2016



3. Historical Excluded Waste Generated

Annual quantities of excluded waste generated have generally been decreasing each year with the exception of 2015. From 2012 to 2016, volumes of excluded waste have ranged from a low of 73,161 tons in 2016 to a high of 124,778 tons in 2015.

Figure 3-6. Excluded Waste Generation: 2012-2016



C. Waste Generation Projections

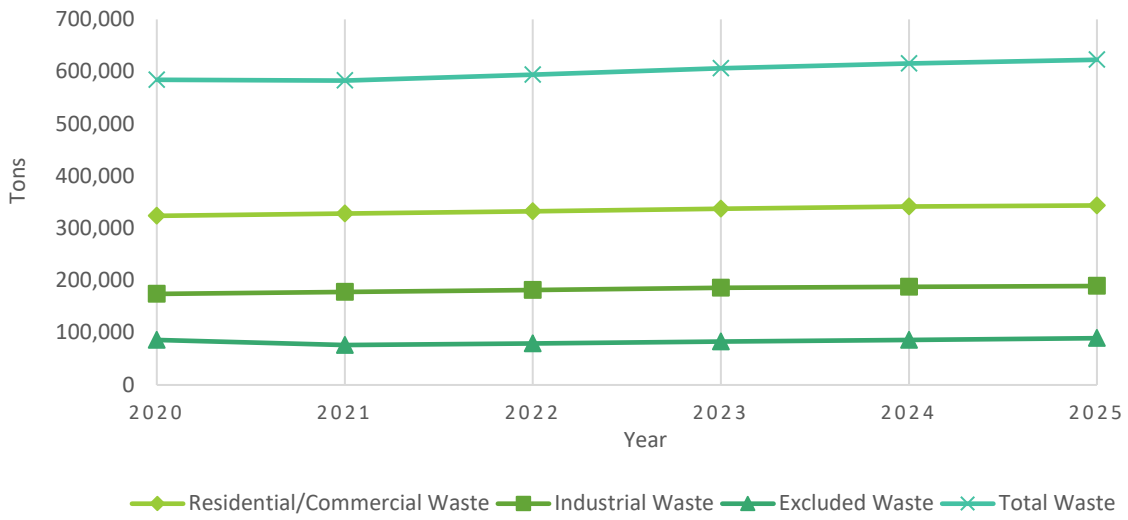
Table 3-2 demonstrates that waste generation within the District is expected to increase approximately 6% during the first six years of the planning period.

Table 3-2. Waste Generation Projections

Year	Residential/ Commercial Waste	Industrial Waste	Excluded Waste	Total
2020	323,798	174,320	86,270	584,388
2021	328,243	178,092	76,438	582,773
2022	332,731	181,955	79,716	594,401
2023	337,263	185,910	82,993	606,166
2024	341,841	187,656	86,270	615,767
2025	343,675	189,430	89,547	622,653

Figure 3-7 presents the projections for the amount of waste to be generated for the first six years of the planning period.

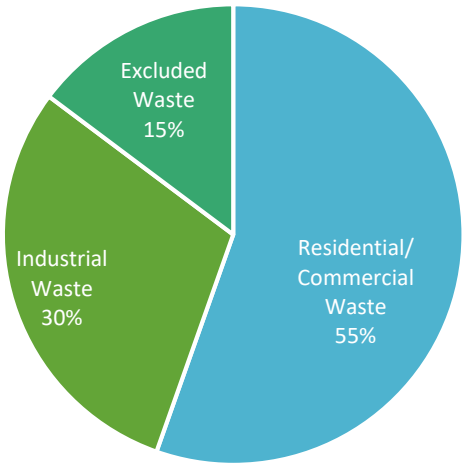
Figure 3-7. Waste Generation Projections



In general, generation for all sectors (residential/commercial, industrial, and excluded) is projected to increase modestly. Generation projections were based on projections for disposal and recycling contained in Appendices D, E and F. A detailed explanation of the methodologies can be found in those appendices.

The following figure shows the percentage of solid waste generated in each sector for the first year of the planning period (2020).

Figure 3-8. Total Waste Generation: 2020



1. Residential/Commercial Waste Projections

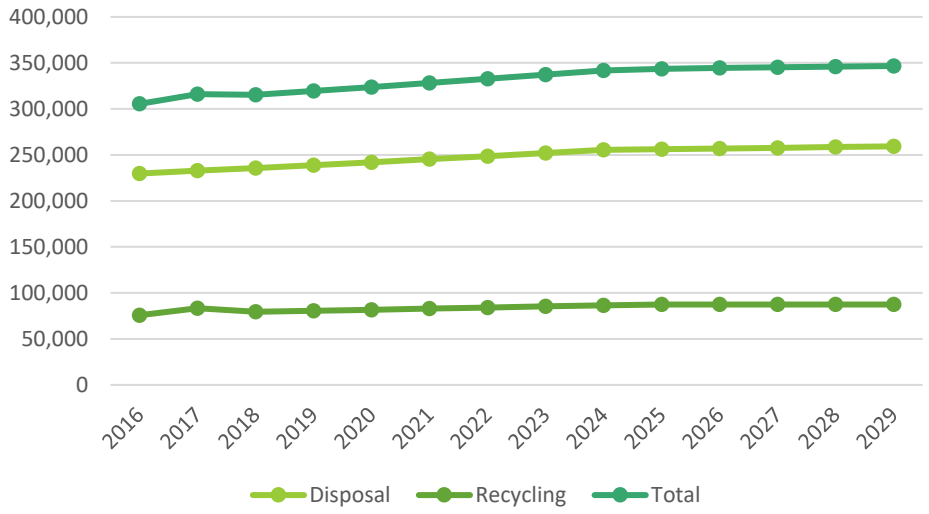
Residential/commercial sector disposal tonnages are projected to increase throughout the planning period. To project the total tons of residential/commercial sector disposal from 2017 to 2029, the per capita disposal rate from 2016 (4.05 pounds per person per day (PPD)) was increased by 1% annually until 2024, then held constant until 2029. The projected PPD for each year was multiplied by 365 days/year and the annual estimated population from **Table C-2**, then divided by 2,000 to convert from pounds to tons. **Table D-6** in Appendix D presents the residential/commercial waste disposal projections. The District considered five projection scenarios and selected this approach because it produced the most reasonable results based on historical trends

Residential/commercial sector recycling is projected to increase from 81,760 tons in 2020 to 87,385 tons in 2029, or 6.8% over the planning period.

Multiple methodologies were used to project the District's residential/commercial sector recycling, which were based on the assumptions made after the completion of a historical analysis for different programs and data sources. **Table E-8** in Appendix E provides recycling projections by program/source; a detailed methodology for projecting the recycling from each program/source is provided after the table.

The following figure presents the actual and projected totals of R/C recycling, disposal, and total generation from the reference year to the end of the planning period.

Figure 3-9. Residential/Commercial Waste Generation: 2016-2029



2. Industrial Waste Projections

Waste generation in the industrial sector is normally influenced to a lesser degree by solid waste district programming than the generation totals from the residential/commercial sector.

In order to take a somewhat conservative approach, and to address the historical variability and uncertainty associated with determining industrial generation into the future, the following assumptions have been used to project industrial generation for planning purposes:

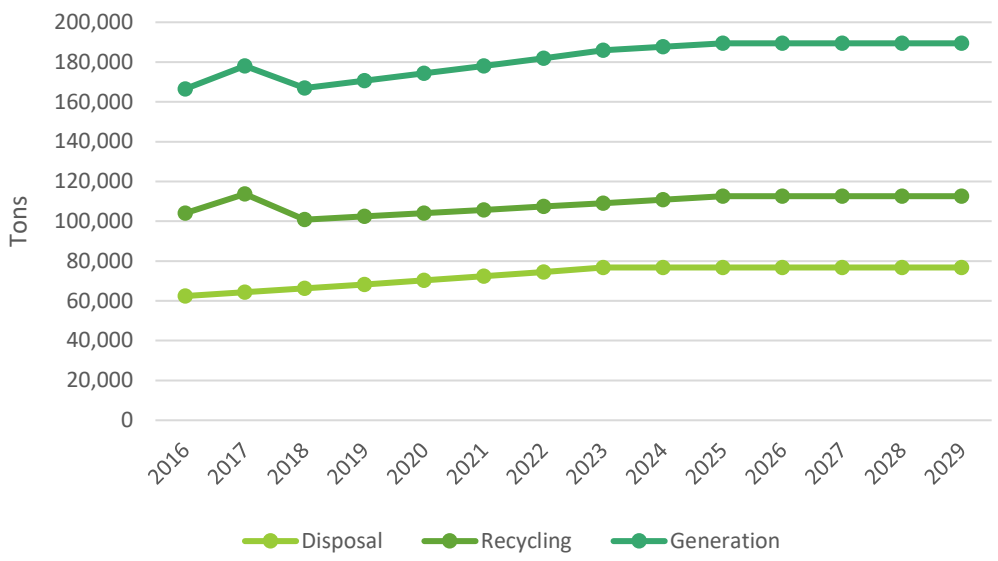
- Recycling. To project the total industrial sector recycling, the District used actual recycling totals for 2016 and 2017. The total recycling for 2018 was projected by calculating the average total from 2012 to 2017. From 2019 to 2026, recycling was projected to increase at the average annual percentage increase from 2012 to 2017 (1.6%), then remain flat for the remainder of the planning period. Industrial sector recycling in the District is generally stable and mature. A few very large metal-based industries tend to be responsible for notable increases or decreases. These fluctuations are typically caused by changes in the supply and demand for products related to industries that are impacted by fuel prices. These trends can be challenging to forecast; therefore, trends based on historic recycling totals were used to develop projections for this sector.

- Disposal. The average annual increase in industrial sector disposal tonnage was 6.71% from 2012-2016. The District assumes that this pattern will not continue. The Ohio Department of Jobs and Family Services estimates that manufacturing employment in the Cleveland-

Elyria-Mentor metropolitan statistical area will decrease at an annual rate of 0.42% through 2024. The projected decrease in employment seems to support the assumption of a lower rate of increase in disposal. Disposal tonnage was projected to increase 3% annually through 2023 then remain constant until the end of the planning period.

The result of these assumptions is that total waste generation for the industrial sector will increase from 2018 to 2025, then remain constant until the end of the planning period. The following figure presents the actual and projected totals of industrial sector recycling, disposal, and total generation from the reference year to the end of the planning period.

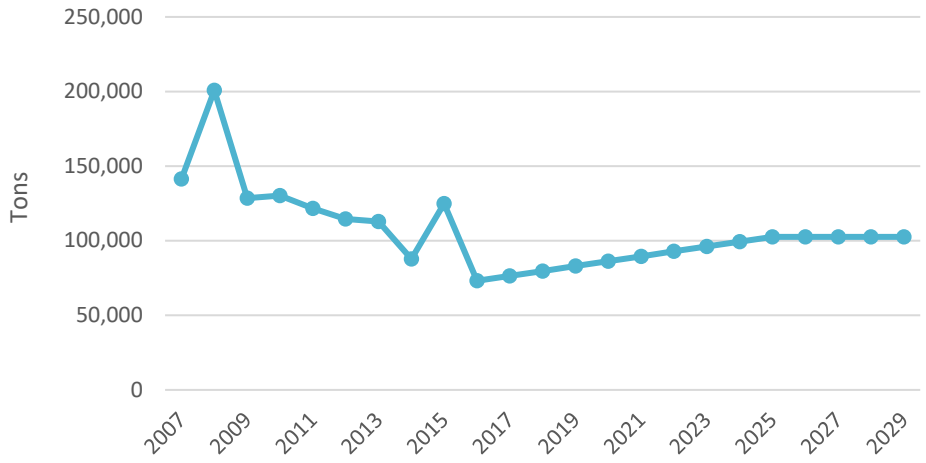
Figure 3-10. Industrial Waste Generation: 2016-2029



3. Excluded Waste

Excluded waste historically decreased annually from 2007 to 2016, with the exception of two years (2008 and 2015). Due to the noted variability in the amount of excluded waste disposed, this waste stream is projected from 2025 to 2029 to remain constant at the average tonnage calculated for 2012 through 2016. Intermediate year (2017 through 2024) were projected using a straight-line average. For additional context of historical patterns, the following figure presents the actual and projected excluded waste totals from 2007 to 2029.

Figure 3-11. Excluded Waste Generation: 2007-2029



CHAPTER 4. Waste Management

Chapter 3 provided a summary of how much waste the solid waste management district (SWMD) generated in the reference year and how much waste the SWMD is estimated to 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 the waste the SWMD will need to dispose of. If there is not 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 Lorain 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 first six years of the planning period and indicates that disposal ("Transfer" plus "Landfill") will continue to comprise the largest category.

Table 4-1. Methods for Managing Waste

Year	Generate[1]	Recycle[2]	Compost[3]	Transfer[4]	Landfill[5]
2020	584,388	153,942	31,874	9,265	389,307
2021	595,882	155,893	32,754	9,425	397,811
2022	607,511	157,872	33,633	9,588	406,417
2023	619,275	159,881	34,513	9,754	415,127
2024	628,876	161,920	35,393	9,855	421,708
2025	635,762	163,764	36,273	9,881	425,844

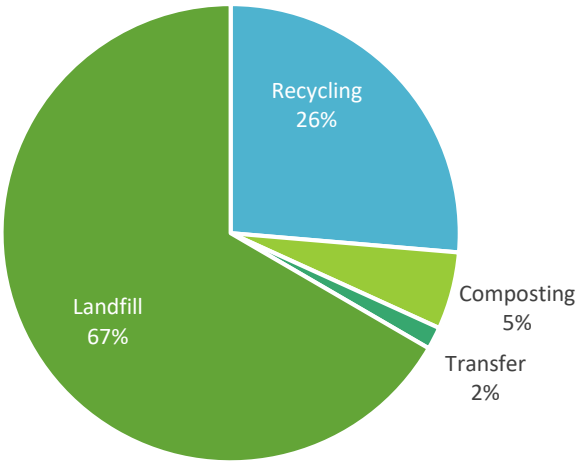
[1] "Generate" represents the total of the other four columns.
[2] "Recycle" is the total amount reduced and recycled minus composting.
[3] "Composted" is the amount of yard waste sent to a compost facility.
[4] "Transferred" is the amount sent to transfer stations prior to delivery to a landfill.
[5] "Landfilled" plus the "Transferred" amount equals the total disposal.

Sources of information: Tables K-3, E-8, and D-6.

The following figure shows that recycling as a percentage of total generation for 2020 is projected to be 30 percent and compost is projected to be 1 percent while the amount of waste sent to transfer stations prior to final disposal in a landfill is approximately 2 percent. The tonnage sent directly to landfills for disposal is expected to be 67 percent of total generation.

The percentage of waste managed by each method is projected to remain the same in 2025.

Figure 4-1. 2020 Percent of Generation Managed by Each Method



B. Profile of Solid Waste Infrastructure and Solid Waste Facilities Used in the Reference Year

There is one landfill located in Lorain County. There are no transfer stations located in the District. There are a number of composting and recycling facilities which are located in the County. The facilities used by the District during 2016 are discussed below.

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 2016 are shown in **Table 4-2**. This table illustrates that 92 percent of the direct-hauled waste was disposed at the Lorain County Landfill, which is a publicly-available, privately-owned facility. At the end of 2016, the Lorain County Landfill had 10.5 years of remaining capacity available for disposal. In 2018, the landfill obtained a permit to install a vertical expansion, increasing the remaining capacity to 18.6 years. Other landfills which received waste from the District in 2016 had an average of nearly 42 years of remaining capacity.

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

Facility Name	Location		Tons Accepted from SWMD	% of all SWMD Tons Disposed	Remaining Years
	County	State			
In-District					
Lorain County Landfill LLC	Lorain	OH	327,646	92%	10.5*
Out-of-District					
Crawford County Sanitary Landfill	Crawford	OH	5	0%	10.8
Erie County Sanitary Landfill	Erie	OH	6,166	2%	26.7
Cherokee Run Landfill	Logan	OH	13	0%	24.1
Carbon Limestone Landfill LLC	Mahoning	OH	27	0%	59.1
Noble Rd Landfill	Richland	OH	17,552	5%	8.5
Evergreen Recycling & Disposal	Wood	OH	23	0%	6.6
Port Clinton Landfill, Inc	Ottawa	OH	334	0%	65.1
Kimble Sanitary Landfill	Tuscarawas	OH	327	0%	32.05
Countywide Recycling & Disposal Facility	Stark	OH	30	0%	77.2
American Landfill, Inc.	Stark	OH	4,165	1%	85.6

Facility Name	Location		Tons Accepted from SWMD	% of all SWMD Tons Disposed	Remaining Years
	County	State			
Pine Grove Regional Facility	Fairfield	OH	2	0%	63
Out-of-State					
None				0%	
		Total	**356,290**	**100%**	

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.

*As of June 12, 2018, Republic Services' permit-to-install a vertical expansion was approved by Ohio EPA. The vertical expansion will increase the permitted airspace by 9,513,530 cubic yards to a total of 61,148,650 cubic yards. The life of the facility is calculated to be 11.1 years at the authorized maximum daily waste receipt (AMDWR) of 6,500 tons and 18.6 years at the anticipated average daily waste receipt of 4,000 tons.

2. *Transfer Facilities*

The transfer facilities receiving waste from District entities during 2016 are listed in **Table 4-3**. Approximately 2% of the total waste ultimately sent for disposal was processed by transfer stations while approximately 98% was directly hauled to landfills.

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

Facility Name	Location		Tons Accepted from District	% of all District Waste Transferred	Final Waste Destination
	County	State			
In-District					
None					
Out-of-District					
Cleveland Transfer/Recycling Station	Cuyahoga	OH	776	9%	Franklin Co. Sanitary Landfill, American Landfill, Inc.
Harvard Road Transfer Station	Cuyahoga	OH	5,132	57%	Noble Rd Landfill
City of Strongsville Transfer Station	Cuyahoga	OH	702	8%	Lorain Co. Landfill
Broadview Heights Recycling Center	Cuyahoga	OH	1,278	14%	Noble Rd. Landfill

Facility Name	Location		Tons Accepted from District	% of all District Waste Transferred	Final Waste Destination
	County	State			
Huron County Transfer Station	Huron	OH	1	0%	Erie Co. Sanitary Landfill
Richland County Transfer Station	Richland	OH	1,142	13%	Noble Rd. Landfill
PennOhio Coal Co, dba Kimble Transfer & Recycling	Summit	OH	5		Kimble Sanitary Landfill
Kimble Transfer & Recycling Facility - Canton	Stark	OH	2	0%	Kimble Sanitary Landfill
Out-of-State					
None					
		Total	9,038	100%	

3. *Composting Facilities*

Table 4-4 shows the composting facilities which received yard waste from the District in 2016.

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

Facility Name	Location (County)	Tons Composted	Percent of all Material Composted
In-District			
Alman Brothers Excavating	Lorain	DNR	0%
Amherst Township Yard Waste Collection Site	Lorain	DNR	0%
Avon Lake Central Fueling	Lorain	4,598	19%
Avon Miller Rd. Composting Facility (Kurtz Bros Inc.)	Lorain	13,381	54%
Carlisle Township	Lorain	152	1%
DDBK LLC	Lorain	DNR	0%
Eaton Township Composting Center	Lorain	8	0%
JDS Trucking, Inc	Lorain	DNR	0%
JS Composting	Lorain	0	0%
Lorain, City of	Lorain	993	4%
M & B Trucking Express Corp.	Lorain	DNR	0%
Moore Road Compost Facility	Lorain	DNR	0%

Facility Name	Location (County)	Tons Composted	Percent of all Material Composted
Morton's Landscape Development Co.	Lorain	DNR	0%
Oberlin Compost	Lorain	587	2%
Three-Z, Inc. - Westside Yard	Lorain	2,862	12%
Out-of-District			
Yard Waste Recovery - Barnes Nursery	Erie	1,764	7%
Cloverleaf Composting Facility	Cuyahoga	414	2%
Sand Road Ent Inc	Huron	0	0%
#1 Landscape	Medina	4	0%
	Total	24,762	

Note: This table does not include the 1,338 tons of food waste which was reported by haulers and Walmart listed in Ohio EPA's composting report or a negligible quantity of yard waste (38 tons) reported by community yard waste collection programs that was not sent to a registered compost facility for processing.

4. Processing Facilities

Table 4-5 shows the major processing facilities which reported processing recyclables from the District during the reference year. This list was compiled by analyzing data resulting from the District's survey efforts. The majority of the facilities processing recyclables generated in Lorain County are located in Cuyahoga County. Approximately 22% of the recycling generated in the reference year was processed at the Lorain County Resource Recovery Complex located in Lorain County.

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

Name of Facility	Location		Facility Type
	County	State	
In-District			
Bluestar Metal Recycling	Lorain	OH	Scrap Yard
Chemtron	Lorain	OH	Processor
Dobie Pallets	Lorain	OH	Single Material Processor
Dreco Inc.	Lorain	OH	Processor
Goodwill Industries of Lorain County	Lorain		Other
Lorain County Resource Recovery Complex	Lorain	OH	MRF
Reeds Salvage Corporation	Lorain	OH	Scrap Yard
Sugar Ridge Auto Recycling	Lorain	OH	Scrap Yard

Name of Facility	Location		Facility Type
	County	State	
Out-of-District			
Columbiana Foundry Co	Columbiana	OH	Processor
Jasar Recycling	Columbiana	OH	Processor
AIM Metal Recycling	Cuyahoga	OH	Scrap Yard
Caraustar	Cuyahoga	OH	Processor
Cimino Pallet	Cuyahoga	OH	Single Material Processor
Container Compliance	Cuyahoga	OH	Processor
Eastside Metals	Cuyahoga	OH	Scrap Yard
EnviroServe	Cuyahoga	OH	Processor
E-Scrap Solutions	Cuyahoga	OH	Single Material Processor
Ferrous Processing and Trading (FPT)	Cuyahoga	OH	Scrap Yard
Gateway Recycling	Cuyahoga	OH	Processor
National Container Group	Cuyahoga	OH	Processor
RET3	Cuyahoga	OH	Processor
Royal Oak - Paper Retriever	Cuyahoga	OH	Single Material Processor
Scrapcom	Cuyahoga	OH	Scrap Yard
Shred-It	Cuyahoga	OH	Single Material Processor
Tube City	Cuyahoga	OH	Scrap Yard
Sandusky Steel	Erie	OH	Scrap Yard
Heartland Petroleum	Franklin	OH	Single Material Processor
Rumpke Waste Recycling - Columbus	Franklin	OH	MRF
NLM Excavating	Huron	OH	Processor
Findlay Foam Recycling	Lucas	OH	Single Material Processor
Heritage Environmental	Lucas	OH	Processor
Medina Recycling	Medina	OH	Processor
Liberty Tire Service of Ohio	Stark	OH	Single Material Processor
Republic Engineered Products	Stark	OH	Processor
River Valley	Stark	OH	Processor
Slats and Nails	Stark	OH	Single Material Processor
Timken	Stark	OH	Processor
FerroTrade Corporation	Summit	OH	Scrap Yard
Pinnacle Recycling	Summit	OH	Processor
Kidron Salvage	Wayne	OH	Scrap Yard
Chase Brass and Copper Co.	Williams	OH	Processor
Dlubak Glass	Wyandot	OH	Single Material Processor
Out-of-State			
Greenwave	Marion	IN	Single Material Processor

5. Other Waste Management

The District did not identify any other methods used for waste management during the reference year.

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 processed a minor percentage of the District's waste in past years and are expected to do so throughout the planning period. No information currently available to the District suggests that the existing transfer stations used to process District waste will close in the near future.

The amount of materials composted throughout the planning period is expected to be higher than the 2016 reported amount. However, the projected increase will remain below the highest composted tonnage historically. 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.

D. Siting Strategy

The District Siting Strategy for solid waste facilities ensures that proposals to construct a new solid waste facility within the District or modify an existing in-District solid waste facility are in compliance with the Plan. The District Board of Directors (Board of County Commissioners) shall not approve the general plans and specifications for any proposed solid waste facility or modification of an existing in-District solid waste facility where the modification, construction, and operation of the proposed solid waste facility, as determined by the Board, will:

1. Adversely affect the Board's ability to finance and implement the Plan;

2. Interfere with the Board's obligation to provide for the maximum feasible utilization of existing in-District solid waste facilities;

3. Materially and adversely affect the quality of life of residents within 300 feet of the proposed modification or construction of a solid waste facility; or

4. Materially and adversely affect the local community, including commercial businesses within 500 feet of the proposed modification or construction of

a solid waste facility and the adequacy of existing infrastructure to serve the proposed solid waste facility as modified or constructed.

For a more detailed explanation of the District's siting strategy, see Appendix S of this Plan Update.

E. 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 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 343.013, 343.014 and 343.015. 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] 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.)

1. Description of the SWMD's Designation Process

The District's existing Plan authorizes the Board of Directors to designate solid waste facilities. Authorization to designate solid waste facilities will continue with the approval of this Plan Update.

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 District and County Commissioners will evaluate each request for designation or waiver.

2. List of Designated Facilities

The currently designated facility for the solid waste generators is shown in **Table 4-6**. This facility was designated in 2009.

Table 4-6. Facilities Currently Designated

Facility Name	Location		Facility Type
	County	State	
In-District			
Lorain County Landfill	Lorain	OH	Landfill
Out-of-District			
None			
Out-of-State			
None			

CHAPTER 5. Waste Reduction and Recycling

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

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 14 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 waste 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 District's abilities, strengths and weaknesses, operations, existing programs and services, outstanding needs, available resources, etc. The Policy Committee reviewed a list of actions the SWMD could take, programs that the District could implement, or other steps the SWMD could take 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. (For more in-depth information regarding the analyses of District programs and the development of priorities, see Appendix H and Appendix I, respectively.)

After deciding on programs and services, the Policy Committee reviewed projections of 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 details regarding the residential/commercial sector and Appendix F for the industrial sector.)

Finally, the District and Policy Committee realize that the highest priorities identified during this Plan Update process were to implement all existing programs, reduce contamination, increase recycling, and enhance its education, awareness, and outreach programs. The District reserves the right to ensure the implementation of the programs and initiatives that support the District's highest priorities first before other secondary new programs or initiatives.

A. Program Evaluation and Priorities

1. Strategic Analysis

All existing District programs have been evaluated qualitatively in terms of the suggestions included within Ohio EPA's guidance document (i.e., Format v4.0), and the strengths and weaknesses were identified for each program. For programs which have data available, quantitative evaluations were incorporated, also. The District conducted additional analyses for subject areas or issues not necessarily related to an existing program where appropriate. The following table includes the 14 distinct analyses conducted for the District's programs.

Strategic Analysis Categories

Analysis	Topic
#1	Residential Recycling Infrastructure Analysis
#2-3	Business and Industrial Sector Analysis
#4	Residential/Commercial Waste Composition Analysis
#5	Economic Incentive Analysis
#6	Restricted and Difficult to Manage Waste Analysis
#7	Diversion Analysis
#8	Special Program Needs Analysis
#9	Financial Analysis
#10	Regional Analysis
#11	Population Analysis
#12	Data Collection Analysis
#13	Education and Outreach Analysis
#14	Processing Capacity Analysis

2. Conclusions and Priorities

The strategic analysis conducted by the District identified strengths and weaknesses for existing programs and challenges the District faces to improve certain programs. The topics or issues potentially needing to be addressed through some type of new initiative were also identified through this process.

After compiling a list of all the existing programs and the new initiatives, the District staff and the Policy Committee employed a ranking system to prioritize solid waste management efforts within Lorain County. Each existing program and new initiative were ranked from 1 to 5 based upon its importance and feasibility/ease of implementing. All programs and initiatives with a ranking of "4" or "5" are recommended for implementation, as well as some with a ranking of "3." All others are not recommended at this time.

For a complete listing of all existing programs and initiatives, including those with a ranking of "1", "2", or "3", see Appendix I. In many cases, the new initiatives are intended to address problems identified for an existing program or to enhance an existing program.

A complete listing and description of all District programs and new initiatives recommended for implementation with this Plan Update is provided below in Section B, "Program Descriptions."

District Conclusions and Priorities: Strategic Analysis

Program Category	Program / Action Name
Residential Recycling Infrastructure	
Curbside Recycling	Continue non-subscription curbside recycling programs
	Continue curbside recycling technical assistance and contracting services
	Continue City of Lorain automated curbside collection
	Continue consortium for waste services
	New Program: Provide educational toolkit to communities to decrease contamination and assist with zero waste plans for communities.
Drop-Off Recycling	Continue multi-material recycling drop-offs
	Continue limited material recycling drop-offs
	Continue Initiative to improve convenience and access
	Continue commercial sector paper recycling
	Continue paper retriever program
	New Program: Identify concentrations of MFH units to assess where is the greatest need for additional infrastructure
Residential, Commercial/Institutional, Industrial Programs & Restricted/Hard to Recycle Materials	
Business and Industrial Sector	Continue to provide waste audits
	Continue recognition program

Program Category	Program / Action Name
Business and Industrial Sector	Continue business recycling roundtable
	Continue specialized bottle/can collection program
	Continue zero waste planning
	Continue bar & restaurant glass recycling
	New Program: Meet with economic development directors in communities
Restricted & Difficult-to-Manage Wastes, Special Collection Events	Continue electronics collection
	Continue to provide funding to the OSU Extension office to provide education on composting and manure handling
	Continue to provide funding to the OSU Extension office to provide education on composting
	Continue to promote the OSU Extension webpage
	Continue to support the OSU Extension office's activities which include brochures, phone-line, radio
	Continue used anti-freeze recycling
	Continue Lorain County Collection Center
	Continue fluorescent bulb and ballast recycling
	Continue printer cartridge and cell phone recycling
	Continue microwave collection
	Continue scrap tire collection
	Continue appliance recycling
	New Program: Yard Waste Contracting Consortiums
	New Program: Target High Volume Food Waste Generators
	New Program: Facilitate Food Rescue Program
Education/Outreach	
Education/Outreach	Continue interactive database of recycling locations
	Continue social media
	Continue residential recycling education and awareness program
	New Program: Establish community participation methodology
	New Program: Plan to identify residential recycling program participants
	New Program: Community recycling coordinator meetings
	New Program: Sponsor an annual educational seminar
Grants/Incentives, Facilities, Enforcement/Clean-Up, & Other Programs	
Grants	Continue Recycling Market Development Grant from Ohio EPA
	Continue Recycling Revolving Loan program
	Continue District Market Development Grants
	Continue new programs funding

Program Category	Program / Action Name
Grants	Continue Lorain County Community Scholarship
	Continue Expanding Residential Recycling Programs
	Continue MFH Recycling Grant
	Continue Yard Waste Incentive Grants
Enforcement & Clean-up	Continue Health Department financial assistance
	Continue open dump and scrap tire clean-up
	Continue Lorain County Pride Day - volunteer litter collection
	Continue Clean-And-Beautiful (C.A.B.) program
	Continue Environmental Crimes Unit
	New Program: Law enforcement focus
	New Program: Disaster Debris Plan update
	New Program: Health and Sheriff Department meetings
Other Programs	Continue County Engineer road funding
	Continue legal assistance
	Continue Disaster Debris Management Plan
	Continue third-party financial audit
	Continue host community agreement fee contract
	Continue landfill capacity conservation initiatives
	Continue energy from waste feasibility assessment
	Continue organics facility
	Continue yard waste data reporting
	New Program: Host Community Agreement extension
	New Program: Host Community Agreement hauler data requirements
	New Program: Hauler outreach for community data
	New Program: Business awareness outreach

B. Program Descriptions

Existing program descriptions are available in Appendix H. Only new program descriptions are included in the following section.

1. Residential Recycling Infrastructure

Provide educational toolkit to communities to decrease contamination

The District can provide communities with customizable materials that can be posted on community webpages and/or social media platforms that educate residents on allowable and unacceptable materials for curbside recycling programs. This toolkit will help the District in their outreach priority to focus on contamination rates. The District can also assist communities with developing customized zero waste plans.

Identify concentrations of MFH units to assess where is the greatest need for additional infrastructure

The District will work with communities and regional planning agencies to identify communities or areas with the greatest concentrations of MFH units. These areas can be investigated to identify if there is an opportunity to provide additional infrastructure that will measurably improve residential sector recycling rates.

2. Residential, Commercial/Institutional, Industrial Programs & Restricted/Hard to Recycle Materials

Meet with economic development directors in communities

The District may learn more about commercial sector generators and their challenges and needs regarding recycling by connecting with economic development directors. The District could use the meetings to educate economic development directors about the District's services. This may help promote the District's programs to their constituents. Developing a relationship with a network of economic development directors throughout Lorain County could help the District stay informed about major changes in the commercial/industrial landscape.

Yard waste contracting consortiums

An evaluation will be performed on whether there is interest in establishing municipal yard waste contracting consortiums to obtain longer contracts and stable pricing for communities. If communities express interest, the District would facilitate the development of the consortium and handle the bid in the same way it developed its disposal and recycling consortiums. To determine the level of interest, the District could survey those communities that operate municipal leaf collection programs and rely on private sector facilities for processing to determine the following:

- Community interest in participating in a contracting consortium
- Bid specifications and parameters
- Potential locations for the delivery of the consortium's materials.

Target high-volume food waste generators

Identification of high-volume food waste generators will help to target increased diversion by creating a list based on specific NAICS and/or SIC codes and number of employees. The District should contact the high-volume food waste generators identified to determine their interest in diverting food waste. A survey to collect data and information from the high-volume generators should be prepared in advance of contacting the

generators. The District could then assist the companies with establishing a food waste diversion program.

Facilitate food rescue program

The District may facilitate the collaboration of entities that generate food waste and those that rescue food waste (such as Oberlin Community Services). The District could host a workshop with community groups that provide food rescue programs. The goal of the workshop and any subsequent programming would be to connect groups that provide food rescue services with generators that need their services, as well as educate entities that are able to donate food about the legal protections that exist concerning food donation (such as 42 U.S. Code § 1791 - Bill Emerson Good Samaritan Food Donation Act).

3. Education/Outreach

Establish community participation methodology

The District will establish a methodology to measure participation in each community providing PAYT or curbside recycling. Sponsor funding through a grant or District-operated program/activity may be options.

Plan to identify residential recycling program participants

The District will establish a plan to identify residential recycling program participants that have significant amounts of contamination in their recycling containers. The District could hire college students as interns to assist in this plan with community recycling coordinators. The purpose would be to provide a gentle reminder of what is an acceptable recyclable and the materials that are not eligible for recycling that should remain in the trash cart. The District will try to involve waste management companies and haulers into the execution of this initiative since these parties should have a vested interest in the outcome, which is to obtain recyclables with a lower contamination level. The District should consider a corresponding advertising program with similar messaging.

Community recycling coordinator meetings

Bi-monthly or quarterly meetings with recycling coordinators from communities provide District updates on programming and solicit their assistance in the measurement and contamination review. Meetings will also ask recycling coordinators to communicate a summary of the meeting with their Mayors or Township Trustees. Mayors and Trustees are welcome at the meetings with recycling coordinators.

Sponsor an annual educational seminar

The District will sponsor an annual educational seminar for elected officials to see the Collection Center, Landfill, and Recyclery. The luncheon portion of the annual education seminar should include highlights of District activities and programming.

4. Restricted/Difficult-to-Manage Wastes

Law Enforcement Focus

Focus law enforcement on potential violators with flow control and open dumping.

Disaster Debris Plan update

Continue to update the Disaster Debris Plan and pricing for hauling, collection, and disposal of debris from storm damage, flooding, or other natural disasters.

Health and Sheriff Department meetings

Host semiannual meetings with Health and Sheriff departments to ensure scope of services are being implemented and address potential issues.

Host Community Agreement extension

Extending the host community agreement and ensuring current services are implemented.

Host Community Agreement hauler data requirements

The District will strive to secure required date and information reporting the hauler for the Host Community Agreement.

Hauler outreach for community data

The District can approach the haulers in Lorain County to identify whether solid waste data is available on a community level. If data is available, the District will begin collecting the information.

Business awareness outreach

The District could develop a program whereby staff would contact a certain number of businesses each year through a phone call or face-to-face meeting. The District could target key generators that have not previously participated in the annual survey to identify whether they have a recycling

program, introduce them to District programs and services, and request their participation in the survey.

C. Waste Reduction and Recycling Rates

1. Residential/Commercial Recycling in the District

Waste reduction and recycling in the residential/commercial sector is expected to remain stable during the first six years of the planning period based upon the tons collected (see following table).

Table 5-1. Residential/Commercial Waste Reduction and Recycling Rate

Year	Projected Tons Collected	Residential/ Commercial WRR[1]
2020	81,760	25%
2021	82,925	25%
2022	84,093	25%
2023	85,263	25%
2024	86,435	25%
2025	87,385	25%

[1] "WRR" means waste reduction and recycling rate.

2. Industrial Recycling in the District

The following table shows the projected amount of waste reduction and recycling for the industrial sector during the first six years of the planning period. As illustrated in the table, the tons collected are expected to increase, but the overall waste reduction and recycling rate will likely decline a minimal amount until 2023 because waste disposal volumes are anticipated to increase until 2023, then remain flat (see Table K-2).

Table 5-2. Industrial Waste Reduction and Recycling Rate

Year	Projected Tons Collected	Industrial WRR[1]
2020	104,056	60%
2021	105,721	59%
2022	107,413	59%
2023	109,131	59%
2024	110,878	59%
2025	112,652	59%

[1] "WRR" means waste reduction and recycling rate.

3. Curbside and Drop-Off Recycling Inventory

The following tables list the existing curbside and drop-off recycling programs in Lorain County.

Table 5-3. Curbside Recycling Services

ID#	Community Served	Service Provider	Ongoing Service
NS1	Amherst City	Republic	Yes
NS2	Amherst Township	Rumpke	Yes
NS3	Avon City	Republic	Yes
NS4	Avon Lake City	Republic	Yes
NS5	Brighton Township	Rumpke	Yes
NS6	Brownhelm Township	Republic	Yes
NS7	Camden Township	Republic	Yes
NS8	Carlisle Township	Republic	Yes
NS9	Columbia Township	Republic	Yes
NS10	Eaton Township	Rumpke	Yes
NS11	Elyria City	City of Elyria	Yes
NS12	Elyria Township	Republic	Yes
NS13	Grafton Township	Republic	Yes
NS14	Grafton Village	Rumpke	Yes
NS15	Henrietta Township	Republic	Yes
NS16	Huntington Township	Rumpke	Yes
NS17	Kipton Village	Republic	Yes
NS18	LaGrange Township	Republic	Yes
NS19	LaGrange Village	Republic	Yes
NS20	Lorain City	Republic	Yes
NS21	New Russia Township	Republic	Yes
NS22	North Ridgeville City	Republic	Yes
NS23	Oberlin City	City of Oberlin	Yes
NS24	Penfield Township	Rumpke	Yes
NS25	Pittsfield Township	Rumpke	Yes
NS26	Rochester Township	Rumpke	Yes
NS27	Rochester Village	Rumpke	Yes
NS28	Sheffield Lake City	Republic	Yes
NS29	Sheffield Township	Rumpke	Yes
NS30	Sheffield Village	Republic	Yes
NS31	South Amherst	Republic	Yes
NS32	Vermillion City	Republic	Yes
NS33	Wellington Township	Republic	Yes
NS34	Wellington Village	Republic	Yes

Table 5-4. Drop-Off Recycling Services

ID#	Name of Drop-off	Service Provider	Ongoing Service
FTU1	Eaton Township	Rumpke	Yes
PTU1	Lorain County Collection Center (Elyria)	District/Republic	Yes
PTR1	Brighton Township	Rumpke	Yes
FTR2	Camden Township (Kipton Village)	Republic	Yes
PTR3	Huntington Township	Rumpke	Yes
PTR4	Penfield Township	Rumpke	Yes

CHAPTER 6. Budget

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 the 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

During the 2016 reference year, the District's overall revenue was $2.73 million. In the first year of the planning period (2020), revenue is projected to be $2.59 million. Revenue is projected to increase annually through 2025, then remain constant until the end of the planning period in 2029 with a projected revenue of $2.81 million. Current revenue is generated through disposal fees, contract fees, grants, and other sources such as waiver fees.

Projected expenditures were developed based on the programmatic needs identified in Appendix H, I, an L. During the first five years of the planning period, annual expenditures range from approximately $2.85 to $3.02 million. Based on projections, the District will have ample revenue to finance the implementation of the programs and initiatives described throughout this Plan Update. The District is projected to begin the planning period in 2020 with a carryover balance of approximately $3.51 million and end the planning period with a carryover balance of approximately $1.61 million.

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. Disposal Fees

The District has a flat $2.00 per ton disposal fee for in-District, out-of-District, and out-of-state waste.

2. Generation Fees

The District does not have a generation fee.

3. Designation Fees

The District does not have a designation fee.

3. Rates & Charges

The District does not utilize rates and charges.

4. Other Sources of Revenue

Other sources of revenue include:

- **Contract Fees** – Republic Waste Services entered into a Host Community Agreement with the District. The Agreement requires

Republic to pay Lorain County $0.60 per ton for each ton of waste disposed at the Lorain County Landfill that is generated outside the District. It also requires Republic to bring all of the waste controlled by Republic in Cuyahoga County to the Lorain County Landfill in New Russia Township.

- **Grants** – The District occasionally applies for Ohio EPA grants. Grants obtained by the District are competitive and therefore not a guaranteed source of revenue. Potential revenue from future grants has been excluded from revenue projections.

- **Other Revenue** – The other revenue category includes mainly waiver fees and a negligible amount from donations. Waiver fees are collected on each ton of solid waste that is delivered to an undesignated disposal facility.

Revenue from other sources totaled approximately $650,000 in 2016. During the first six years of the planning period, the average annual revenue from other sources is projected to be approximately $546,000. The decrease in revenue from other sources is due to excluding grant revenue from projections.

5. Summary of Revenue

The following table presents the District's total revenue by source for the 2016 reference year and the first six years of the Plan (2020 to 2025).

Table 6-1. Summary of Revenue

Year	Disposal Fees	Other Revenue			Total Revenue
		Contract Fees	Grants	Other	
Reference Year					
2016	$2,079,180	$466,667	$121,521	$62,004	$2,729,372
Planning Period					
2020	$2,066,220	$462,368	$0	$61,174	$2,589,762
2021	$2,099,908	$471,143	$0	$61,174	$2,632,224
2022	$2,134,099	$480,083	$0	$61,174	$2,675,356
2023	$2,169,071	$489,194	$0	$61,174	$2,719,439
2024	$2,204,670	$498,477	$0	$61,174	$2,764,320
2025	$2,236,201	$507,937	$0	$61,174	$2,805,312

Source(s) of information: Plan Tables O-1 and O-5.

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 2016 reference year and for the first six years of the planning period (2020 to 2025) broken into specific expense categories.

Table 6-2. Summary of Expenses

Expense Category	Year						
	Reference	Planning Period					
	2016	2020	2021	2022	2023	2024	2025
Plan Preparation/ Monitoring	$86,022	$191,800	$213,636	$215,509	$257,419	$199,367	$221,355
Direct Administration	$826,539	$806,307	$848,227	$820,211	$827,259	$869,372	$841,550
Lorain County Collection Center (facility operation and programs)	$731,658	$511,493	$521,723	$532,158	$542,801	$553,657	$564,730
Recycling Grants, Studies, Audits, and Initiatives	$362,225	$555,000	$530,000	$500,000	$500,000	$500,000	$500,000
Education/Awareness	$59,045	$200,603	$200,965	$201,334	$201,711	$202,095	$202,487
Market Development	$126,796	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Emergency Debris Management	$0	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
Health Department Financial Assistance	$181,100	$170,000	$170,000	$170,000	$170,000	$170,000	$170,000
County Engineer	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
Local Law Enforcement	$153,225	$136,404	$139,132	$141,914	$144,753	$147,648	$150,601
Other	$0	$85,000	$85,000	$85,000	$85,000	$85,000	$85,000
Total Expenses	**$2,576,610**	**$2,781,607**	**$2,833,683**	**$2,791,126**	**$2,853,942**	**$2,852,139**	**$2,860,723**

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

Expense categories in **Table 6-2** include the following:

- **Plan Preparation/Monitoring** – Represents expenditures for assistance from consultants with developing solid waste plan updates and annual district reports, as well as legal assistance and a third-party financial audit.

- **Direct Administration** – Budget includes expenditures for salaries, OPERS, unemployment compensation, workers' compensation, health insurance, office overhead such as postage, office rent, utilities, telecommunications, other supplies, and vehicles and vehicle maintenance.

- **Lorain County Collection Center** – Includes budget for operating the Collection Center such as facility rent, equipment, utilities, and operating programs that are housed within the Collection Center such as tire collection, HHW collection, electronics collection, and bulb and ballast collection.

- **Recycling Grants, Studies, Audits, and Initiatives** – Includes budget for Community Incentive Grant, funding for initiative to target high-volume food waste generators for waste minimization programming and organize food rescue workshops, funding for contamination education initiative, funding to complete a yard waste consortium evaluation, and funding for waste assessments/audits.

- **Education/Awareness** – Reflects expenditures for education staff (OSU Agricultural Agent), advertisement, and promotion costs. Also includes funding for the C.A.B. program, Pride Day activities, producing an educational toolkit for communities, and providing zero waste planning assistance to municipalities.

- **Market Development** – Reflects expenditures for the District Market Development Grant (Commissioner Grants) and ODNR Pass-Through Grant.

- **Emergency Debris Management** – Reflects funding allocated for emergency debris management activities.

- **Health Department Financial Assistance** – Reflects funding allocated to the Lorain County General Health District for solid waste enforcement activities.

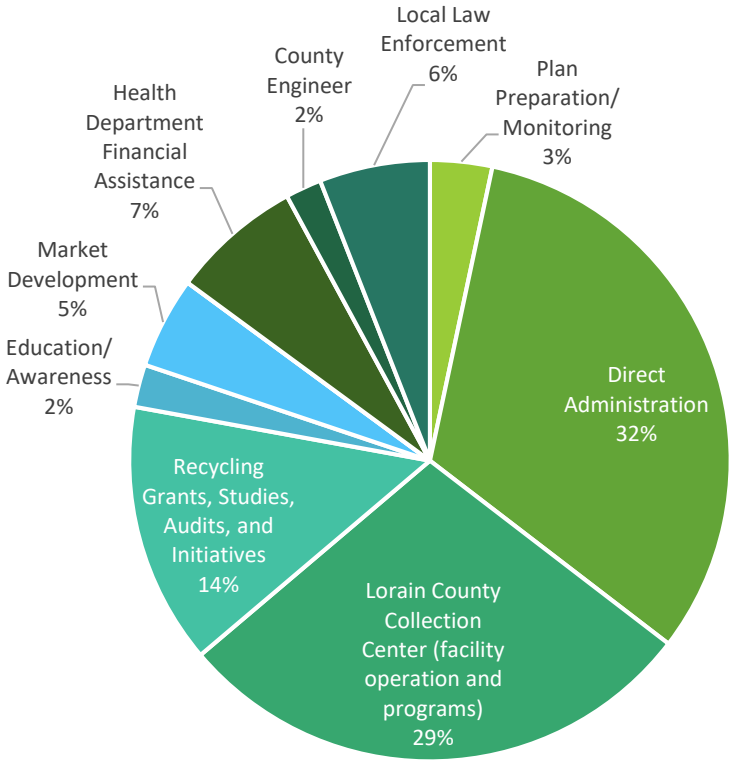
- **County Engineer** – Reflects funding for the County Engineer for road maintenance and repair due to increased wear and tear from solid waste hauling trucks.

- **Local Law Enforcement** – Reflects funding allocated to the Lorain County Sheriff's Office for solid waste enforcement activities.

- **Other** – This line item reflects the budget allocated for New Programs Funding.

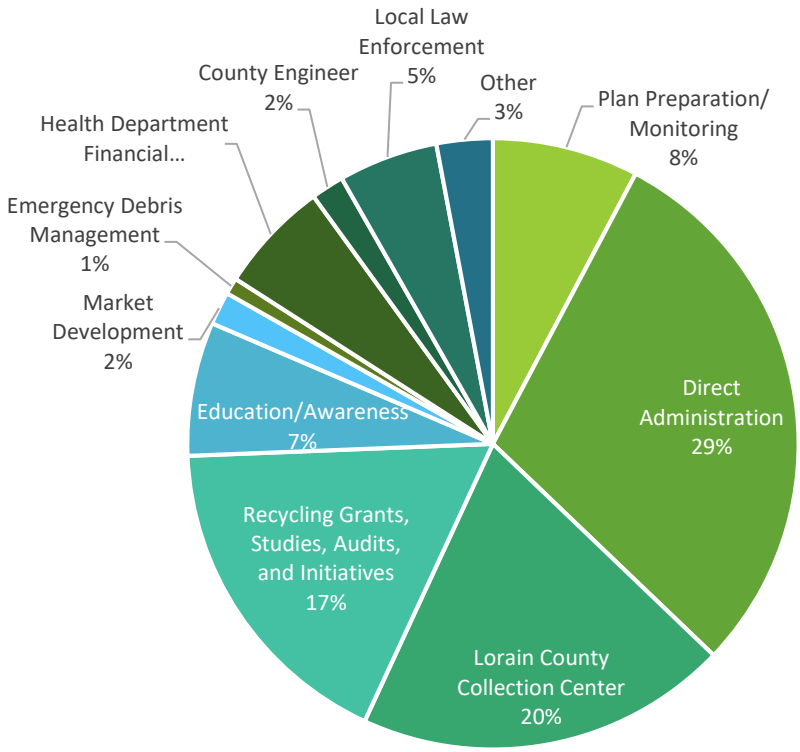
The following figure presents the distribution of expenses by category for the 2016 reference year. The top three expenditure categories include District Administration (32%), Lorain County Collection Center (29%), and Recycling Grants, Studies, Audits, and Initiatives (14%).

Figure 6-1. 2016 Distribution of Expenses by Category



Throughout the first six years of the planning period, the distribution of expenses among categories remains nearly the same. In 2025, the sixth year of the planning period, the top three expense categories include District Administration (32%), Lorain County Collection Center (29%), and Recycling Grants, Studies, Audits, and Initiatives (14%).

Figure 6-2. 2025 Distribution of Expenses by Category



D. Budget Summary

Table 6-3 presents a summary of the budget for the 2016 reference year and the first six years of the planning period (2020 to 2025). The summary includes revenue, expenditures, net balance, and year-end fund balance. Revenue fluctuates from $2.59 to $2.81 million; expenses fluctuate from $2.85 to $3.02 million annually. The District's ending balance during the first six years of the planning period ranges from a low of $2.12 million in 2025 to a high of $3.51 million in 2020. 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				
2016	$2,729,372	$2,576,610	$152,762	$3,140,783
Planning Period				
2020	$2,548,056	$2,709,892	($161,835)	$3,506,911
2021	$2,589,762	$2,946,607	($356,845)	$3,150,066
2022	$2,632,224	$2,998,683	($366,459)	$2,783,606
2023	$2,675,356	$2,956,126	($280,770)	$2,502,836
2024	$2,719,439	$3,018,942	($299,503)	$2,203,333
2025	$2,764,320	$2,852,139	($87,819)	$2,115,515

APPENDIX A

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

APPENDIX A. Reference Year, Planning Period, Goal Statement, Material Change in Circumstances, Explanations of Differences in Data

A. Reference Year

The reference year for this solid waste management plan is **2016**.

B. Planning Period (first and last years)

The planning period for this solid waste management plan is: **2020 to 2029**

C. Goal Statement

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

D. Material Change in Circumstances/Contingencies

A material change in circumstances or deviation from the approved *Plan Update* has been defined by the District to include a reduction in available capacity, a reduction in funding, or a delay in program implementation that would significantly affect the chances of achieving the District goals.[1] The District staff will monitor circumstances affecting plan implementation as specified herein and report such circumstances to the Board[2] where warranted.

The following procedures shall be used by the District to monitor circumstances affecting plan implementation and by the Board to make a determination of whether a material change in circumstances has occurred-requiring an amendment to the plan.

1. Assurance of Waste Disposal Capacity

a. Reduction in Available Capacity

A reduction in available capacity shall include closure and/or a 20% or greater reduction in the ability to process or dispose of District waste at any solid waste management facility designated or identified in the Plan that receives 20% or more of the District's waste stream. This does not include normal down time to fix or install equipment. This would include solid waste management facilities that do not receive approval for expansion due to site environmental

[1] The District has chosen to include a process for determining a material change in circumstances in this Plan Update, even though not required to do so by the Solid Waste Management Plan Format version 4.0.

[2] "Board" means Board of Directors, and for a single county solid waste management district, consists of the Board of County Commissioners.

problems, facilities that experience a reduction in capacity or facilities for which a permit or license was revoked.

District staff will regularly monitor solid waste disposal capacity and report any significant changes in available capacity to the District Director. If the District Director determines that a reduction in available capacity meeting the above criteria has occurred, the District Director will determine if the other identified in-district, out-of-district or out-of-state solid waste management facilities will be able to provide sufficient disposal capacity and access to disposal capacity for District-generated waste. If, in the aggregate, the landfills or other solid waste management facilities identified in Appendix D or Appendix M are unable to provide the District with sufficient disposal capacity or access to disposal capacity and no other disposal alternatives are available through the existing Plan's authority and options, the District Director shall report such findings to the Board of County Commissioners (Board) for the Board's determination of whether a Material Change in Circumstances has occurred.

A material change in circumstances has not occurred if the District is able to secure arrangements to manage the waste by any other properly licensed and permitted solid waste management facility.

b. Increase in Waste Generation

Future capacity needs of the District as outlined in the Plan are based on waste generation estimates. A twenty-five percent increase in solid waste generation within the District may affect capacity requirements and result in diminished capacity for handling or disposing of solid waste. The District will evaluate the impact of the increases prior to determining a material change in circumstances has occurred. Currently, the District has a contract with Republic Waste Services (Company). During the term of this Host Community Agreement, the Company shall provide one thousand, two-hundred fifty (1,250) tons per day or approximately 357,000 tons per year in reserved disposal capacity at the Landfill for solid waste generated within the District. The Reserved Capacity shall be available each operating day for the disposal of solid wastes that are generated within the District on a "first come - first served" basis. Nothing herein shall permit or require the "banking" of any unused Reserved Capacity by the District as provided herein. The Reserved Capacity assured under this Host Community Agreement shall be provided and made available solely for solid wastes that are generated in the District and delivered to the Landfill on a per operating day basis. "Operating day" means the normal hours of waste receipt at the

Landfill during each calendar day that the Landfill is open for business. The District shall incur no liability to the Company by reason of there being delivered to the Landfill solid wastes generated within the District in an amount less than the Reserved Capacity.

A material change in circumstances may have occurred if sustained waste generation increases have a significant adverse impact on capacity for handling or disposing of solid waste generated within the District at facilities identified in the Plan. A material change in circumstances has not occurred, however, if the District can secure arrangements to manage the increased waste volume at any other properly licensed and permitted solid waste management facility.

District staff, by the third quarter of each year during the term of the Plan, will review waste generation figures from the previous calendar year and report to the District Director. If the District Director determines that a significant sustained increase in waste generation has occurred, and there are no other facilities with adequate capacity available to manage the waste, a report of such findings shall be presented to the Board.

The Board will review the report and the availability of capacity for the District's solid waste and determine whether sufficient capacity is available to the District or whether a material change in circumstances has occurred.

A material change in circumstances has not occurred if the District is able to secure arrangements to manage the waste by any other properly licensed and permitted solid waste management facility within Ohio or outside the state.

2. Compliance with Applicable Waste Reduction or Access Goals

a. Delay in Program Implementation or Discontinuance of Essential Waste Reduction or Recycling Activities

The following are the goals of the *2009 State Solid Waste Management Plan*.

Goal 1 – Recycling Infrastructure. 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 90 percent of its residential population in each county and ensure that commercial generators have access to adequate recycling opportunities.

Goal 2 – Waste reduction and recycling rates. The SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector and at least 66 percent of the solid waste generated by the industrial sector.

Goal 3 – Outreach and Education (Minimum Required Programs). 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 – Outreach and Education. 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 – Restricted Solid Wastes, Household Hazardous Waste (HHW) and Electronics. The SWMD shall provide strategies for managing scrap tires, yard waste, lead-acid batteries, HHW, and electronics.

Goal 6 – Economic Incentives. The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.

Goal 7 – Measure Greenhouse Gas Reduction. 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 8 – Market Development. The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.

Goal 9 – Reporting. The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

The District plans to demonstrate compliance with Goal #1 of the *2009 State Plan*. To determine if Goal #1 is being achieved, the District staff will annually review the information presented in Appendices B and D by the second quarter of each year of the planning period to determine if the facilities and programs are still in

operation, the type of operation (i.e., non-subscription or subscription curbside recycling programs and/or full-service or part-time drop-offs,) and the type of materials accepted at each facility or program. The District will estimate the population in Lorain County using information from the Ohio Department of Development or the County Planning Agency for the above referenced evaluation. The District staff will calculate the percentage of population that has access to each facility and program using the methodology prescribed in the Ohio EPA's Solid Waste Management Plan Format version 4.0.

The District staff shall report to the District Director the results of the facility and recycling program evaluation. If the District Director believes a significant delay of more than one year in facility or program implementation or the discontinuance of essential facilities or programs result in the inability of the District to achieve Goal #1, a Board meeting to discuss this issue will be held within 30 days. The Board will review the circumstances and determine whether alternative programs can be implemented to achieve either Goal #1 or in the alternative, Goal #2, or whether a material change in circumstances has occurred. If Goal #2 is selected, the District will submit a revised Plan Update for ratification and approval. A material change in circumstances has not occurred, however, if the District is able to implement new programs or modify existing programs to meet the current goal or utilize the alternate goal available to the District to meet State of Ohio requirements.

Though the District is committing to achieving Goal #1 in this Plan Update, the District will strive to achieve a modified version of Goal #2, as well. The District believes that increasing the residential/commercial sector recycling goal from 25% to 35% is more in line with goals set by the U.S. EPA. The higher 35% goal is more inspiring and gives the District an ambitious goal to strive for over the planning period.

3. Financing of Plan Implementation

a. Decrease in Waste Generation and/or Waste Disposal

Implementation of the District's Plan requires that the District receive adequate annual funding to implement programs. The District staff will monitor District revenues and report adverse changes in revenues to the District Director.

The District Director will prepare a financial report of revenues and expenses for presentation at Policy Committee meetings. A material

change in circumstances in the *Plan Update* will occur if there is a reduction in revenues greater than 25 percent on an annual basis that negatively impacts the ability to fund plan activities. The District Director will notify the Board of Directors of any such revenue reductions that negatively impacts the ability to fund plan activities within 30 days of it being identified. The Board of Directors will direct the Policy Committee to convene within 90 days to revise the budget or develop additional funding mechanisms.

If financial conditions exist that prevent the District from implementing programs, the District staff will prepare a report that prioritizes the programs the District will provide based upon the following criteria:

- The program's impact on reducing the waste stream;
- Long-term impacts of the program;
- The program's association with the enforcement of solid waste management laws and regulations;
- The program's impact on Lorain County's health and environment; and
- The availability of non-District entities to provide the program.

This report will be provided to the District Director for review and recommendations regarding modification or elimination of District programs. Based upon this report, if the District Director determines that elimination or modification of District programs will have a substantial impact on the implementation of the District's Plan, a Board meeting will be held to discuss this issue within 30 days. The Board will review the circumstances and determine if a material change in circumstances has occurred. No material change in circumstances has occurred where the Board is able to maintain critical programs at current or decreased funding levels through re-allocation of District funds, elimination of non-essential programs or through an increase in District fees or contracts as permitted by the Ohio Revised Code and the Plan. Critical programs are those deemed necessary by the Board to enable the District to achieve and maintain the applicable goals for waste reduction or access to recycling opportunities.

4. Procedures Where Material Change in Circumstances has Occurred

If, at any time, the Board determines that a material change in circumstances has occurred and a revision to the Plan is necessary, the Board will request the Policy Committee to prepare a Draft Amended Plan to the Board within 90 days of the Board request. The Board will review the

Draft Amended Plan, and approve or return the Draft Amended Plan for further revision within 60 days of receipt. The Policy Committee shall incorporate necessary revisions, and submit the final Draft Amended Plan within 60 days to the Board.

The Board will notify the Ohio EPA in writing within 15 working days after the Board has determined that a material change in circumstances has occurred. Nothing contained in this section shall be construed as limiting the authority of the Policy Committee or the Board to otherwise amend this Plan.

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

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

None.

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

None.

APPENDIX B

RECYCLING INFRASTRUCTURE INVENTORY

APPENDIX B. Recycling Infrastructure Inventory

A. Curbside Recycling Services and Drop-Off Recycling Locations

1. Curbside Recycling Services

"Inventory of Curbside Recycling Services Available in the Reference Year", presents data for 34 political jurisdictions that operated non-subscription curbside recycling programs in 2016. All of these curbside programs are volume-based, using either carts or limited use of cans. Service in 2016 was provided by automated collection for all communities except Lorain, which switched from manual collection in 2016 to automated in 2017. (See **Table B-1**.)

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

ID #	Name of Curbside Service	Type of Curbside		How Service is Provided	Pick-Up Freq.	Materials Collected[1]	Type of Collection	PAYT ✓	Tons[2]
		NS	S						
NS1	Amherst City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	1,072
NS2	Amherst Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	416
NS3	Avon City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	1,719
NS4	Avon Lake City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	1,709
NS5	Brighton Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	67
NS6	Brownhelm Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	110
NS7	Camden Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	98
NS8	Carlisle Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	697
NS9	Columbia Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	532

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

ID #	Name of Curbside Service	Type of Curbside		How Service is Provided	Pick-Up Freq.	Materials Collected[1]	Type of Collection	PAYT ✓	Tons[2]
		NS	S						
NS10	Eaton Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	409
NS11	Elyria City	✓		City of Elyria	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	3,044
NS12	Elyria Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	255
NS13	Grafton Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	179
NS14	Grafton Village	✓		Contract between Village and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	249
NS15	Henrietta Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	192
NS16	Huntington Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	68
NS17	Kipton Village	✓		Contract between Village and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	18
NS18	LaGrange Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	215
NS19	LaGrange Village	✓		Contract between Village and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	252
NS20	Lorain City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Manual[3]	✓	640
NS21	New Russia Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	207
NS22	North Ridgeville City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	2,632
NS23	Oberlin City	✓		City of Oberlin	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	743

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

ID #	Name of Curbside Service	Type of Curbside		How Service is Provided	Pick-Up Freq.	Materials Collected[1]	Type of Collection	PAYT ✓	Tons[2]
		NS	S						
NS24	Penfield Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	116
NS25	Pittsfield Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	96
NS26	Rochester Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	45
NS27	Rochester Village	✓		Contract between Village and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	13
NS28	Sheffield Lake City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	699
NS29	Sheffield Township	✓		Contract between Township and Rumpke	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	224
NS30	Sheffield Village	✓		Contract between Village and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	273
NS31	South Amherst	✓		Contract between Village and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	222
NS32	Vermillion City	✓		Contract between City and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	1,043
NS33	Wellington Township	✓		Contract between Township and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	132
NS34	Wellington Village	✓		Contract between Village and Republic	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated	✓	390
Total									**18,774**

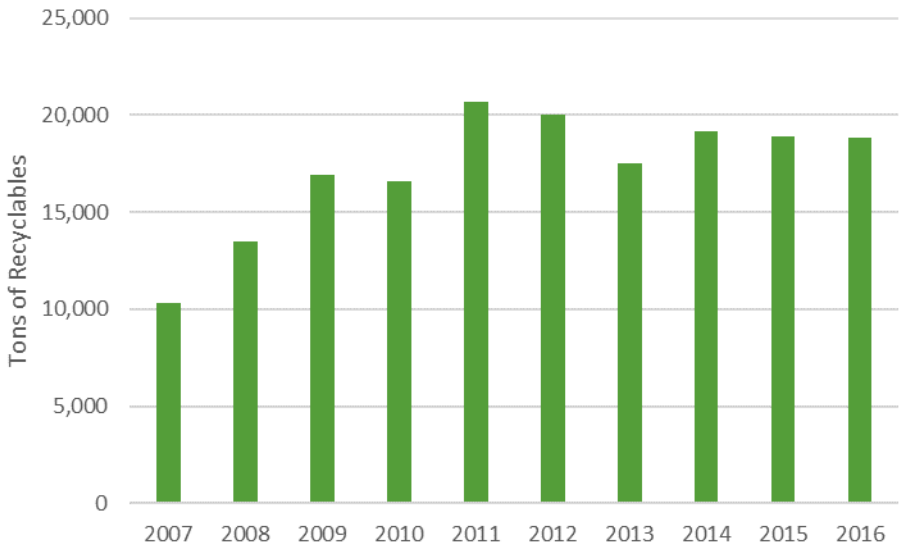
[1] AC = aluminum cans, SC = steel cans, GL = glass, PL = plastics, MxP = mixed paper, OCC = old corrugated cardboard, ONP = newspaper, TEX = textiles, WG = white goods, Oth = other. [2] Service is expected to continue through the planning period for all of these communities, however, the existing contracts do not extend until the end of the planning period. [3] The City of Lorain initiated an automated collection system in 2017.

Note: Table B-1 and Table H-1.2 include glass collected from curbside programs because this is the tonnage that was and will be used to determine Recycling Incentive Grant funding amounts. The District does not want to financially punish communities who have Republic because they were unaware that the hauler was not recycling glass. In 2018, it was discovered that Republic was not

recycling glass collected from curbside recycling programs. Glass is removed from overall recycling totals, but it has not been removed from tables showing curbside recycling totals and curbside totals by community.

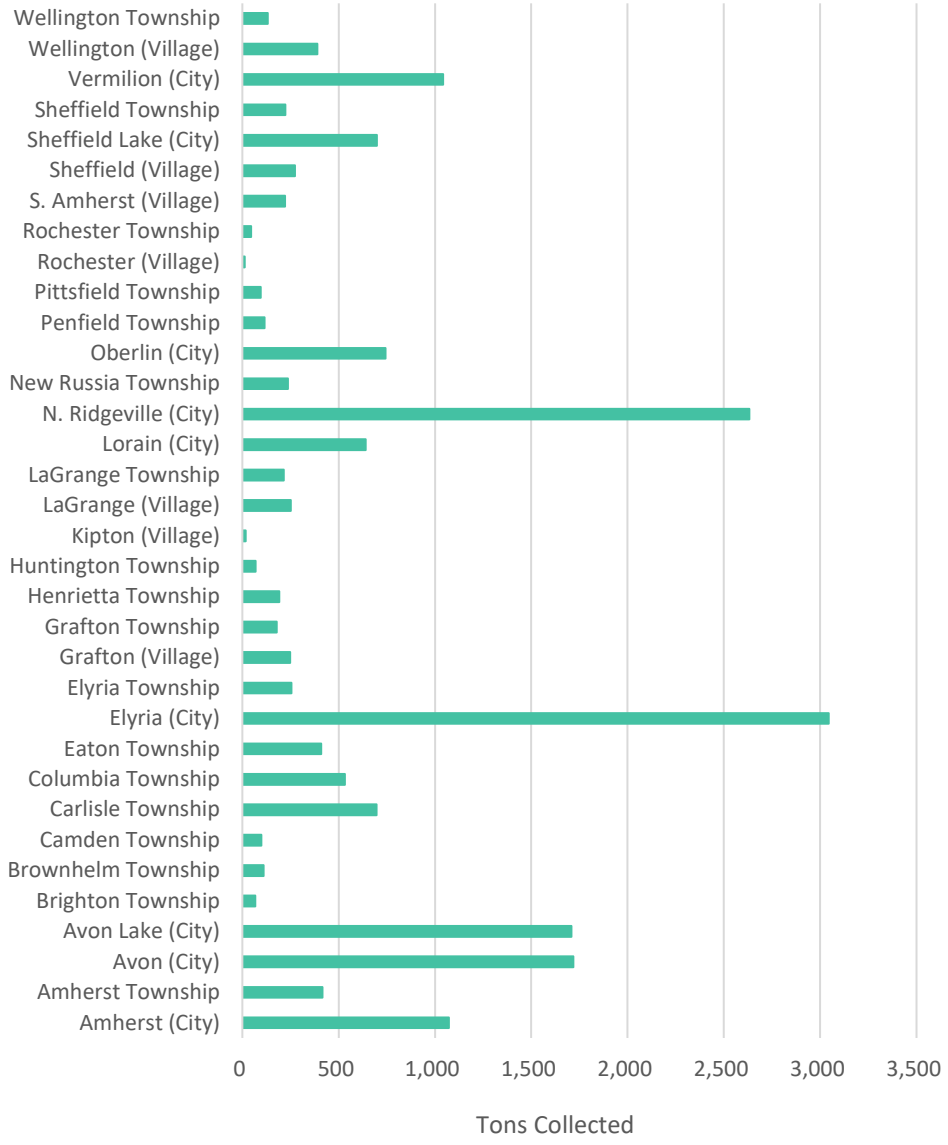
The number of volume-based programs have increased from thirteen in 2008, and have generally collected more material from 2007 through 2016. (See **Figure B-1**.)

Figure B-1. Tons of Recyclables Collected from Curbside Programs: 2007-2016



The following figure lists the communities which have implemented a curbside program and presents the tons of material recycled by each community for 2016. The cities of Elyria and North Ridgeville collected the largest quantity of curbside recyclables for the reference year.

Figure B-2. Tons of Recyclables Collected by Community: 2016



2. *Drop-off Recycling Locations*

Six drop-off recycling locations are available to residents of the District. These sites accept a wide range of material types, with only one site (Eaton Township) classified as a full-time drop-off. The tons of recyclables collected at the drop-offs are not available since they are included in the curbside totals. **Table B-2** lists each of the drop-offs.

Table B-2. Inventory of Drop-off Sites Available in the Reference Year[1]

ID#	Name of Drop-off Site[2]	Type				How Service is Provided	Open to Public	Materials Accepted[3]	Access Credit
		Urban		Rural					
		FT	PT	FT	PT				
FTU1	Eaton Township	✓				Contract between City and Rumpke	24 Hours, 7 Days/Week	AC, SC, GL, PL, MxP, OCC, ONP	No
PTU1	Lorain County Collection Center (Elyria)		✓			Contract between City and Republic	12PM-6PM (Mon & Wed) 9AM-6PM (Sat)	AC, SC, PL, MxP, OCC, ONP, GL, HHW, EW, ST	No
PTR1	Brighton Township				✓	Contract between City and Rumpke	1:30PM-6PM (Wed)	AC, SC, GL, PL, MxP, OCC, ONP	No
PTR2	Camden Township (Kipton Village)				✓	Contract between City and Republic	24 Hours, 7 Days/Week	MxP, OCC	No
PTR3	Huntington Township				✓	Contract between City and Rumpke	9AM-2PM (Sat)	AC, SC, GL, PL, MxP, OCC, ONP	No
PTR4	Penfield Township				✓	Contract between City and Rumpke	10AM-3PM (1st & 3rd Sat)	AC, SC, GL, PL, MxP, OCC, ONP	No

[1] Tons collected at drop-off sites are not available since they are included in the totals for curbside collection.
[2] Service at these drop-off locations is expected to continue throughout the planning period.
[3] AC = aluminum cans, SC = steel cans, GL = glass, PL = plastics, MxP = mixed paper, OCC = old corrugated cardboard, ONP = newspaper, HHW - Household Hazardous Waste, EW = Electronic Waste, ST = Scrap Tires

The District does not used mixed municipal solid waste material recovery facilities, therefore **Table B-3** has been omitted.

B. Curbside Recycling and Trash Collection Service Providers

Table B-4a identifies the municipal and commercial haulers that provided trash collection services in the 2016. These haulers are licensed by the District. The table also shows the haulers which offer PAYT collection.

Table B-4a. Inventory of Trash Collection Providers in the Reference Year

Name of Provider	Service Area	Trash Collection Services			
		PAYT (Y/N)	RES	COM	IND
Private Sector					
Republic Services (Allied)	Cities of Avon, Avon Lake, Amherst, Elyria, Lorain, North Ridgeville, Sheffield Lake, and Vermilion; Camden, Carlisle, Columbia, Elyria, Henrietta, New Russia, LaGrange, and Wellington Townships; Villages of Grafton, Kipton, LaGrange, Sheffield, South Amherst, and Wellington.	✓	✓	✓	✓
Waste Management Inc.	Lorain (Commercial and Industrial customers throughout County)			✓	✓
Rumpke Waste Systems	Lorain (Residential and Commercial Customers in Amherst, Brighton, Columbia, Eaton, Huntington, Penfield, Pittsfield, Rochester, and Sheffield Townships; Grafton Township, Rochester Village, Elyria, Lorain, Avon, Wellington, and North Ridgeville)	✓	✓	✓	
Cooper Disposal	Lorain (customers in North Ridgeville, Avon, and Elyria)		✓	✓	✓
Legacy Waste & Recycling, Inc.	Elyria		✓	✓	
1-2-3 Disposal, Inc.	Lorain County			✓	
Bayside Waste Solutions, Inc.	Lorain County			✓	✓
Fabrizi Disposal, Inc.	Lorain County			✓	✓
Kimble Recycling & Disposal	Lorain County		✓	✓	✓
Pete and Pete Container Service, Inc.	Lorain County			✓	✓
Miles Waste Disposal, Inc.	Lorain County		✓	✓	✓
Public Sector					
City of Elyria	City boundaries		✓		
City of Oberlin	City boundaries	✓	✓	✓	

RES = Residential, COM = Commercial, IND = Industrial

Table B-4b lists the haulers providing recycling services, including those that provide curbside recycling for the residential sector.

Table B-4b. Inventory of Recycling Service Providers in the Reference Year

Name of Provider	Service Area	Recycling Services		
		RES	COM	IND
Private Sector				
Republic Services (Allied)	Cities of Avon, Avon Lake, Amherst, Elyria, Lorain, North Ridgeville, Sheffield Lake, and Vermilion; Camden, Carlisle, Columbia, Elyria, Henrietta, New Russia, LaGrange, and Wellington Townships; Villages of Grafton, Kipton, LaGrange, Sheffield, South Amherst, and Wellington.	✓	✓	✓
Waste Management Inc.	Lorain (Commercial and Industrial customers throughout County)		✓	✓
Rumpke Waste Systems	Lorain (Residential and Commercial Customers in Amherst, Brighton, Columbia, Eaton, Huntington, Grafton, Penfield, Pittsfield, Rochester, and Sheffield Townships; Grafton Village and Grafton Township, Rochester Villages; Elyria, Lorain, Avon, Wellington, and North Ridgeville)	✓	✓	
Legacy Waste & Recycling, Inc.	Lorain (Residential customers in North Ridgeville, Avon, and Elyria)	✓	✓	
Kimble Recycling & Disposal	Lorain County	✓	✓	✓
Public Sector				
City of Elyria	City boundaries			
City of Oberlin	City boundaries	✓	✓	

RES = Residential, COM = Commercial, IND = Industrial

C. Composting Facilities and Activities

Table B-5 identifies the yard waste management facilities and activities which received yard waste and other organic waste during the reference year. This table includes the facilities and programs that managed food waste, leaves, brush, trees, grass clippings and logs. "Other Food Waste Management Activities" includes tonnages recycled and/or donated by survey respondents that were not processed by compost facilities listed in **Table B-5**. As shown in the table, the majority of yard waste is managed at in-district facilities. The "Grand Total" at the bottom of the table reflects only the tonnages reported by composting facilities in order to avoid double-counting.

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

ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from the SWMD	
					Food Waste	Yard Waste
Compost Facilities						
In-District						
CF1	Alman Brothers Excavating	IV		33590 Royalton Rd. Grafton, OH	DNR	
CF2	Amherst Township Yard Waste Collection Site	IV	✓	7595 Oberlin Rd. Elyria, OH	DNR	
CF3	Avon Lake Central Fueling	IV		750 Avon Belden Rd. Avon Lake, OH	0	4,598
CF4	Avon Miller Rd. Composting Facility (Kurtz Bros Inc.)	IV	✓	1180 Miller Rd. Avon, OH	0	13,381
CF5	Carlisle Township	IV	✓	11969 LaGrange Rd. LaGrange, OH	152	
CF6	DDBK LLC	IV		875 N. Ridge Road. E Lorain, OH	DNR	
CF7	Eaton Township Composting Center	IV	✓	12043 Avon Belden Rd. Grafton, OH	0	8
CF8	JDS Trucking, Inc	IV		27230 Royalton Rd. Columbia Station, OH	DNR	
CF9	JS Composting	IV		38599 Center Ridge North Ridgeville, OH	0	0
CF10	Lorain, City of	IV	✓	3000 East 28th St. Lorain, OH	0	993
CF11	M & B Trucking Express Corp.	IV		27457 Royalton Rd. Columbia Station, OH	DNR	
CF12	Moore Road Compost Facility	IV		801 Moore Road Avon, OH	DNR	
CF13	Morton's Landscape Development Co.	IV		Jaquay Rd. Columbia Station, OH	DNR	
CF14	Oberlin Compost	IV	✓	44436 State Route 511 E Oberlin, OH	0	587
CF15	Three-Z, Inc. - Westside Yard	IV		34020 Royalton Rd. Columbia Station, OH	0	2,862
Out-of-District						
CF16	Yard Waste Recovery - Barnes Nursery	II	✓	1630 Camp Rd. Huron Township, OH	24	1,740
CF17	Cloverleaf Composting Facility	IV		7400 Granger Rd. Independence, OH	0	414

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

ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from the SWMD	
					Food Waste	Yard Waste
CF18	Sand Road Ent Inc	IV	✓	4352 Sand Rd. Norwalk, OH	0	0
CF19	#1 Landscape	IV	✓	3775 Ridge Rd. Medina, OH	0	4
				Total	**24**	**24,738**
Community Yard Waste Collection Programs						
CYW1	Amherst (City)					525
CYW2	Amherst Township					120
CYW3	Avon City					1,229
CYW4	Avon Lake (city)					1,444
CYW5	City of Sheffield Lake					352
CYW6	Eaton Township					427
CYW7	Grafton (Village)					109
CYW8	LaGrange (Village)					153
CYW9	North Ridgeville (City)					1,525
CYW10	Oberlin (City)					547
CYW11	Rochester Township					43
CYW11	Sheffield Township					244
CYW12	Sheffield Village					149
CYW13	Vermillion (City)					439
					Total	**7,306**
Other Food Waste Management Activities						
OFA1	Hauler and Walmart food waste data				1,338	
				Total	**1,338**	**0**
Anaerobic Digestion						
	None					
				Total	**0**	**0**
				Grand Total	**1,362**	**32,044**

Sources of Information: "2016 Draft Compost Facility Planning Report," Ohio EPA, updated 05/31/2017; Community yard waste tonnages as reported through Re-TRAC for 2016.

Table B-6 has omitted since yard waste and food waste management activities have already been described in Table B-5.

D. Material Handling Facilities Used by the District

The haulers in the District used two single-stream MRFs in the reference year. As indicated in **Table B-7** below, the majority of recyclables were processed at Republic's MRF in Lorain County.

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	Ohio	MRF - single-stream recycling	18,790[1]
Rumpke Waste Recycling - Columbus[2]	Franklin	Ohio	MRF - single-stream recycling	1,703[3]
Total				**20,493**

[1] This tonnage represents residential recyclables only. The total amount of Lorain County recyclables from the residential, commercial, and industrial sectors reported to Ohio EPA was 35,428 tons in 2016.
[2] Rumpke hauls recyclables collected in Lorain County to the Richland County Transfer Station where they are loaded onto a material mover, and then transported to Columbus for processing.
[3] The tons accepted from the District by Rumpke were determined by summing the tonnages for all the communities in Table B-1 that are under contract with Rumpke.

Sources: "Ohio Material Recovery Facilities and Commercial Recycling - 2016," Ohio EPA; Personal communication with Sarah Mathews, Rumpke Waste and Recycling.

APPENDIX C

POPULATION DATA

APPENDIX C. Population Data

As of July 1, 2016, the population of Lorain County was estimated at 306,365. The community populations which need to be added or subtracted to the District total in order to obtain the total district population for the reference year are shown in **Table C-1**. The population estimate for 2016 is based on Ohio Department of Development (ODOD) Office of Strategic Research document, "2016 Population Estimates for Cities, Villages and Townships", published in May 2017. As indicated in the table, the total adjusted population for the District is 310,987 for the reference year of 2016.

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

Community	Lorain
Before Adjustment	**306,365**
Additions	
City of Vermilion	4,622
Subtractions	
none	
After Adjustment	**310,987**

Sources of Information: Ohio Development Services Agency, "2016 Population Estimates by County, City, Village, and Township," May 2017. https://development.ohio.gov/files/research/P5027.pdf

State law requires the entire population of cities and villages which are split between two counties to be included with the solid waste district having the majority of the city or village population. Since more than one-half of the population for the City of Vermilion resides in Lorain County, the Erie County portion of the City is added to the District population. (See **Table C-1**.)

Population projections for the entire planning period are shown below in **Table C-2**. Reference year 2016 populations represent the actual estimates for that year after applying the adjustment listed in **Table C-1**. The District populations calculated for 2020, 2025, and 2030 have been determined using projection estimates for those years from the Ohio Development Services Agency[1], and then adding in the Erie County population for the City of Vermilion. 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, March 30, 2013. http://www.development.ohio.gov/files/research/P6090.pdf

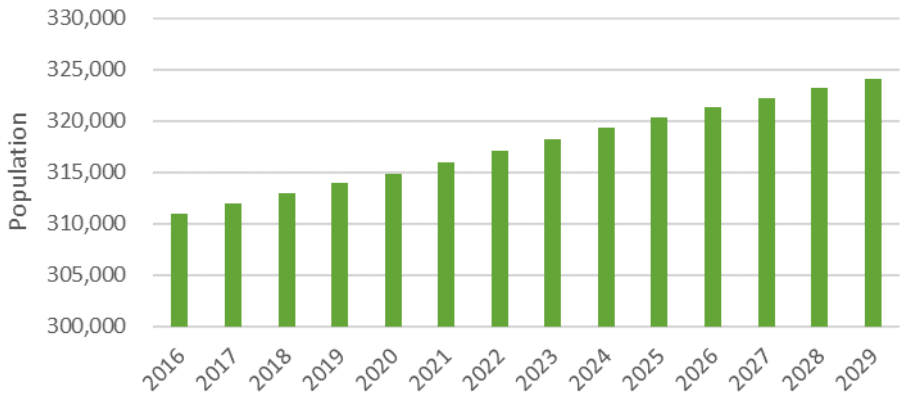
Table C-2. Population Projections

Year	Lorain	Total District Population
2016	310,987	310,987
2017	311,990	311,990
2018	312,994	312,994
2019	313,997	313,997
2020	314,852	314,852
2021	315,958	315,958
2022	317,064	317,064
2023	318,170	318,170
2024	319,276	319,276
2025	320,382	320,382
2026	321,316	321,316
2027	322,250	322,250
2028	323,184	323,184
2029	324,118	324,118

Source(s) of Information: Ohio Development Services Agency, "2010 to 2040 Projected Population for Ohio Counties - Summary 2010 to 2040 Projected," March 30, 2013. http://www.development.ohio.gov/files/research/P6090.pdf.

The figure below shows a steady increase in the population throughout the planning period. The population is expected to increase by 2.7 percent from 2016 through the fifth year of the planning period (year 2024), and increase by more than 4.2 percent by the end of the planning period.

Figure C-1. District Population: 2016 through 2029



APPENDIX D

DISPOSAL DATA

APPENDIX D. Disposal Data

A. Reference Year Waste Disposed

Ninety-two percent of the District waste which was direct-hauled for disposal in the reference year was sent to the in-district Lorain County Landfill. The Noble Road Landfill received the next highest amount, at only 4.9 percent of the total. (See **Table D-1a**.)

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

Facility Name	Location		Waste Accepted from the SWMD			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
In-District Facilities						
Lorain County Landfill LLC	Lorain	OH	205,204	53,135	69,307	327,646
Out-of-District Facilities						
Crawford County Sanitary Landfill	Crawford	OH	5	0	0	5
Erie County Sanitary Landfill	Erie	OH	3,174	4	2,988	6,166
Cherokee Run Landfill	Logan	OH	12	0	1	13
Carbon Limestone Landfill LLC	Mahoning	OH	0	27	0	27
Noble Rd Landfill	Richland	OH	12,033	5,028	491	17,552
Evergreen Recycling & Disposal	Wood	OH	9	14	0	23
Port Clinton Landfill	Ottawa	OH	334	0	0	334
Kimble Sanitary Landfill	Tuscarawas	OH	0	325	2	327
Countywide Recycling & Disposal Facility	Stark	OH	0	27	3	30
American Landfill, Inc.	Stark	OH	0	3,844	321	4,165
Pine Grove Regional Facility	Fairfield	OH	0	2	0	2
Out-of-State Facilities						
none						0
Total Direct Haul Waste Disposed in Landfills			**220,771**	**62,406**	**73,113**	**356,290**

Source(s) of Information: Ohio Environmental Protection Agency, "2016 Facility Data Report Tables," June 19, 2017.

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

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

Facility Name	Location		Waste Accepted from the District		
	County	State	Industrial	Excluded	Total
None		OH			0
Total			**0**	**0**	**0**

Source(s) of Information: Ohio Environmental Protection Agency

Transfer facilities process a small portion of District waste sent for disposal. (See **Table D-2**.) During 2016, out-of-district transfer facilities received slightly more than 9,000 tons of the transferred waste. The Harvard Road facility in Cuyahoga County reported the highest tonnage received from the District. The Noble Road Landfill in Richland County received the highest percentage of District waste being routed through transfer stations.

Table D-2. Waste Transferred in Reference Year

Facility Name	Location		Waste Received from the SWMD				Destination of Waste (Landfill)
	County	State	Residential/ Commercial	Industrial	Excluded	Total	
In-District Facilities							
None						0	
Out-of-District Facilities							
Cleveland Transfer/ Recycling Station	Cuyahoga	OH	754	22	0	776	Franklin Co. Sanitary LF, American LF
Harvard Road Transfer Station	Cuyahoga	OH	5,111	0	21	5,132	Noble Rd LF
City of Strongsville Transfer Station	Cuyahoga	OH	684	0	18	702	Lorain County LF
Broadview Heights Recycling Center	Cuyahoga	OH	1,269	0	9	1,278	Noble Rd LF
Huron County Transfer Station	Huron	OH	1	0	0	1	Erie County Sanitary LF
Richland County Transfer Station	Richland	OH	1,142	0	0	1,142	Noble Rd LF
PennOhio Coal Co, dba Kimble Transfer & Recycling	Summit	OH	5	0	0	5	Kimble Sanitary LF

Table D-2. Waste Transferred in Reference Year

Facility Name	Location		Waste Received from the SWMD				Destination of Waste (Landfill)
	County	State	Residential/ Commercial	Industrial	Excluded	Total	
Kimble Transfer & Recycling Facility - Canton	Stark	OH	2	0	0	2	Kimble Sanitary LF
Out-of-State Facilities							
None						0	
Total			**8,968**	**22**	**48**	**9,038**	

Note: Res/Com = residential/commercial; TS/TF = transfer station/transfer facility; LF = landfill

Source(s) of Information: Ohio Environmental Protection Agency, "2016 Facility Data Report Tables," June 19, 2017.

Only four tons of District waste was reportedly received at incinerators during the reference year. (See **Table D-3**.)

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

Facility Name	Type	Location		Waste Accepted from the SWMD			
		County	State	Residential/ Commercial	Industrial	Excluded	Total
Stericycle, Inc		Geauga	OH	4			4
Total				**4**	**0**	**0**	**4**

Table D-4 shows the total waste disposed in the reference year for the District. Excluded waste has been included in this table since it accounted for more than 10 percent of the total waste disposed.[1]

[1] Ohio EPA's Format v4.0 instructs solid waste management districts to include this waste if it comprises at least 10 percent of the total waste disposed.

Table D-4. Total Waste Disposed in Reference Year

Method of Management	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)	% of Total Waste Disposed
Direct Hauled	220,771	62,406	73,113	356,290	98%
Transferred	8,968	22	48	9,038	2%
Incinerated	0	0	0	0	0%
Total	229,739	62,428	73,161	365,328	100%
Percent of Total	**62.9%**	**17.1%**	**20.0%**	**100.0%**	

Source(s) of Information: Ohio Environmental Protection Agency, "2016 Facility Data Report Tables," June 19, 2017.

B. Historical Waste Analysis

The amount of total solid waste disposed from the District since 2007 has fluctuated somewhat, increasing to almost 523,000 tons in 2008, then decreasing before increasing again during 2015. See **Table D-5**.

Table D-5. Historical Disposal Data: 2007-2016

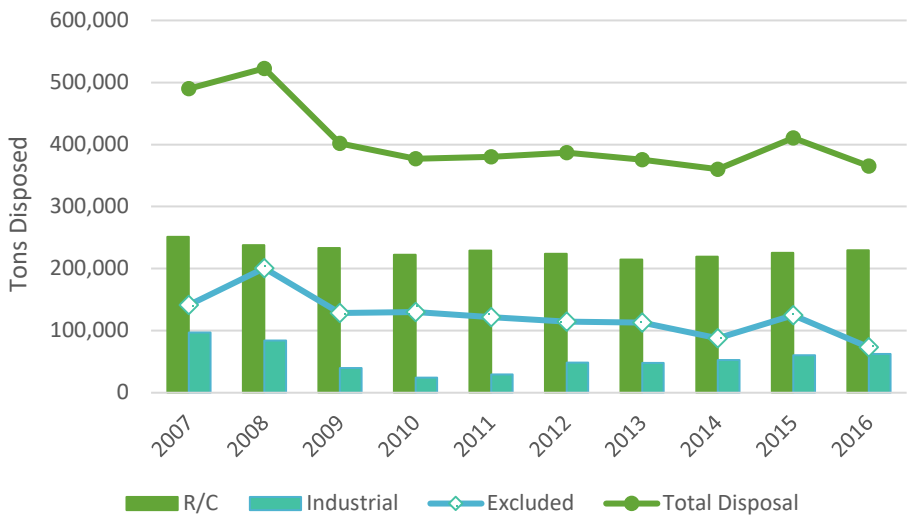
Year	Population	Residential/Commercial Solid Waste		Industrial Solid Waste	Excluded Waste	Total Waste
		Rate (PPD)	Tons	Tons	Tons	Tons
2007	303,677	4.54	251,343	97,256	141,341	489,940
2008	305,195	4.27	237,684	84,305	200,736	522,725
2009	306,721	4.17	233,221	39,881	128,520	401,622
2010	301,356	4.04	222,454	24,355	130,164	376,973
2011	305,958	4.10	229,014	29,661	121,649	380,323
2012	305,818	4.01	223,936	48,438	114,526	386,900
2013	307,787	3.82	214,534	47,858	112,972	375,365
2014	308,536	3.90	219,512	52,906	87,846	360,264
2015	309,835	3.99	225,583	60,213	124,778	410,574
2016	310,987	4.05	229,739	62,428	73,161	365,328

Source(s) of Information: Ohio Environmental Protection Agency, "2016 Facility Data Report Tables," June 19, 2017.

The disposal tonnages for the residential/commercial (R/C) sector, the industrial sector, excluded waste, and total disposal are shown graphically below. While less waste has been disposed from each of the sectors (R/C, industrial, and excluded)

during the ten-year time period, considerable variability in the tonnage disposed from year-to-year within each sector, especially the industrial and excluded waste categories.

Figure D-1. District Disposal: 2007 – 2016

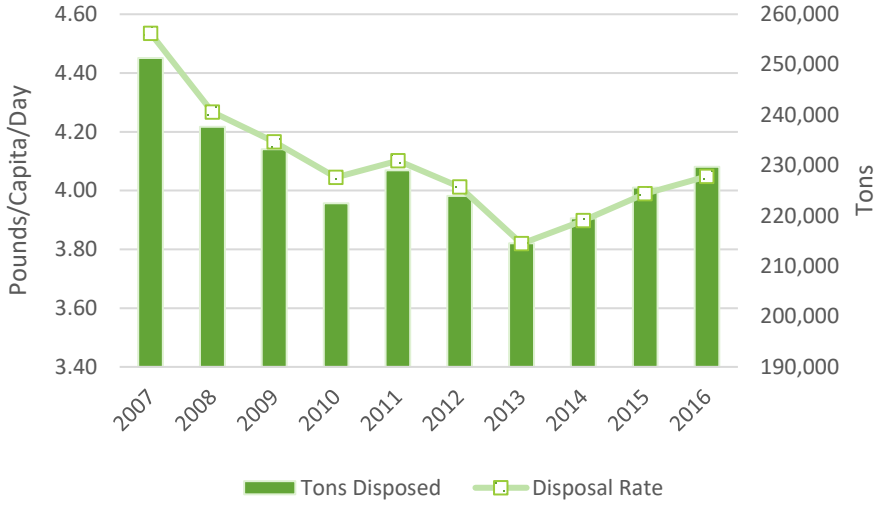


1. Residential-Commercial Disposal

Residential/commercial (R/C) disposal has decreased from approximately 251,000 tons in 2007 to 215,000 tons in 2013. Since 2013, the disposal of R/C waste has steadily increased to almost 230,000 in 2016. (See **Figure D-2**.)

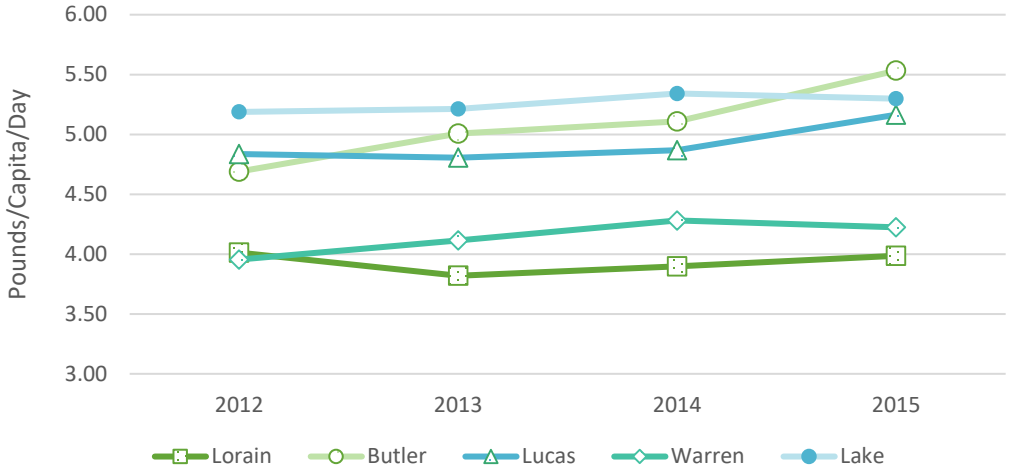
The changes in tons disposed have been closely tracked by changes in the per capita disposal rate. The highest disposal rate during the ten-year period occurred in 2007, and decreased to 4.05 pounds per person per day (ppd) in 2016. The disposal rate has steadily increased since 2013.

Figure D-2. Residential/Commercial Tons Disposed vs. Disposal Rate: 2007 - 2016



The R/C disposal rate for the District was compared with disposal rate for the Butler, Lake, Lucas, and Warren Solid Waste Districts, which are similar to Lorain in population and/or population density.[2] The figure below shows that each of these SWMDs experienced an increase in the R/C disposal rate from 2012 through 2015, with the exception of Lorain which experienced a slight decrease. However, as stated above, Lorain's disposal rate has steadily increased since 2013. Also note that Lorain's disposal rate has been consistently lower than the other SWMDs.

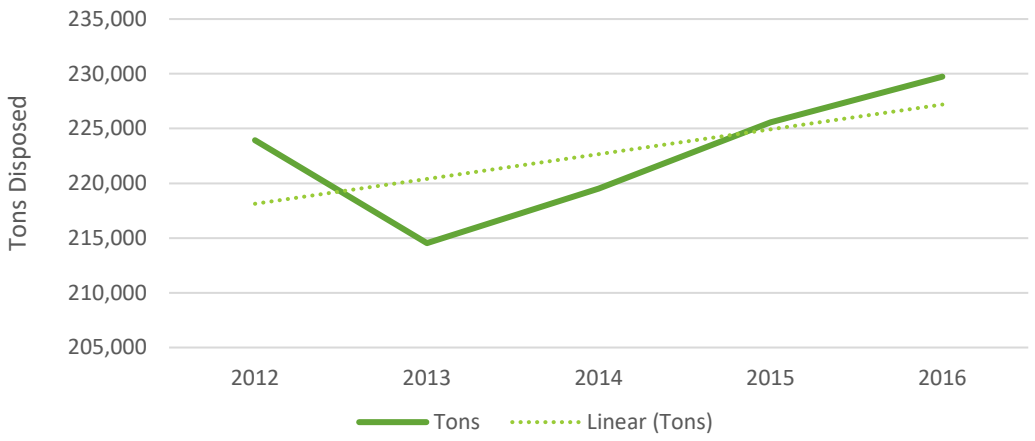
Figure D-3. R/C Disposal Rate for Selected SWMDs: 2012-2015



The residential/commercial tons disposed for the District is also shown in **Figure D-4** with a trend line included.

[2] While the Lucas SWMD has a much higher population density than Lorain, the populations for the two SWMDs are similar.

Figure D-4. Residential/Commercial Sector Disposal Trends: 2012-2016



For 2014, the actual disposal of residential/commercial waste from the District was very similar to the amount projected in the currently-approved plan. However, the difference between actual and projected disposal increased during 2015 and 2016, with actual disposal being more than 8,000 tons greater in the reference year than projected in the current plan. (See the table below.) It is unclear why the actual disposal amounts were higher than the projections for 2015 and 2016. For example, differences in actual vs. projected recycling do not explain higher disposal since the actual recycling tonnages were also higher than projected amounts. It is possible that reporting problems at landfills or transfer stations could have contributed to the discrepancy.

Actual vs. Current Plan Projections for Residential/Commercial Disposal: 2014-2016

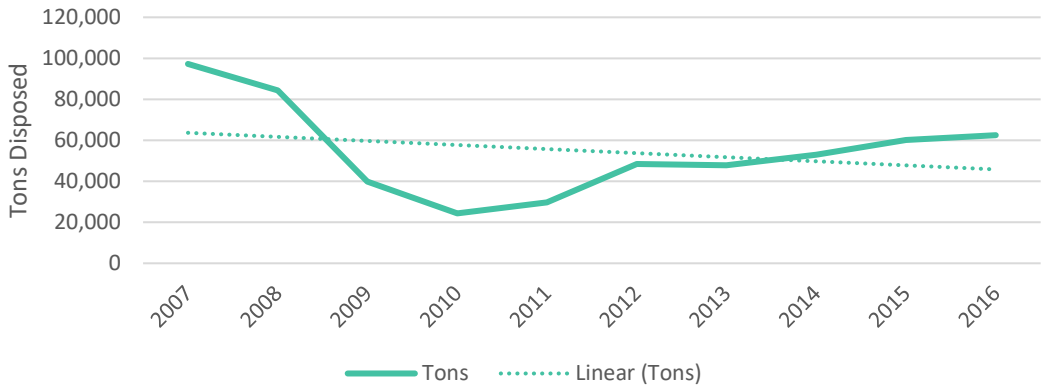
Residential/Commercial Sector Tons Disposed			
Year	Actual	Projected in Current Plan	% Difference (Actual vs. Projected)
2014	219,512	220,912	-0.64%
2015	225,583	223,319	1.00%
2016	229,739	221,667	3.51%

2. *Industrial Sector Disposal*

As shown in **Figure D-5**, industrial disposal decreased substantially from 2007 through 2010, and then steadily increased to 2016. The rate of increase in disposal has lessened in 2015 and 2016, and the total industrial

disposal in 2016 remained much lower than the amount reported for 2007 and 2008.

Figure D-5. Industrial Sector Disposal: 2007 – 2016



The table below shows the annual rate of change in industrial disposal for 2007-2016 vs. 2012-2016.

Period	Annual Rate of Change
2007-2016	-4.8%
2012-2016	6.5%

Actual industrial disposal from 2014 through 2016 was consistently higher than the tonnages projected in the current plan. (See the table below.) The District has examined the difference between actual and projected tonnages and the likely factors explaining the differences.

Actual vs. Current Plan Projections, Industrial Sector Disposal: 2014-2016

Industrial Sector Tons Disposed			
Year	Actual	Projected in Current Plan	% Difference (Actual vs. Projected)
2014	52,906	47,284	10.63%
2015	60,213	46,716	22.42%
2016	62,428	46,156	26.07%

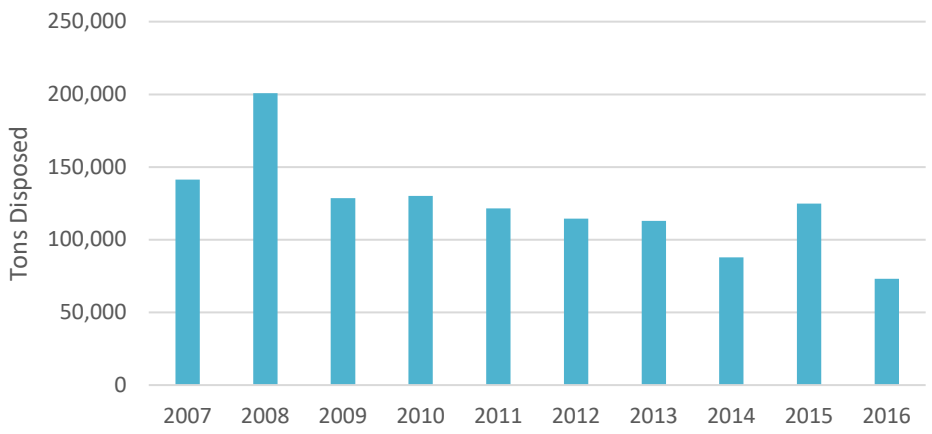
If industrial recycling had decreased, one might expect that disposal had increased. However, recycling in the industrial sector has also been higher than predicted in the current plan (especially in 2016).

Projections for Lorain County and the Cleveland metropolitan area (Cleveland-Elyria-Mentor MSA) forecast lower industrial employment for 2014 through 2024 (average annual decrease of 0.42 percent), which would suggest lower generation and lower disposal. However, the actual employment estimate for 2014 and 2015 shows that industries added approximately 400 employees, representing an increase of 0.3 percent. So, it is possible that the manufacturing sector has recovered from the 2008-2009 economic recession better than anticipated, leading to higher levels of waste generation and disposal.

3. Excluded Waste Disposal

The figure below shows the tons of excluded waste disposed from the District from 2007 through 2016.

Figure D-6. Excluded Waste Disposal: 2007-2016



The average disposal amount and the average annual rate of change in the excluded waste tonnage have been calculated and shown in the table below.

Average and Rate of Change in Excluded Waste Disposal

Metric	2012-2016	2007-2016
Average (tons)	102,657	123,569
Average annual rate of change	-10.6%	-7.1%

Although there continues to be considerable variability in the amount of excluded waste disposed from the District, it appears that the last five years show a decline in tons disposed compared to 2007 through 2011.

C. Disposal Projections

1. Residential/Commercial Sector

The District examined several approaches for projecting disposal for the planning period. Five scenarios which were thought to be the best approaches are included in the table below. The primary assumptions differentiating each scenario are explained, with the disposal projection resulting from applying the assumptions. For comparison, the last two columns in the table shows the highest disposal amount reported during the last ten years (2007 through 2016), and the disposal tonnage reported for 2016.

Tonnages Projected for R/C Sector: 5 Scenarios

Scenarios		Tonnage		
#	Description	2029 Projection	Highest during last ten years	2016
1	Assume constant disposal rate of 3.95 PPD based upon 2012-2016 average	233,855	251,343	229,739
2	Assume annual increase in tonnage of 0.68 percent based upon average percent change, 2012-2016	250,978		
3	Assume increase in disposal rate of 1.96% based on average annual rate of change, 2013-2016, through 2022, then constant at 4.55 PPD	268,960		
4	Assume increase in disposal rate of 0.22% based on average annual rate of change, 2012-2016, resulting in a disposal rate of 4.17 PPD in 2029	246,405		
5	Assume an “in-between annual increase in the disposal rate of 1.0% through 2024, then constant at 4.38 PPD	259,279		

Scenario 1 assumes a constant disposal rate of 3.95 ppd, based upon the historical average from 2012 through 2016. This scenario results in a very modest increase in tons disposed by the end of the planning period (approximately 4,000 tons).

Scenario 2 applies the average annual percent change in tonnage which occurred during 2012 through 2016 (0.68 percent per year). This scenario results in a larger increase in projected tonnage by 2029, approximately 21,000 tons.

The District's R/C disposal rate has steadily increased since 2013 (3.82 ppd to 4.05 ppd), which is calculated to be a 1.96 percent average annual rate of change. **Scenario 3** applies this annual percent increase through year 2022, then assumes the disposal rate remains constant.

The assumptions for **Scenario 4** are similar to Scenario 3, except that the 2012 disposal rate is included to determine the annual rate of change. Also, this scenario does not hold the disposal rate constant after 2022. The result of using these assumptions is a much lower projection for 2029 of 246,405 tons.

Scenario 5 is an attempt to acknowledge the possibility that Scenarios 1 and 4 result in projections which may be too low, and that the projection for Scenario 3 is likely too high. The District believes that Scenarios 1 and 4 may be too low based upon the steady increase in the disposal rate since 2013 and the fact that other similar SWMDs have also experienced an increase in the disposal rate during this time period. (See the discussion above.) Scenario 3 may not be realistic as well, since it results in a projected tonnage by 2022 which is more than 17,000 tons higher than the District's R/C disposal ten years ago, or in 2007.

Although several conclusions could be drawn from the last ten years of disposal data, the District believes that Scenario 5 represents the most reasonable approach for disposal projections. This scenario incorporates the increase in the disposal rate experienced during the last five years, but also attempts to consider the highest historical tonnage over ten years (in 2007), and the uncertainty of developing projections, especially for years further into the future.

2. Industrial Sector

The District evaluated three alternative methodologies for projecting industrial waste disposal. (See the table below.) **Scenario 1** applies the average annual percent increase in reported disposal from 2012 through 2016, which results in a projected tonnage of 145,000 tons for 2029. This estimate is nearly 48,000 tons greater than the highest reported disposal amount during the last ten years (97,000 tons in 2007).

Tonnages Projected for Industrial Sector: 3 Scenarios

Scenarios		Tonnage		
#	Description	2029 Projection	Highest during last ten years	2016
1	Assume annual increase in tonnage of 6.71% based upon 2012-2016 average change	145,231	97,256	62,428
2	Assume annual decrease in tonnage based upon average annual decrease in manufacturing employment for Cleveland-Elyria-Mentor MSA of 0.42% for 2014-2024; constant after 2024	60,362		
3	Assume annual increase in tonnage of 3.0% through 2023; constant after 2023	76,779		

Scenario 2 uses the average annual decrease in manufacturing employment projected for Cleveland-Elyria-Mentor metropolitan statistical area by the Ohio Department of Jobs and Family Services. Employment is projected to decrease annually by 0.42 percent through 2024. Applying this percentage to waste disposal changes results in a slightly lower tonnage in 2029 than reported in 2016.

Scenario 3 was developed in an effort to combine the somewhat conflicting results of Scenarios 1 and 2. For the third scenario, the District assumed that the rate of increase in disposal experienced from 2012 through 2016 would not continue. In addition, the projected decrease in employment seems to support the assumption of a lower rate of increase in disposal. The District believes that Scenario 3 represents the most reasonable projections for industrial disposal.

3. Summary

Table D-6 represents the results of using the approaches proposed above by the District for R/C and industrial disposal projections. The tons of R/C projected for disposal continue to increase throughout the planning period due to the anticipated increase in population.

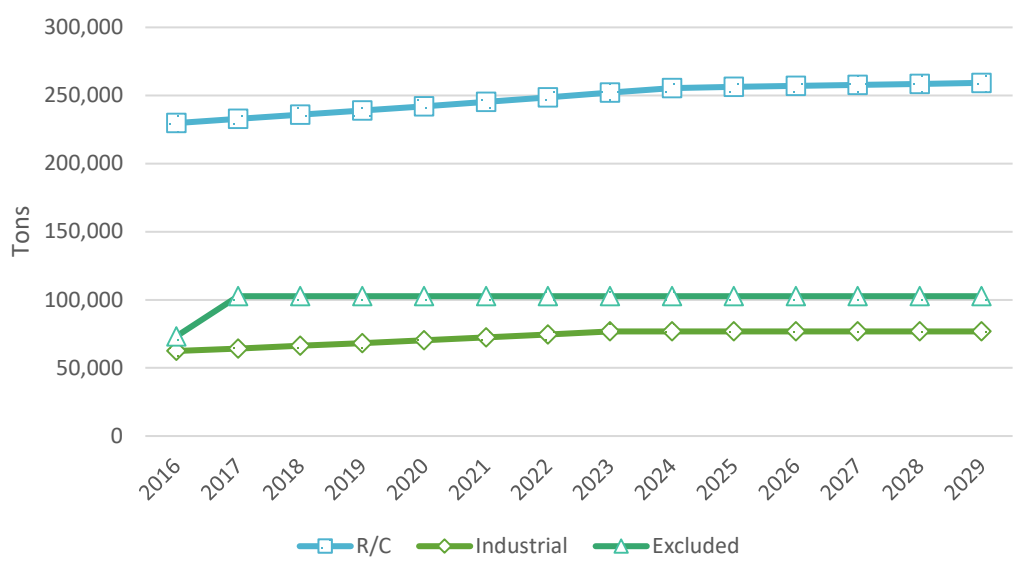
Due to the noted variability in the amount of excluded waste disposed, this portion of total disposal is projected from 2025 to 2029 to remain constant at the average tonnage calculated for 2012 through 2016. Intermediate year (2017 through 2024) were projected using a straight-line average.

Table D-6. Waste Disposal Projections

1st Yr. of Planning Period → x	Year	Residential/ Commercial Solid Waste Tons	Industrial Solid Waste Tons	Excluded Waste Tons	Total Waste Tons	Tons Transferred (as part of Total Disposal)	Waste Transferred (as % of Total Disposal)
	2016	229,739	62,428	73,161	365,328	9,038	3.0%
	2017	232,785	64,301	76,438	373,524	8,814	
	2018	235,869	66,230	79,716	381,815	8,962	
	2019	238,991	68,217	82,993	390,201	9,114	
	2020	242,038	70,263	86,270	398,572	9,265	
	2021	245,318	72,371	89,547	407,236	9,425	
	2022	248,638	74,542	92,825	416,005	9,588	
	2023	252,000	76,779	96,102	424,881	9,754	
	2024	255,405	76,779	99,379	431,563	9,855	
	2025	256,290	76,779	102,657	435,725	9,881	
	2026	257,037	76,779	102,657	436,472	9,903	
	2027	257,784	76,779	102,657	437,220	9,925	
	2028	258,531	76,779	102,657	437,967	9,948	
	2029	259,279	76,779	102,657	438,714	9,970	

The figure below shows projected amounts for R/C, industrial, and excluded waste for the planning period.

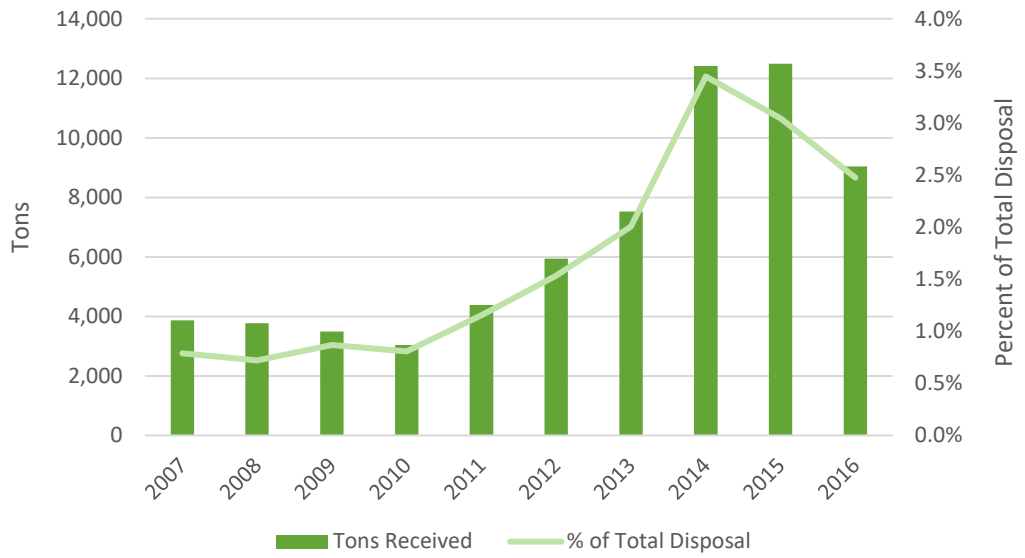
Figure D-7. Projected Disposal: 2016-2029



Waste Transferred. The transfer station receipts for District waste steadily increased from 2007 through 2014, and then declined by more than 3,000 tons in 2016. The transfer station receipts as a percentage of total R/C and industrial disposal have closely tracked the changes in transfer stations tonnage. (See **Figure D-8**.)

Based upon the historical record of transfer station receipts and the increased competition for collection contracts in Lorain County in recent years, the District believes it is reasonable to project the amount of transferred waste based on the percentage of waste transferred from 2014-2016. For 2017 through 2024, the percent of waste transferred shown in **Table D-6** has been calculated using the average percentage of waste transferred from 2014-2016, which is 3.0%. Applying these percentages to the total projected R/C and industrial waste[3] results in approximately 9,970 tons of District waste sent to transfer stations by the end of the planning period.

Figure D-8. Transfer Station Receipts: 2007-2016



[3] Excluded waste was not included in these calculations since very little excluded waste from the District is processed through transfer stations.

APPENDIX E

RESIDENTIAL/COMMERCIAL REDUCTION AND RECYCLING DATA

APPENDIX E. Residential/Commercial Reduction and Recycling Data

This Appendix presents the reduction and recycling data for the residential and commercial sectors in the 2016 reference year. In order 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 residential/commercial sector's recycling is included in this Appendix. Information in this section as well as information from other sources was used to calculate the recycling projections from 2017 to the end of the planning period (2029) which are included at the end of this Appendix.

Table E-1A. Commercial Survey Results

NAICS	WG	EW	LAB	FW	GL	FM	NFM	OCC	MxP	PL	TX	W	CoM	YW	UO	INK	O[1]	O[2]	O[3]	Totals
23					0.03	3	3	2	2	2		0.1								
42	50	8	4		2	326	513	972	10	9		9	244		41	0.2	0.01	0.5		
44								459	573	742			1,483			0.003				
45	1	2	1	2	1	11	1	534	11	47	3	869	2	3	1	1	1	1		
49								51	925	4										
52			1			5		5	1											
53					0.01		0.01	0.01	0.08	0.01										
54		0.3						0.03	3				0			0.1		0.003		
55						48	22	2							125		6			
56		6				3,367							131				14	0.1	7	
61		0.01		10		0.02	0.01	3,209	19						0.4	0.01				
62	3	70	2		0.01	0.4	35	223	130	0.1	638		212			0.6	5			
71		0			3	2	1	2	3	2			4	0.1	0.1	0.01	0			
72					6	0.3	1	8	1	8		3	1	6						
76		1	4			2	0.3								1	0.01		0.01		
80			0.1			1	1	137				1		5						
81			0.01		0.2	41	1	0.2	1	1		0.3	0.02							
92	0		0.01	0.1	0.01	1	1	7	3	2			0.1	0.1			0			
Total	54	88	12	12	12	3,806	578	5,612	1,682	817	641	882	2,076	14	168	1.9	26	2	7	16,488
Adj.	0	4	5	12	12	39	19	3,451	41	19	3	1	593	7	41	1.6	6	1		-4,256
Adj. Total	**54**	**83**	**6**	**0**	**0.2**	**3,766**	**559**	**2,161**	**1,641**	**798**	**638**	**881**	**1,483**	**7**	**127**	**0.3**	**20**	**1**	**7**	**12,232**

NAICS = North American Industrial Classification System, WG = white goods, EW = electronic waste, LAB = lead-acid batteries, FW = food waste, GL = glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = old corrugated cardboard, MxP = mixed paper, PL = plastics, TX = textiles, W = wood, CoM = commingled, YW = yard waste, OU = used oil, INK = ink cartridges, O = "Other", O[1] = HHW, O[2] = dry-cell batteries, O[3] = air bags, Adj. = Adjusted or Adjustments

The following table explains the adjustments made in Table E-1A.

Table E-1B. Commercial Survey Adjustments

Material	Adjustments
Electronic Waste (EW)	A total of 4 tons was removed because the electronics recycled were generated by commercial businesses; only electronics generated by residents are creditable.
Lead-Acid Batteries (LAB)	A total of 5 tons was removed because the lead-acid batteries (LABs) recycled were generated by commercial businesses; only LABs generated by residents are creditable.
Food Waste (FW)	A total of 12 tons of food waste was removed because the businesses that responded did not identify where materials were processed. Upon further investigation, the businesses that reported the food waste did not source-separate food and incorrectly identified the material as diverted.
Glass (GL)	Tonnage was removed from survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if Republic was listed as the processor since Republic collects but does not recycle glass. All 12 tons was removed.
Ferrous Metal (FM)	Tonnage was removed from survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if Republic was listed as the processor since Republic's totals were counted toward the commercial sector's recycling totals.
Non-Ferrous Metal (NFM)	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if Republic was listed as the processor since Republic's totals were counted toward the commercial sector's recycling totals.
Corrugated Cardboard (OCC)	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if Republic or Paper Retriever were listed as the processors since these totals were counted toward the commercial sector's recycling totals.
Mixed Paper (MxP)	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if Republic or Paper Retriever were listed as the processors since these totals were counted toward the commercial sector's recycling totals.
Plastic (PL)	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if Republic was listed as the processor since Republic's totals were counted toward the commercial sector's recycling totals.
Textiles (TX)	A total of 3 tons was removed. The business that reported the tonnage did not provide a processor and did not respond to follow-up phone calls. Due to the nature of the reporting business, the District believes it is unlikely that textiles were truly recycled.

Material	Adjustments
Wood (W)	A total of 1 ton was removed. The business that reported the tonnage did not provide a processor and did not respond to follow-up phone calls. Due to the nature of the reporting business, the District believes it is unlikely that pallets were truly recycled.
Commingled (CoM)	All tons reported to have been collected by Republic or the City of Oberlin were removed to avoid double counting.
Yard Waste (YW)	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. Tonnage reported from registered compost facilities was counted, so only tonnage reported to have been managed elsewhere was counted.
Used Motor Oil (UO)	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. Tonnage was also removed if the used oil was generated by a commercial entity because only used oil generated by the residential sector can be credited.
Ink	Tonnage was removed from all survey responses if the survey recipient did not identify a processor for the material. All tons reported to have been managed at the Lorain County Collection Center was removed to avoid double counting.
Other (O^1 and O^2)	Non-creditable materials were removed. Materials that were treated and disposed instead of recycled were removed. All tons reported to have been managed at the Lorain County Collection Center were removed to avoid double counting.

Data from a total of 73 commercial businesses and institutions was used to complete **Table E-1**. Companies and institutions reported recycling 16,488 tons of materials in 2016, with approximately 4,300 tons subtracted to avoid double-counting.

Table E-2. 2016 Data from Other Recycling Facilities

Data Sources	GL	FM	NFM	OCC	MxP	PL	CoM	Totals
Buybacks								
None.								
Scrap Yards								
None.								
Brokers								
None.								
Processors/MRF's								
P1	4,922	560	223	8,877	11,181	1,457	222	
P2				355		5		
Unadjusted Totals	4,922	560	223	9,232	11,181	1,462	222	**27,802**
Adjustments	4,922			234				**5,156**
Adjusted Totals	**0**	**560**	**223**	**8,998**	**11,181**	**1,462**	**222**	**22,646**

GL = glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = corrugated cardboard, MxP = mixed paper, Pl = plastics, CoM = commingled, P = processor (processor ID assigned to protect business identity)

Adjustments: A total of 234 tons of cardboard was removed from P2's totals. The 234 tons was generated at chain stores that report directly to Ohio EPA. The 234 tons is counted in Table E-3. A total of 4,922 tons of glass was removed. The glass was collected and sent to a MRF where the material was used as road base within the limits of waste placement on a landfill. The glass was not recycled and therefore is not creditable toward the recycling total.

Source(s) of Information: District recycling survey responses

Table E-2 contains tonnage collected by two processors or MRFs which receive materials generated in the District. Adjustments were made to avoid double counting of recyclables that are included in other tables.

Table E-3 reflects the tons of recycling reported to Ohio EPA by various businesses operating in Lorain County.

Table E-3. 2016 Data Reported to Ohio EPA

Ohio EPA Data Source	PL	OCC	MxP	NF	FM	W	Food: Compost	CoM	Totals
Walmart	86	2,745	24	0.4	6			523	
Lowe's	0	268			45	188			
Jo-Ann Fabrics		12						4	
Michael's		26							
Home Depot	1	183			27	727			
Target	14	776	3		16				
Dollar General		438	1						
Big Lots		57							
Aldi Hinckley Div.	5	565					30		
Kohls		181	20						
Unadjusted Total	106	5,252	48	0.4	95	914	30	526	**6,971**
Adjustments									**0**
Adjusted Total	**106**	**5,252**	**48**	**0.4**	**95**	**914**	**30**	**526**	**6,971**

PL = plastics, ONP = newspaper, FM = ferrous metals, NF = non-ferrous metals, OCC = corrugated cardboard, MxP = mixed paper, W = wood, CoM = commingled

Source(s) of Information: 2016 Ohio EPA MRF Report

Notes: Jo-Ann Fabrics and Michael's survey responses are from 2014. Neither business has provided updated information to Ohio EPA since the 2014 report.

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

Table E-4A includes the amount of recycling reported by the curbside and drop-off programs operating within the District, materials received by compost facilities, scrap tire recycling reported to Ohio EPA, recycling by the Paper Retriever program, and materials

recycled at the Lorain Collection Center. The totals have been adjusted to avoid double-counting. For example, the 6,661 tons of yard waste recycling reported by political jurisdictions has been subtracted since it is assumed that this tonnage is reflected in the total tons reported to Ohio EPA by composting facilities.

Table E-4A. 2016 Other Recycling Programs/Other Sources of Data

Sources of Data	HHW	UO	EW	ST	DCB	LAB	FW	GL	FM	NFM	OCC	MxP	PL	TX	W	CoM	YW	INK	*Total*	*Adj.*	*Adj. Total*
Curbside/ Drop-Off	2	2				1	36	3,719	484	196	452	8,727	1,231	9		3,928		0.03	18,787	17,116	1,671
Composting Facilities							1,362										24,738		26,100		26,100
Community Yard Waste/ Organics Collection Programs															1,785		7,306		8,446	7,306	1,785
Ohio EPA Scrap Tire Data				2,676															2,676		2,676
Paper Retriever Program												991							991		991
Lorain County Collection Center	261	11	301	76	5				7		52	43				32			787	108	679
Total	262	12	301	2,751	5	1	1,398	3,719	491	196	504	9,761	1,231	9	1,785	3,960	31,399	0.03	55,464	21,562	33,902
Adj.	2	0	0	76	0	0	36	3,432	381	175	181	7,968	1,013	0	0	3,960	7,306	0.00	21,562		
Adj.Total	261	12	301	2,676	5	1	1,362	287	111	21	323	1,793	218	9	1,785	0	24,738	0.03	33,902		

HHW = household hazardous waste, UO = used motor oil, EW = electronic waste, ST = scrap tires, DCB = dry-cell batteries, LAB = lead-acid batteries, FW = food waste, GL = glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = old corrugated cardboard, MxP = mixed paper, PL = plastics, TX = textiles, W = wood, CoM = commingled, YW = yard waste, INK = ink cartridges

Notes: Wood (W) was not included in Community Yard Waste/Organics Collection Programs in B-5. Wood included wood chips and mulched material that is not and was not categorized or combined with source-separated yard waste which included grass and leaves. The 1,785 tons of wood waste was reported by Grafton Village and Avon Lake. This tonnage, while similar to the wood tonnage reported in Tables E-1 and E-3, is not double counted.

The wood tonnage in Tables E-1 and E-3 was reported by commercial businesses and managed by processors that did not deliver materials to registered compost sites or municipalities that reported wood recycling.

Curbside/Drop-Off totals in Table E-4A include textiles, HHW, used oil, lead-acid batteries, and ink that were collected from special drop-offs. This total differs slightly from the curbside/drop-off totals listed in Table B-1 and H-1.2, which only include traditional material categories (metals, plastics, paper, glass, and cardboard). Tables B-1 and H-1.2 match the totals that were creditable through the Incentive Grant program, while Table E-4A includes a full account of all recyclable materials counted toward the Annual District Report.

Source(s) of Information: 2016 Ohio EPA Scrap Tire Report, 2016 Ohio EPA Compost Report, Survey Data

Sample Calculations:

Scrap Tire total – Adjustments = Adjusted Total

2,751.46 tons – 75.89 tons = 2,675.57 tons

The following table explains the adjustments made in Table E-4A.

Table E-4B. Other Data Adjustments by Material

Material	Adjustments
Household Hazardous Waste (HHW)	A community reported HHW. The materials were managed at the Lorain County Collection Center. The materials were removed to avoid double counting.
Scrap Tires (ST)	Tires managed by the Lorain County Collection Center were removed because they were managed by registered scrap tire recyclers which report directly to Ohio EPA. The tire recycler totals were included in the calculation, so the Collection Center totals were removed to avoid double counting.
Food Waste (FW)	One community reported food waste recycling which was removed. The removed tonnage was hauled by Organix, which reports as a food waste hauler directly to Ohio EPA. Organix's tonnage was included in the calculation, so the community reported data was removed to avoid double counting.
Glass (GL)	Glass managed by Republic was removed because Republic does not recycle glass managed at its Lorain County MRF. The glass was used as road base within the limits of waste placement at its landfill.
Ferrous Metal (FM)	Metals reported by communities that were managed by Republic were removed to avoid double counting. Republic's tonnage as reported directly to Ohio EPA was counted in another table.
Non-Ferrous Metal (NFM)	Metals reported by communities that were managed by Republic were removed to avoid double counting. Republic's tonnage as reported directly to Ohio EPA was counted in another table.
Cardboard (OCC)	Cardboard reported by communities that was managed by Republic were removed to avoid double counting. Republic's tonnage as reported directly to Ohio EPA was counted in another table.
Mixed Paper (MxP)	Paper reported by communities that was managed by Republic or the Paper Retriever program was removed to avoid double counting. Republic and Paper Retriever tonnage was counted in another table.
Plastic (PL)	Plastic reported by communities that was managed by Republic were removed to avoid double counting. Republic's tonnage as reported directly to Ohio EPA was counted in another table.
Commingled (CoM)	No commingled tonnage was counted. Commingled tonnage was managed by either Rumpke or Republic, which was counted in another table. Rumpke and Republic reported the actual material categories versus stating commingled totals.
Yard Waste (YW)	Yard waste totals reported to the District by communities were not counted if materials were managed at a registered compost site because the totals reported from registered compost sites were included in the calculation.

Table E-5 represents the summation of tonnages shown in **Tables E-1A** through **E-4A**. The total tons in **Table E-5** is also consistent with the District's residential/commercial recycling reported in the 2017 Annual District Report, with the exception of the glass total which was changed due to new information discovered in 2018. Glass processed at the Lorain County Resource Recovery Complex is used as road base material within the limits of waste placement at the Lorain County Landfill. Ohio's recycling and waste reduction goal measures diversion from the landfill, not just recycling. Unfortunately, using the glass in this manner makes it non-creditable as it is not being recycled or diverted from the landfill. Consequently, the Plan cannot credit any glass that is processed at the Lorain County MRF and then used as road base matrial within the limits of waste placement at the Lorain County Landfill to the District's reduction/recycling rate.

Table E-5. Reference Year (2016) Residential/Commercial Material Recycled

Material	Tons
Appliances/ "White Goods"	54
Household Hazardous Waste	280
Used Motor Oil	139
Electronics	385
Scrap Tires	2,676
Dry Cell Batteries	5
Lead-Acid Batteries	7
Food	1,392
Glass	287
Ferrous Metals	4,531
Non-Ferrous Metals	804
Corrugated Cardboard	16,734
All Other Paper	14,663
Plastics	2,584
Textiles	647
Wood	3,580
Commingled Recyclables (Mixed)	2,232
Yard Waste	24,745
Other (Aggregated)	7
Total	**75,751**

Source(s) of Information: 2016 ADR Calculation Spreadsheets, 2016 Ohio EPA MRF Reports, 2016 Ohio EPA Scrap Tire Report, 2016 District program and survey data, 2016 Ohio EPA Compost Report, 2016 ADR Review Forms.

Table E-6, "Quantities Recovered by Program/Source," 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, so this table does not reflect the true tonnage from each source.

Table E-6. 2016 Quantities Recovered by Program/Source

Source of R/C Data	Tons
Commercial Survey	12,232
Data from Other Recycling Facilities	22,646
Ohio EPA Commercial Retail Data	6,971
Curbside/ Drop-Off	1,671
Composting Facilities	26,100
Other Food/Yard Waste Management Activities	1,785
Ohio EPA Scrap Tire Data	2,676
Paper Retriever Program	991
Lorain County Collection Center	679
Total	**75,751**

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

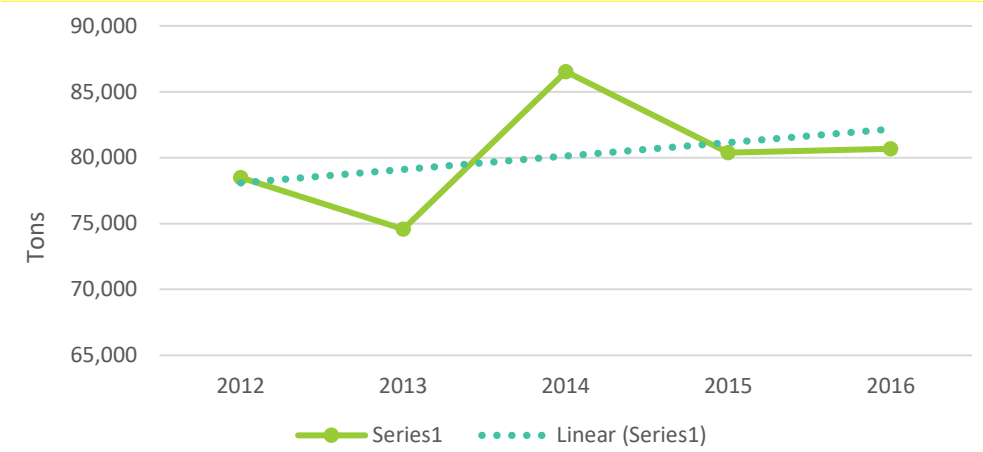
The District did not track historical annual recycling data in a format that was consistent with the original E-7 tables (**Tables E-7** and **E-7a1-3**), so a new table was developed. The following table presents the District's historical recycling analysis using a customized version of **Table E-7**.

Table E-7. Historical Recycling Analysis

Year	Residential/Commercial					
	Yard Waste	Tires	Recycling	Total	Annual Percentage Change	Annual Tonnage Change
2012	32,198	2,664	43,613	78,475	--	--
2013	37,237	4,820	32,515	74,573	-5%	-3,902
2014	31,955	3,001	51,574	86,530	16%	11,957
2015	33,339	2,693	44,341	80,373	-7%	-6,157
2016	24,745	2,676	48,330	75,751	-6%	-4,622
2012-2016 Average						
Average Annual Percent Change					0%	
Average Tons over 5 Year Period					79,140	
Average Annual Tonnage Change					-681	

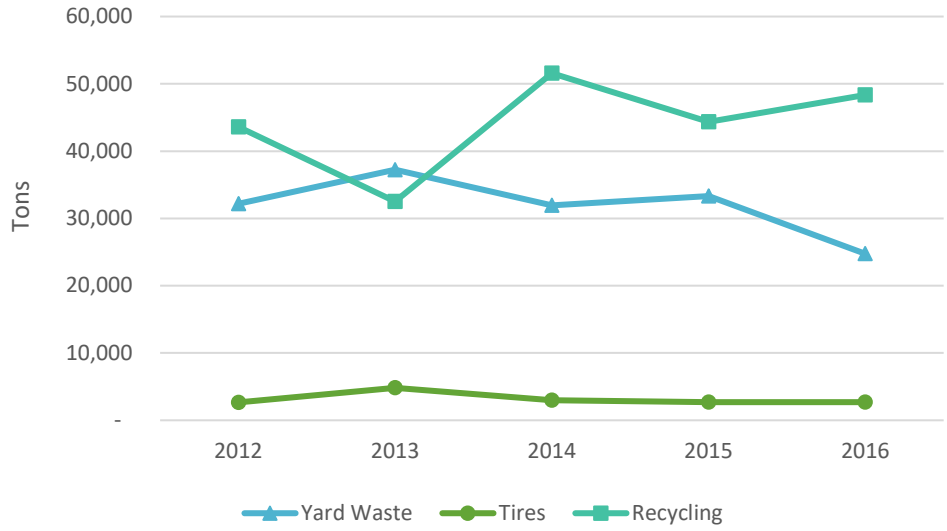
The District's historical recovery for the residential/commercial sector over a five-year period spanning from 2012 through 2016 shows that total tons of recycling has remained relatively consistent during this time period.

Figure E-1. Historical Recycling Analysis: 2012-2016



When each of the three categories in **Table E-7** are examined separately, yard waste and scrap tire recovery have decreased slightly. Recycling has fluctuated, but overall maintained greater recycling tonnage compared to 2012 and 2013. (See **Figure E-2**.)

Figure E-2. Historical Recycling by General Material Category: 2012-2016



The following table presents the District's actual and projected residential/commercial recycling totals by program/source.

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

First Year of Planning Period x →	Year	1	2	3	4	5	6	7	8	9	Totals
	2016	***12,232***	***22,646***	***6,971***	***1,671***	***26,100***	***1,785***	***2,676***	***991***	***679***	***75,751***
	2017	11,858	26,910	6,726	1,852	22,788	9,015	2,364	1,146	545	**83,205**
	2018	12,045	24,778	6,726	1,900	24,444	5,400	2,399	1,146	554	**79,393**
	2019	12,045	24,778	6,726	1,900	25,324	5,535	2,434	1,146	564	**80,453**
	2020	12,045	25,026	6,726	1,900	26,204	5,670	2,469	1,146	573	**81,760**
	2021	12,045	25,276	6,726	1,900	27,083	5,670	2,505	1,146	573	**82,925**
	2022	12,045	25,529	6,726	1,900	27,963	5,670	2,540	1,146	573	**84,093**
	2023	12,045	25,784	6,726	1,900	28,843	5,670	2,575	1,146	573	**85,263**
	2024	12,045	26,042	6,726	1,900	29,723	5,670	2,610	1,146	573	**86,435**
	2025	12,045	26,042	6,726	1,900	30,603	5,670	2,680	1,146	573	**87,385**
	2026	12,045	26,042	6,726	1,900	30,603	5,670	2,680	1,146	573	**87,385**
	2027	12,045	26,042	6,726	1,900	30,603	5,670	2,680	1,146	573	**87,385**
	2028	12,045	26,042	6,726	1,900	30,603	5,670	2,680	1,146	573	**87,385**
	2029	12,045	26,042	6,726	1,900	30,603	5,670	2,680	1,146	573	**87,385**

1 = Commercial survey
2 = Data from other recycling activities (MRFs and a broker)
3 = Ohio EPA Commercial retail data
4 = Adjusted curbside/drop-off tonnage
5 = Composting facilities
6 = Community yard waste/organics collection programs7 = Ohio EPA scrap tire data
8 = Paper Retriever program
9 = Lorain County Collection Center

Notes: *Ohio EPA commented that categories in Table E-7 should match categories in Table E-8. While some categories of historic data are easily extractable (such as tonnage reported by MRFs, many sources are not calculated in as straight-forward of a manner and some categories double-count other categories. For example, MRF tonnage includes some tonnage from commercial survey responses, curbside/drop-off tonnage, etc. Breaking down historical data into categories, then adjusting each category for double counting would be a labor-intensive process that ultimately will not provide useful figures because the figures would be adjusted for double-counting and not truly reflective of the quantity recycled from each source.*

Total recycling tonnage for 2017 will not match the 2017 Annual District Report because glass processed by Republic has been removed from the calculation. The glass was not recycled so it does not count toward the recycling totals.

In **Table E-8**, actual tonnage was used for 2016 and 2017. Projections for each program/source were calculated using the following assumptions and methodology:

- **Commercial survey:** 2018 was calculated as the average tonnage reported from this source from 2016 to 2017. Beginning in 2018 until the end of the planning period, tonnage was held constant.

- **Data from other recycling activities:** 2018 was calculated as the average tonnage reported from this source from 2016 to 2017. Tonnage was held constant from 2018 to 2019. From 2020 to 2024, tonnage was projected to increase 1% annually as a result of initiatives related to audits, assessments, toolkits, and zero waste planning. The 1% annual increase equates to approximately 250 additional tons each year. The District does not want to overstate the increase in recycling due to implementing the new initiatives, but it is hopeful that the combination of the new programs and targeted activities will result in at least a 250 ton increase annually. Tonnage is projected to remain flat for the remainder of the planning period.

- **Ohio EPA commercial retail data:** Despite obtaining data from several new sources in 2017, overall tonnage decreased compared to 2016. To conservatively estimate recycling tonnage moving forward, the 2017 total is held constant through the end of the planning period.

- **Adjusted curbside/drop-off tonnage:** Tonnage in 2018 is projected to increase 10%. The City of Lorain transitioned to a cart-based system for collecting recyclables in 2017. The 10% increase estimate was based on the following:

  The City of Lorain's tonnage increased significantly after a cart-based system was rolled out during the second quarter (see following table):

2017	Tonnage (Excluding Glass)
Quarter 1	109.1
Quarter 2	558.0
Quarter 3	632.5
Quarter 4	597.2
Total	1,896.8

  The total tons collected in the City of Lorain in 2017 was 1,896.8 tons. To project the degree to which the City of Lorain's cart-based program will impact overall curbside and drop-off totals, the 2018 City of Lorain curbside recycling tonnage was projected. The total expected to be collected during the first full year of the cart-based program was calculated by adding the last three quarters of 2017 plus the average of quarter 2, 3, and 4. The total curbside/drop-off tonnage for 2017 was 18,774 tons. By subtracting the 2017 City of Lorain's tonnage (1,896.8 tons) and adding the estimated 2018 tonnage (2,383.6 tons), the District is able to estimate that the City of Lorain's new cart-based system will increase the curbside/drop-off program total by 2.593%.

  Example calculation: (19,261 tons-18,774 tons)/18,774 tons = 0.02593
  Tonnage is projected to remain flat from 2018 to the end of the planning period.

- **Composting facilities:** 2018 was calculated as the average tonnage reported from this source from 2016 to 2017. Tonnage for 2025 was calculated using the

average tonnage collected from 2012-2017. Intermediate years were calculated using a straight-line average.

- **Community Yard Waste/Organics Collection Programs:** From 2016-2018, tonnage in this category only represents wood chips and wood waste. The 2018 total was calculated as the average tonnage reported from this source from 2016 to 2017. Beginning in 2019, tonnage is projected to increase 5% or 270 tons from 2018-2020 as the result of expanded community organics programs and initiatives described in Appendix I that target large-quantity food waste generators, food rescue groups, and community yard waste collection programs. The projections estimate an increase of 135 tons in 2019 and 2020. The tonnage increase each year equates to diverting an additional 740 pounds of food per day from landfills. By targeting key generators such as grocery store chains, large institutions (schools, jails/correctional facilities, hospitals, and nursing homes), and other businesses, the District will strive to achieve this goal. Tonnage is projected to remain flat from 2019 to the end of the planning period as the increases from these programs are maintained.

- **Ohio EPA scrap tire data:** There were no clear patterns identified in historic scrap tire totals. Tonnage for 2025 was calculated using the average tonnage collected from 2012-2017. Intermediate years were calculated using a straight-line average.

- **Paper Retriever program:** Tonnage is projected to remain flat throughout the planning period based on the 2017 total. There are no planned changes to the program that the District is aware of at this time.

- **Lorain County Collection Center:** Tonnage collected at the Collection Center have fluctuated annually since its inception. In 2020, the projected tonnage is based on the average tonnage collected from 2012-2016. Tonnage for intermediate years (2018 and 2019) was projected using a straight-line average. Tonnage from 2020 to the end of the planning period is held constant.

Appendix I discusses many initiatives that the District hopes will result in recycling greater volumes. The success of many of these initiatives is influenced by the District but is ultimately dependent upon third-party participation, which the District cannot control or guarantee. Because of the uncertainty of when programs will be completed (such as waste audits or assessments), the District has conservatively estimated recycling tonnage throughout the planning period.

APPENDIX F

INDUSTRIAL SECTOR REFERENCE YEAR RECYCLING

APPENDIX F. Industrial Reduction and Recycling Data

This Appendix presents the reduction and recycling data for the industrial sector in the 2016 reference year. To avoid double-counting tonnage, adjustments made to tonnage reported by different types of entities, such as District facilities/programs, political subdivisions, and material recovery facilities, 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:

310s

- Food Manufacturing
- Beverage and Tobacco Product Manufacturing
- Textile and Textile Product Mills
- Apparel Manufacturing
- Leather and Allied Product Manufacturing

320s

- Wood Product Manufacturing
- Paper Manufacturing
- Printing and Related Support Activities
- Petroleum and Coal Products Manufacturing
- Chemical Manufacturing
- Plastics and Rubber Products Manufacturing
- Nonmetallic Mineral Product Manufacturing

330s

- Primary Metal Manufactuing
- Fabricated Metal Product Manufacturing
- Machinery Manufacturing
- Computer and Electronic Product Manufacturing
- Electrical Equipment, Appliance, and Component Manufacturing
- Transportation Equipment Manufacturing
- Furniture and Related Product Manufacturing
- Miscellaneous 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 by brokers and processors.
- **Table F-3**, *Other Recycling Programs/Other Sources of Data*, which presents data from miscellaneous sources (This table has been omitted for this plan as it was not applicable).

The District annually surveys industries located in Lorain County to obtain recycling data. Existing industries that have responded to the District's surveys in previous years are surveyed electronically. Survey recipients receive an electronic cover letter via email explaining the purpose of the survey. The cover letter contains customized log-in information to the District's online survey system (Re-TRAC Connect). New industries and existing industries that have failed to respond to a recent District survey are mailed a cover letter and survey through the U.S. Postal Service. Recipients are asked to fax or scan their completed survey to submit it. The District maintains a list of industries which is updated at least annually or when the District is aware of new industries in the county. A business database is used to cross-reference the District's list of industries with all industries in the county to ensure that all industries with 10 or more employees are contacted annually. **Table F-1** presents the industrial sector recycling totals which were reported on the 2016 Annual District Report (ADR).

Table F-1. Industrial Survey Results

NAICS	FW	GL	FM	NFM	OCC	MxP	PL	W	CoM	NFS	INK	DCB	Oth[1]	Oth[2]	Oth[3]	Total
312		1			0	0.3	0.1									
313					17	0.6										
322			1,569		1	350		1								
323				0.1	1	176		0			0.003					
324			13			0.1	4	10			0.03					
325				3	68	8	178	236			0.1	0.01				
326					74	1	15	15								
331			30,850	378		4	19	623		16,000		0.6		456		
332	1	1	10,990	52	24	4	4	570	1,310		1	1				
333		0.2	934	191	94	8		445	56		1				14	
334					44	4		67				1				
335	1		15	996	25	1	1	6								
336		19	25,508	57	1,549	24	55	2,189	46			0				
339			457	42	263.48	52	82	72	2		0.1	2	507		3	
Total	2	21	70,338	1,718	2,160.7	631	359	4,235	1,413	16,000	2	5	507	456	16	97,864
Adj.	2	0.2			1,929.4	15	1		0.3							1,948
Adj. Total	**0**	**21**	**70,338**	**1,718**	**231.2**	**616**	**358**	**4,235**	**1,413**	**16,000**	**2**	**5**	**507**	**456**	**16**	**95,915**

FW = food waste, GL = glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = old corrugated cardboard, MxP = mixed paper, PL = plastics, W = wood, CoM = commingled, NFS = non-exempt foundry sand, INK = ink cartridges, DCB = dry-cell batteries, Oth = other (Oth[1] = scrap medical equipment, Oth[2] = steel slag, Oth[3] = scrap power)

Source(s) of information: 2014-2016 District Industrial Surveys

Sample Calculation: OCC (Cardboard) Unadjusted Tonnage – Adjustments = OCC Adjusted Total

2,160.7 tons – 1,929.4 tons = 231.2 tons

The District annually surveys scrap yards, processors, material recovery facilities (MRFs), and brokers that are located in Lorain County or facilities known to accept materials generated in Lorain County. Similar to the process used for surveying industrial sector generators, the District maintains a list of these facilities that is regularly updated. New entities are added to the 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 SIC 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's online survey effort the following year. Follow-up requests are made via telephone and e-mail to entities that do not respond. **Table F-2** presents data reported by a broker and two processors that managed materials generated in Lorain County during 2016.

Table F-2. Data from Other Recycling Facilities

Data Source	FM	NFM	OCC	MxP	PL	CoM	Totals
Buybacks							
None.							
Scrap Yards							
None.							
Brokers							
B1	0.4	0.2	169	25	111	6	
Processors/MRF's							
P1			7,986				
P2			9	2			
Totals	0	0	8,163	27	111	6	**8,308**
Adj.	0.4	0.2			111		**111**
Adj. Totals	**0**	**0**	**8,163**	**27**	**0**	**6**	**8,197**

FM = ferrous metals, NFM = non-ferrous metals, OCC = corrugated cardboard, MxP = mixed paper, Pl = plastics, CoM = commingled, P = processor, B = broker (ID assigned to protect business identity)

Table F-3, "Other Recycling Programs/Other Sources of Data" was not applicable to the District and has therefore been omitted.

Generator and broker/processor/MRF responses are evaluated by comparing data submitted by each entity from previous years. Significant increases or decreases in overall tonnage or changes in types of materials reported are investigated using a variety of strategies, which include (1) contacting the respondent, verifying tonnage/materials, 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, receiving a Notice of Violation, or unexpected events impacting operations such as a facility fire, etc.

Clear instructions are presented on the surveys 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 generators. Supplemental tonnage is included in the annual industrial sector recycling totals when the District is confident that it was not reported by generators.

The following table presents the total 2016 industrial sector recycling totals from **Table F-1** and **Table F-2**.

Table F-4. Reference Year (2016) Industrial Waste Reduced

Material	Tons
Glass	21
Ferrous Metals	70,338
Non-Ferrous Metals	1,718
Corrugated Cardboard	8,394
All Other Paper	643
Plastics	358
Wood	4,235
Commingled Recyclables (Mixed)	1,419
Non-Excluded Foundry Sand	16,000
Other (Aggregated)	986
Total	**104,112**

Source(s) of Information: 2016 ADR Calculation Spreadsheets

Table F-5. Quantities Recovered by Program/Source

Program/Source of Industrial Recycling Data	Tons
Industrial survey	95,915
Data from other recycling facilities	8,197
Other Recycling Programs/Other Sources of Data	0
Total	**104,112**

Source(s) of Information: Tables F-1 and F-3

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 2012 to 2016 is presented in the following table.

Table F-6. Historical Industrial Recovery by Program/Source: 2012-2016

Year	Industrial Sector		
	Tons	Annual Percentage Change	Annual Tonnage Change
2012	112,139	----	----
2013	90,589	-19.2%	-21,550
2014	96,542	6.6%	5,954
2015	87,747	-9.1%	-8,795
2016	104,112	18.6%	16,365
2012-2016 Average			
Average Annual Percentage Change			-0.8%
Average Tons Over 5 Year Period			98,226
Average Annual Tonnage Change			-2,007

An examination of the recovery patterns over the five-year period reveals that in 2015, a low of 87,747 tons were recovered and in 2012, a high of 112,139 tons were recovered. Over the five-year period, recovery decreased by an average of 2,007 tons, or 0.8%, annually. The District's recovery of 104,112 tons during the 2016 reference year was approximately 6% greater than the 2012-2016 average of 98,226 tons.

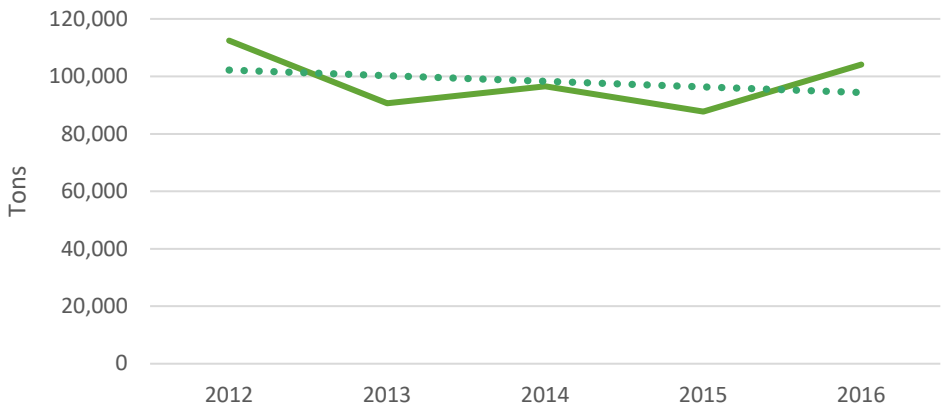
The most significant decrease over the 5-year period occurred from 2012 to 2013, when tonnage declined 19.2%. The decline was linked to a single steel mill. The mill's generation of recyclables fluctuates based on many factors. In 2011, the mill added 100 new jobs and added a new line to increase oil and natural gas tubing production. Ramped up production resulted in recycling increases in 2012. However, the demand for the mill's products was

dependent on energy prices and drilling in the oil and gas industry, which changed unpredictably over the next few years. In 2015, when the price of oil was approximately $50 per barrel, the company laid-off 614 Lorain County workers who made pipes and tubes for fracking. The layoffs resulted in another decrease for the industrial sector. More decreases in industrial sector recycling are looming on the horizon. In 2017, the mill announced that it will permanently close one of the manufacturing lines on June 8, 2017. The company cited "challenging market conditions for tubular products and unfairly traded imports" as reasons for the line closure.

Additionally, the 2012 tonnage is slightly different than what was reported on the ADR that year. It was later found that one company had reported their tonnage for that year twice by reporting under two different names. The 2012 tonnage in **Table F-6** is the corrected tonnage after removing one of the survey responses from the company.

The following figure presents the District's historical industrial recovery totals from 2012 to 2016.

Figure F-1. Historical Recycling Analysis: Industrial Sector (2012-2016)



C. Industrial Recovery Projections

According to Ohio EPA's Plan Format v4.0, if a solid waste district met the industrial reduction/recycling goal of 66% during the reference year, it is acceptable to project a constant quantity of industrial material to be recovered at the reference year quantity throughout the planning period. However, the reported data shows that the District achieved only 63% recycling in the industrial sector during the 2016 reference year, so the District must provide industrial sector recycling totals for the planning period.

To project the total industrial sector recycling, the District used actual recycling totals for 2016 and 2017. The total recycling for 2018 was projected by calculating the average total from 2012 to 2017. From 2019 to 2026, recycling was projected to increase at the average annual percentage increase from 2012 to 2017 (1.6%), then remain flat for the remainder

of the planning period. Industrial sector recycling in the District is generally stable and mature. A few very large metal-based industries tend to be responsible for notable increases or decreases. These fluctuations are typically caused by changes in the supply and demand for products related to industries that are impacted by fuel prices. These trends can be challenging to forecast; therefore, trends based on historic recycling totals were used to develop projections for this sector. See **Table F-7** for actual and projected industrial sector recycling totals.

Table F-7. Industrial Recovery Projections

Year	Total
2016	104,112
2017	113,700
2018	100,805
2019	102,418
2020	104,056
2021	105,721
2022	107,413
2023	109,131
2024	110,878
2025	112,652
2026	112,652
2027	112,652
2028	112,652
2029	112,652

APPENDIX G

WASTE GENERATION

APPENDIX G. Waste Generation

A. Historical Year Waste Generated

The historical waste generation for the District (years 2012 through 2016) 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. With the exception of 2013, R/C per capita generation rates have ranged from 5.38 to 5.44 pounds per person per day (PPD) from 2012-2016. The per capita generation rate for total generation has increased from 9.62 PPD to 10.31 PPD.

Table G-1. Reference Year and Historical Waste Generated

Year	Pop.	Residential/Commercial				Industrial			Excluded	Total	Annual % Change		
		Disposed	Recycled	Generated	PPD	Disposed	Recycled	Generated			R/C	Ind	Ex
2012	305,818	223,960	78,475	302,435	5.42	46,707	112,139	158,846	114,526	575,807	-		
2013	307,787	214,534	74,573	289,107	5.15	47,858	90,589	138,447	112,972	540,526	-4%	-13%	-1%
2014	308,536	219,512	86,530	306,042	5.44	52,906	96,542	149,449	87,846	543,336	6%	8%	-22%
2015	309,835	225,583	80,373	305,956	5.41	60,213	87,747	147,961	124,778	578,695	0%	-1%	42%
2016	**310,987**	***229,739***	***75,751***	***305,490***	5.38	***62,428***	***104,112***	***166,540***	***73,161***	***545,191***	***0%***	***13%***	***-41%***

Note: PPD = Per capita pounds per person per day

Source(s) of Information: Ohio EPA Facility Data Reports and ADR Review Forms, Lucas County Annual District Reports.

Sample Calculations (2012):

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

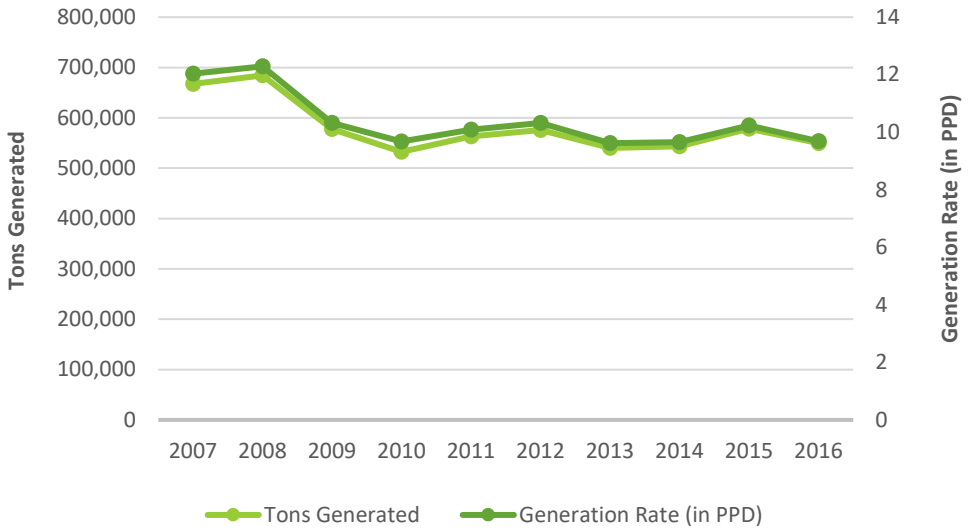
5.42 = (302,435 tons x 2,000) ÷ (365 x 305,818 residents)

Annual percentage change (R/C)= ((New year – old year) ÷ old year) x 100

-4% = (289,107 tons - 302,435 tons) ÷ 289,107 tons

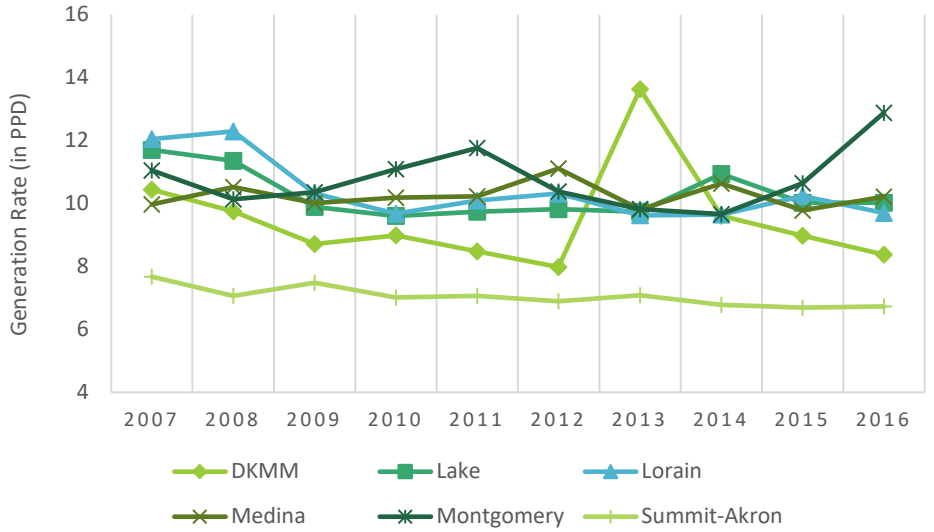
Figure G-1 shows the District's waste generation over a longer historical period. Both the tons generated and the generation rate have declined since 2007. Significant decline was seen from 2008 to 2010 when the economic recession occurred. Tonnage and generation rates became more stable following the recession. Another factor impacting generation is what is called the 'shrinking ton'. Certain materials in our waste stream that were more formally prevalent such as newspapers and dense plastics have been significantly reduced by the internet availability of magazines and newspapers and manufacturers need to make lighter weight products to reduce transportation costs. For example, new water bottles that used to be rigid now can easily be squeezed due to the lighter weight plastics.

Figure G-1. Lorain SWMD Total Generation: 2007-2016



The following figure compares the daily per capita generation rates of the District and other select Ohio solid waste management districts (SWMDs). The other SWMDs were selected because they share similar population sizes, similar geographical locations, or similar ratios of urban vs. rural land use patterns.

Figure G-2. MSW Generation Rates for Selected Ohio SWMDs: 2007-2016



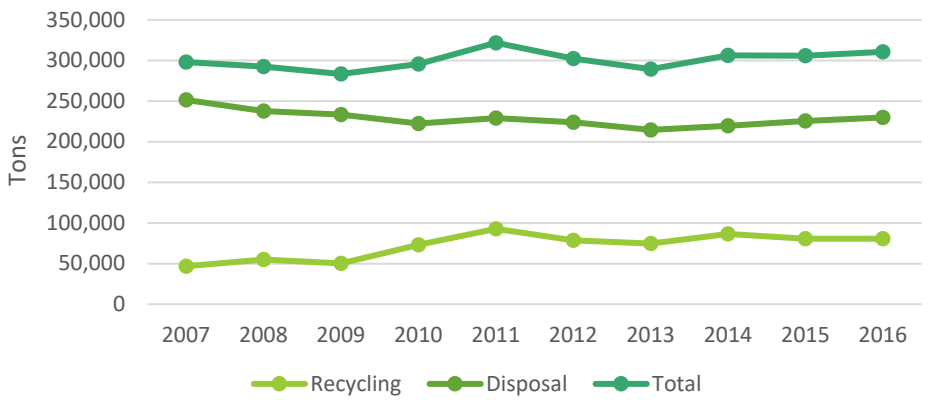
Most SMWDs that were analyzed in **Figure G-2** reduced generation rates from 2007 to 2016. Medina County SWMD and Montgomery County SWMD had slightly higher generation rates in 2016 compared to 2007. In 2007, Lorain County had the highest generation rate out of the SWMDs included in **Figure G-2**. By 2016, it had the third lowest generation rate. Lake County, Medina County, and

Montgomery County had surpassed the District in generation rates during 2016. Out of the comparable SWMDs, Summit-Akron had a significantly lower generation rate than all other SWMDs analyzed. Investigating Summit-Akron's programming may provide opportunities to the District to further reduce its generation rate.

1. Residential/Commercial Waste

Total residential/commercial waste generation in the District has increased approximately 12,000 tons or 4% since 2007 as illustrated in **Figure G-3**. Disposal decreased approximately 22,000 tons or 8.5% from 2007 to 2016, while recycling increased nearly 34,000 tons or 73%.

Figure G-3. District Residential/Commercial Waste Generation: 2007-2016



The following table presents the residential/commercial sector per capita generation rates in pounds per person per day (PPD).

Residential/Commercial Per Capita Generation Rates: 2007-2016

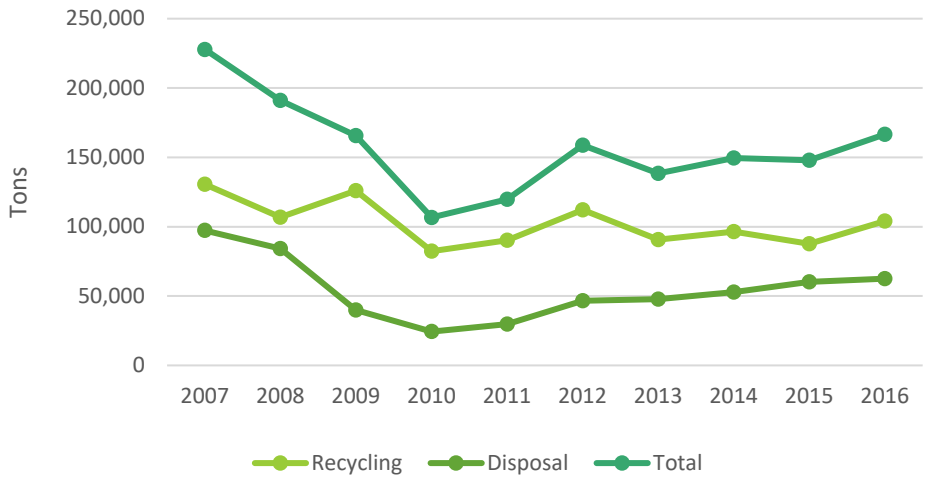
Year	Daily Per Capita Recycling (PPD)	Daily Per Capita Disposal (PPD)	Daily Per Capita (PPD)
2007	0.84	4.54	5.38
2008	0.98	4.27	5.25
2009	0.89	4.17	5.06
2010	1.33	4.04	5.38
2011	1.66	4.10	5.76
2012	1.41	4.01	5.42
2013	1.33	3.82	5.15
2014	1.54	3.90	5.44
2015	1.42	3.99	5.41
2016	1.33	4.05	5.38

Per capita recycling rates have generally increased significantly over the past decade as curbside recycling programs, municipal yard waste composting programs, and District recycling programs have been implemented, improved, and expanded throughout the county. Overall generation increased a modest amount and disposal has decreased approximately a half pound per person per day. The greatest change in the management of waste generated in the District is the increase in recycling.

2. *Industrial Waste*

Total industrial waste generation declined significantly from 2007 due to the economic recession in 2010. Overall industrial sector generation has generally been increasing from 2010 to 2016. While overall generation is increasing, the District does not anticipate that these totals will reach pre-recession levels unless new or expansion of existing industries would occur in Lorain County. Some major industries have closed, which have significantly impacted the waste generation rates and recycling rates. As demonstrated in the following figure, disposal totals have been increasing since 2010 while recycling has fluctuated and remained somewhat stagnant.

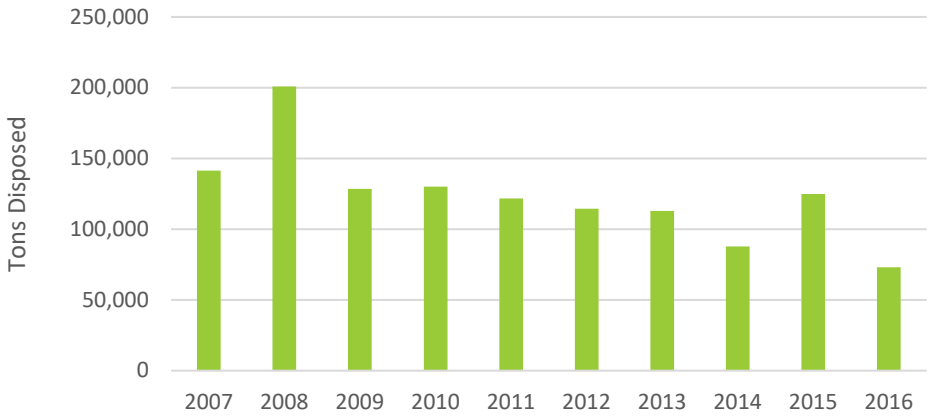
Figure G-4. District Industrial Waste Generation: 2007-2016



3. *Excluded Waste*

Excluded waste was determined to be more than 10 percent of the total waste disposed in the reference year, and as a result, has been included in this analysis. The following figure indicates that the amount of excluded waste disposed from Lorain County has fluctuated over the past decade from a low of approximately 73,000 tons in 2016 to a high of 201,000 tons in 2008. In general, excluded waste disposal is decreasing over time.

Figure G-5. Excluded Waste Disposed in the District: 2007 – 2016



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**. In general, residential/commercial disposal tonnages are expected to increase annually. Recycling for the residential/commercial sector is projected to increase each year of the planning period through 2025, then remain constant.

Industrial disposal is projected to increase annually throughout the planning period through 2023 then remain constant. Industrial recycling is expected to increase annually throughout the planning period through 2025 then remain constant.

Excluded waste is projected to increase annually throughout the planning period through 2025, then remain constant.

Table G-2. Generation Projections

	Year	Population	Residential/Commercial				Industrial		
			Disposal	Recycle	Generation	Per Capita Generation (PPD)	Disposal	Recycle	Generation
	2016	***310,987***	***229,739***	***75,751***	***305,490***	***5.38***	***62,428***	***104,112***	***166,540***
	2017	311,990	232,785	83,205	315,990	5.55	64,301	113,700	178,000
	2018	312,994	235,869	79,393	315,263	5.52	66,230	100,805	167,035
	2019	313,997	238,991	80,453	319,444	5.57	68,217	102,418	170,634
First Year of Planning Period → x	2020	314,852	242,038	81,760	323,798	5.64	70,263	104,056	174,320
	2021	315,958	245,318	82,925	328,243	5.69	72,371	105,721	178,092
	2022	317,064	248,638	84,093	332,731	5.75	74,542	107,413	181,955
	2023	318,170	252,000	85,263	337,263	5.81	76,779	109,131	185,910
	2024	319,276	255,405	86,435	341,841	5.87	76,779	110,878	187,656
	2025	320,382	256,290	87,385	343,675	5.88	76,779	112,652	189,430
	2026	321,316	257,037	87,385	344,423	5.87	76,779	112,652	189,430
	2027	322,250	257,784	87,385	345,170	5.87	76,779	112,652	189,430
	2028	323,184	258,531	87,385	345,917	5.86	76,779	112,652	189,430
	2029	324,118	259,279	87,385	346,664	5.86	76,779	112,652	189,430

APPENDIX H

STRATEGIC EVALUATION

APPENDIX H. Strategic Analysis

Appendix H includes fourteen (14) strategic analyses as required by Format v4.0. Each analysis is contained in the sections outlined below. In general, existing district programs (with program ID) are discussed first, followed by any additional analysis not necessarily related to an existing program. All existing programs have been qualitatively evaluated using the suggestions included within Format v4.0 and any identified strengths and challenges and opportunities are summarized at the end of each section. For programs where data is available, quantitative evaluations have also been incorporated.

The following sections are included in Appendix H:

SECTION H-1
- RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS

SECTION H-2
- COMMERCIAL SECTOR ANALYSIS

SECTION H-3
- INDUSTRIAL SECTOR ANALYSIS

SECTION H-4
- RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS

SECTION H-5
- ECONOMIC INCENTIVE ANALYSIS

SECTION H-6
- RESTRICTED AND DIFFICULT TO MANAGE WASTE ANALYSIS

SECTION H-7
- DIVERSION ANALYSIS

SECTION H-8
- SPECIAL PROGRAM NEEDS ANALYSIS

SECTION H-9
- FINANCIAL ANALYSIS

SECTION H-10
- REGIONAL ANALYSIS

SECTION H-11
- POPULATION ANALYSIS

SECTION H-12
- DATA COLLECTION ANALYSIS

SECTION H-13
- EDUCATION AND OUTREACH ANALYSIS

SECTION H-14
- PROCESSING CAPACITY ANALYSIS

According to the 2009 State Solid Waste Management Plan, solid waste districts must prepare solid waste management plans that demonstrate progress towards achieving the following nine goals: The analysis contained herein in Appendix H evaluates the District's overall compliance with these 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 and at least 66 percent of the solid waste generated by the industrial 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 provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.

Goal #6

- The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.

Goal #7

- The SWMD will use U.S. EPA's Waste Reduction Model (WARM) (or an equivalent model) to evaluate the impact of recycling programs on reducing greenhouse gas emissions.

Goal #8

- The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.

Goal #9

- The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

SECTION H-1. Residential Recycling Infrastructure Analysis

This analysis evaluates the performance of the existing residential recycling infrastructure in Lorain County to determine if it is meeting the needs of the residential sector. As demonstrated in this section, Lorain County has a robust recycling infrastructure with non-subscription curbside recycling provided by all 34 communities during the reference year. In addition, numerous drop-off recycling sites provided by the District, communities, and the private sector were available throughout the District.

A. Curbside Recycling

Curbside recycling is a decentralized system of for-profit and government agency operations. The District does not operate/provide for curbside recycling services. The District encompasses 34 political entities. In 2016, two privately operated haulers and two publicly operated haulers provided curbside collection service. All four haulers collected recyclables in a single commingled stream. The standard set of single stream recyclable materials includes cardboard, aseptic containers, mixed paper, plastic bottleneck containers, steel/tin/aluminum cans, and glass. The frequency of collection for all communities was weekly. Most communities had non-subscription curbside service and the majority of communities has a volume-based or pay-as-you-throw rate structure for solid waste disposal.

1. Program Performance

In 2016, curbside recycling programs collected 18,774 tons[1]. **Table H-1.1** presents the total tons recycled from community curbside programs during 2016. Population is based on 2016 estimates performed by the Ohio Development Services Agency (ODSA). The total households per community was estimated by assuming 2.65 persons per household, which was calculated by dividing the total number of households in Lorain County (as reported in ODSA's 2016 County Profiles) by the total population listed in **Table C-1**.

Table H-1.1. 2016 Community Curbside/Drop-Off Recycling Totals by Community, Resident, and Household

Community	Population	Households	Community Drop-Off	2016 Tons	Lbs/ Person	Lbs/ HH
S. Amherst (Village)	1,693	639		222	262.6	696.2
New Russia Township	1,949	735		207	212.7	564.0
Henrietta Township	1,852	699		192	207.2	549.3
Vermilion (City)	10,409	3,926		1,043	200.3	531.2

[1] This tonnage includes some recycling from drop-offs as well, as there are 5 communities that had drop-offs during 2016 that received tonnage reports that combined curbside and drop-off totals.

Table H-1.1. 2016 Community Curbside/Drop-Off Recycling Totals by Community, Resident, and Household

Community	Population	Households	Community Drop-Off	2016 Tons	Lbs/ Person	Lbs/ HH
LaGrange (Village)	2,146	809		215	200.0	530.1
Wellington Township	1,402	529		132	188.6	500.0
Carlisle Township	7,438	2,805		697	187.3	496.7
Oberlin (City)	8,331	3,142		743	178.3	472.6
Amherst (City)	12,078	4,556		1,072	177.5	470.6
Wellington (Village)	4,866	1,835		390	160.2	424.7
N. Ridgeville (City)*	32,983	12,441		2,632	159.6	423.1
Elyria Township	3,204	1,208		255	159.5	422.8
Sheffield Lake (City)	9,004	3,396		699	155.3	411.6
Avon (City)*	22,805	8,602		1,719	150.7	399.6
Rochester (Village)	181	68		13	148.2	392.9
Kipton (Village)	242	91	✓	18	147.8	391.9
Brighton Township	904	341	✓	67	147.8	391.9
Columbia Township	7,277	2,745		532	146.2	387.6
Rochester Township	613	231		45	145.9	386.8
Amherst Township	5,729	2,161		416	145.1	384.6
Avon Lake (City)*	23,659	8,924		1,709	144.4	383.0
Eaton Township	5,868	2,213	✓	409	139.6	370.0
Camden Township	1,410	532	✓	98	138.4	367.0
Sheffield (Village)	4,089	1,542		273	133.7	354.5
Penfield Township	1,799	679	✓	116	128.4	340.6
Grafton Township	2,838	1,070		179	126.1	334.3
LaGrange Township	4,034	1,522		252	125.0	331.5
Sheffield Township	3,672	1,385		224	122.2	323.9
Pittsfield Township	1,618	610		96	118.2	313.4
Brownhelm Township	1,890	713		110	116.8	309.5
Elyria (City)*	53,715	20,260	✓**	3,044	113.3	300.5
Huntington Township	1,336	504	✓	68	102.2	270.8
Grafton (Village)	6,223	2,347		249	80.0	212.2
Lorain (City)*	63,730	24,038		640	20.1	53.2
Total/Average				**18,774**	**149.7**	**396.8**

* Indicates political subdivision is one of the top 5 largest political subdivisions based on population in the District.

**Lorain County Collection Center. This drop-off is operated by the District. Tonnage from this drop-off is not included in Table H-1.1 since tonnage is known and not reported as a combined total with curbside totals.

Note: Table H-1.1 indicates that 7 political subdivisions have a drop-off but there are only a total of six drop-offs. One drop-off is located in the Village of Kipton/Camden Township; therefore, it is credited to two political subdivisions.

Note: Table H-1.2 and Table B-1 include glass collected from curbside programs because this is the tonnage that was and will be used to determine Recycling Incentive Grant funding amounts. The District does not want to financially punish communities who have Republic because they were unaware that the hauler was not recycling glass. In 2018, it was discovered that Republic was not recycling glass collected from curbside recycling programs. Glass is removed from overall recycling totals, but it has not been removed from tables showing curbside recycling totals and curbside totals by community.

Table H-1.1 demonstrates that curbside recycling rates ranged from 53.2 lbs. to 696.2 lbs. per household (hh) per year during the reference year. The average recycling recovered per household in Lorain County was 396.8 lbs. per year. All of the communities that had drop-offs also had below average household recovery rates. Having more opportunities to recycle, such as communities with curbside and drop-off recycling programs, should typically result higher recycling rates, but this is not the case in Lorain County.

According to The Recycling Partnership (TRP), on average, the national rate of recovery from curbside recycling is 300-350 lbs/hh/year. TRP suggests that a good target recovery rate for communities would be 400-450 lbs/hh/year. They report some high performing communities achieve a 600 lbs/hh/year on average. The average curbside recycling rate across all communities in Lorain County that offered curbside recycling during the reference year was 396.8 lbs/hh/year, which exceeds the national average. In fact, per household recovery rates were greater than the national recovery rate of 300 lbs/hh/year in 31 of Lorain County's 34 political subdivisions.

Recent research by the state of North Carolina's Department of Environmental Quality shows that there is roughly 800 to 1,000 pounds of recyclables available in the household each year. While there are many communities in Lorain County that have average or above average household recovery rates, there is still significant room for improvement.

The District is fortunate to have current and historic residential recycling data available by community. **Table H-1.2** presents community recycling totals from 2012 to 2016.

Table H-1.2. 2012-2016 Community Curbside/Drop-Off Recycling Totals

Lorain County Community	2012 Tons	2013 Tons	2014 Tons	2015 Tons	2016 Tons
Amherst city	1,077	1,292	1,073	1,177	1,072
Amherst Township	418	287	434	420	416
Avon city	2,316	1,687	1,837	1,765	1,719
Avon Lake city	934	901	1,338	1,699	1,709

Table H-1.2. 2012-2016 Community Curbside/Drop-Off Recycling Totals

Lorain County Community	2012 Tons	2013 Tons	2014 Tons	2015 Tons	2016 Tons
Brighton Township	58	156	84	90	67
Brownhelm Township	63	43	117	103	110
Camden Township	62	17	57	65	98
Carlisle Township	528	373	579	635	697
Columbia Township	611	396	508	514	532
Eaton Township	306	170	411	423	409
Elyria city	3,665	3,609	3,423	2,809	3,044
Elyria Township	330	257	273	259	255
Grafton village	254	174	283	375	249
Grafton Township	200	180	200	179	179
Henrietta Township	DNR	33	122	178	192
Huntington Township	51	51	65	62	68
Kipton village	28	36	15	16	18
LaGrange village	230	256	203	173	215
LaGrange Township	304	283	421	296	252
Lorain city	909	724	961	647	640
N. Ridgeville city	3,161	2,414	2,587	2,376	2,632
New Russia Township	191	102	248	236	207
Oberlin city	833	806	446	842	743
Penfield Township	83	164	136	149	116
Pittsfield Township	144	89	107	95	96
Rochester village	3	2	15	17	13
Rochester Township	33	83	23	31	45
S. Amherst village	234	255	213	248	222
Sheffield village	336	288	300	284	273
Sheffield Lake city	785	675	812	744	699
Sheffield Township	317	397	226	229	224
Vermilion city	1,225	970	1,027	1,187	1,043
Wellington village	283	273	503	451	390
Wellington Township	83	103	125	126	132
Total Tons	**20,055**	**17,546**	**19,169**	**18,900**	**18,774**

Note: This table does not include tonnage from the Lorain County Collection Center drop-off site.

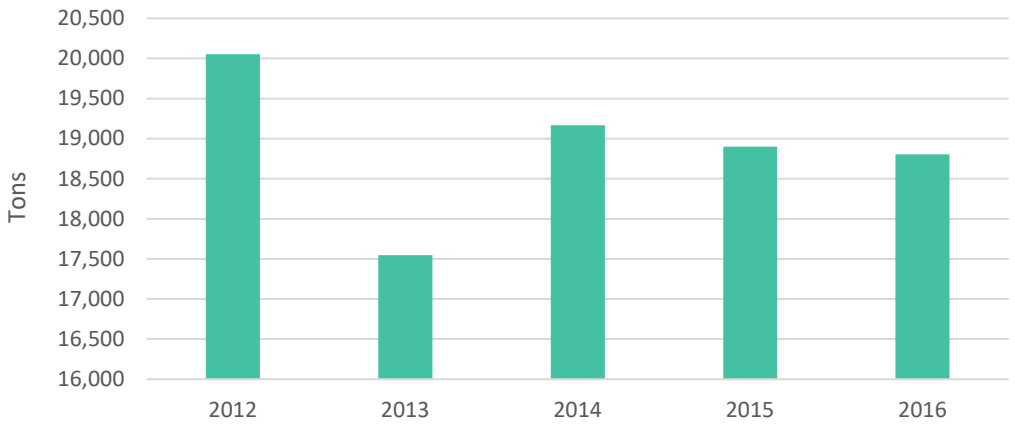
Communities have an incentive to provide the District with accurate tonnage reports each year since the total tons recycled corresponds to the amount of Community Incentive Grant funds they are eligible to receive (see H-5 for more information about the grant program). If there is a significant increase or decrease in tonnage compared to the previous reporting year, the District usually follows up with the community to verify that the reported totals are correct and to gain insight into what caused the increase or decrease. For example, **Table H-1.2** shows that the City of Oberlin's tonnage decreased from 806 tons in 2013 to 446 tons in 2014. In 2014, the City of Oberlin

suffered a fire at the Public Works Complex which destroyed their fleet of recycling collection trucks. Residential curbside recycling was suspended until a new collection system consisting of new carts and new trucks could be acquired and rolled out.

Best practices such as weekly collection, providing roll carts instead of bins, financial incentives, volume-based billing structure for waste, and increased education and outreach are proven ways to increase tonnage in a community. The District utilizes these best practices to maximize the effectiveness of curbside recycling programs.

Curbside and drop-off recycling totals have fluctuated over the past five years, as demonstrated in **Figure H-1.1**.

Figure H-1.1. Historical Trend for Curbside Recycling



2. *Consortium Bidding Technical Assistance*

As mentioned earlier in this section, the District does not directly operate/provide for curbside recycling services. However, to encourage maintaining or improving curbside recycling programs, the District reaches out to communities by offering contract assistance and inviting them to participate in a community consortium for recycling and waste collection services.

A community consortium is a group of communities that agree to contract together to increase negotiating power to reduce costs when contracting for solid waste, recycling and yard waste collection services. In 2014, eleven communities participated in the District's first community consortium, which was a five-year contract. Residents in communities that participated in the consortium are projected to save approximately $5 million over the five-year contract. The community consortiums are fluid in the sense the communities may opt out of the consortium upon contract expiration and may join another consortium or be independent. The next contract will begin in March of 2019.

The cost to communities to join the next consortium is $5,000, which includes administrative and legal fees.

3. Type of Collection

Currently, all 34 communities in the District offer curbside recycling using 64 or 96-gallon carts. Communities in Lorain County have automated curbside recycling and refuse collection. Most communities provide residents with a 64-gallon rolling recycling cart with a lid and a choice in size for rolling refuse carts with lids (32, 64, or 96-gallon). The City of Oberlin's recycling and refuse carts are the same size (64-gallon) but residents may request a second cart if they need additional capacity.

The 64 and 96-gallon recycling carts provide additional capacity for recycling, which is proven to recover 400 to 450 pounds of recyclables per household per year[2]. In addition, automated collection increases collection speed and efficiency and reduces worker compensation claims.

One downside of carts is contamination. National studies indicate that contamination is significantly higher in a single stream cart system than when recyclables are set out using bags or bins. Based on local reports to communities by their waste haulers, the average residual waste rate for commingled recyclables collected by curbside and drop-off recycling locations is approximately 16% percent[3]. Residual waste refers to materials that are deposited in recycling containers that cannot be recycled and must be landfilled.

MRFs are becoming concerned about high contamination rates as international markets increase standards for the quality of recyclables. Currently, the District does not audit MRFs or recycling programs for contamination, but MRFs do provide data on contamination rates of all recyclables processed.

4. Education and Awareness

The District provides general information regarding acceptable materials for curbside recycling on its website but urges residents to check with their community for any variations in the posted guidelines. The District also provides a variety of programs and other types of support to municipalities for curbside recycling, including offering contracting assistance, special waste collections, the creation of an annual Residential Recycling Report Card, the Recycling Incentive Grant to assist communities with educating

[2] "A Guide to Implementing a Cart Based Recycling Program" The Recycling Partnership Program 2003

[3] Haulers report residual waste as a separate category to communities. This tonnage is not included in the tons reported for curbside recycling programs. The total reported for curbside programs reflects the tonnage that was actually recycled, not the total amount collected.

residents and improving recycling infrastructure, and other services. See Appendix L for a discussion of Education and Awareness programs within the District.

5. Strengths, Challenges, and Opportunities

Strengths

- All District communities have access to non-subscription curbside recycling.
- All District communities use carts to collect recyclables.
- All but 3 communities met or exceeded the average national curbside recycling rate of 300 lbs/hh/year.
- Most communities have a volume-based billing structure for waste. Research has demonstrated that volume-based rate incentives in waste disposal and recycling have strong and measurable effects on behavior. Customers that put out more waste for collection pay more than those who put out less. Variable rates provide a recurring economic signal to modify behavior and allow small disposers to save money compared to those who use more service and impose more costs on the system.
- There are two private haulers that compete for municipal contracts that include curbside recycling, which keeps costs low and the variety of materials accepted high.
- Communities in the consortium program get the benefit of aggregated costs for collection services which provides the lowest cost and best service contracts within the District. The program provides contracting, legal, and technical assistance to communities in the consortium.
- Most curbside recycling best practices are already in place, which include weekly collection, providing roll carts instead of bins, financial incentives, volume-based billing structure for waste, and increased education and outreach.

Challenges

- Pounds recycled per household vary from 53.2 lbs. to 696.2 lbs. Some communities are performing significantly better than others. Some communities that are performing poorly have additional infrastructure such as a recycling drop-off.

- There is room for improvement amongst all communities to improve household recycling rates. Even the best performing communities that recycle nearly 700 lbs/hh/year can improve recycling rates based on North Carolina's Department of Environmental Quality research, which estimates that each household generates roughly 800 to 1,000 lbs/hh/year of recyclables annually.

- Curbside contamination rates are approximately 16%.

- Despite providing grant money to communities annually to support curbside recycling improvements and education for residents, some communities do not have information about recycling available on their websites.

- Community recycling totals have decreased from 2014-2016.

Opportunities

- ***Investigate What Makes Top Performing Communities Successful***
  The District could identify the programmatic elements of the top performing curbside recycling programs that are not present in underperforming curbside recycling programs. The District could then work with underperforming communities to incorporate programmatic improvements.

- ***Conduct targeted education in lower performing communities***
  The District could conduct targeted education and outreach in the communities that are recovering less than the national average of 300-350 pounds per household per year.

- ***Use focus groups or surveys in lower performing communities***
  Conduct focus groups or surveys in communities with recycling rates that are below the average to identify reasons for lower recycling rates. These could be followed up with enhanced education and outreach in these communities.

- ***Provide Educational Toolkit to Communities to Decrease Contamination***
  The District can provide communities with customizable materials that can be posted on community webpages and/or social media platforms that educate residents on allowable and unacceptable materials for curbside recycling programs.

- ***Revise Allowable Expenses for Community Incentive Grant***
  See Analysis *H-5, Economic Incentives*.

B. Drop-Off Recycling Infrastructure

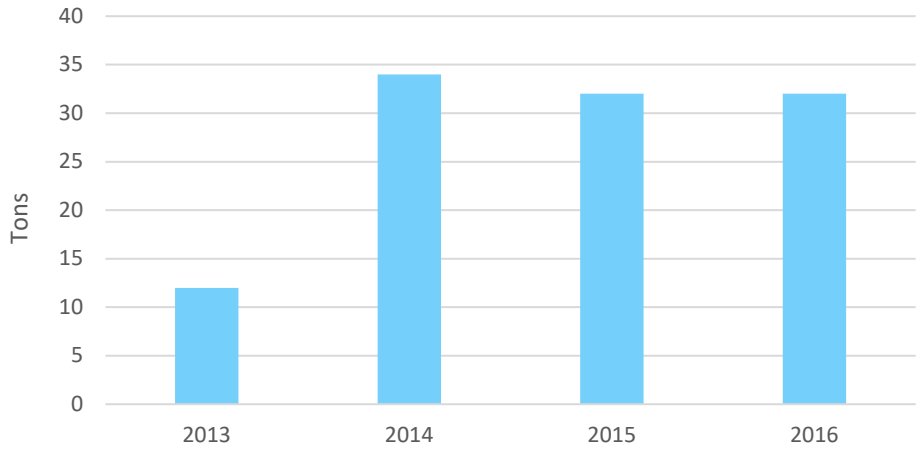
The District operates the Lorain County Collection Center in Elyria which is open to all District residents. The Collection Center is typically open Mondays and Wednesdays from 12PM-6PM and Saturdays from 9AM-6PM. To assist residents who do not have access to curbside recycling, such as residents living in multi-family housing units, in 2013 the District began accepting the same materials accepted by curbside recycling programs, which include the following:

- Plastic bottles #1-7
- Glass bottles and jars
- Steel food cans
- Aluminum cans
- Mixed paper (newspaper, magazines, copy paper, junk mail)
- Cardboard/paperboard
- Aseptic containers

The Collection Center also accepts other materials, which are discussed in more detail in Analysis *H-6, Restricted and Difficult to Manage Materials*.

The total tons of traditional curbside recyclables accepted at the Collection Center drop-off has remained stable over the past three years, ranging from 32-34 tons annually (see **Figure H-1.2**).

Figure H-1.2. Tons of Traditional Curbside Recyclables Collected at Collection Center Drop-Off



The Collection Center is the only drop-off that the District operates. There are 5 additional drop-offs in located in Eaton Township, Brighton Township, Camden Township/Kipton Village, Huntington Township, and Penfield Township. Drop-offs in Eaton Township and Camden Township/Kipton Village are full-time; the rest are available part-time. These drop-offs are serviced by contracts between the political

subdivisions and their privately-operated haulers. These drop-offs are intended to be used only by each political subdivision's residents. They are not open to all District residents. The haulers report tonnage from the drop-offs as a combined total with curbside recycling totals, so drop-off recycling tonnage is not available. The Camden Township/Kipton Village drop-off only accepts mixed paper and cardboard. The rest of the drop-offs accept aluminum cans, steel cans, glass, plastic bottles (#1-#7), mixed paper (newspaper, magazines, bulk mail, office paper), and cardboard.

In 2016, there were approximately 168 Paper Retriever bins located throughout the District that collected 991 tons of fiber materials (paper and cardboard). In 2016, the annual tonnage collected from individual sites ranged from 0.30 tons to 57.76 tons. The average tonnage collected at each site was 5.9 tons; the median was 3.75 tons.

The following table presents the drop-off recycling infrastructure available in each community during the reference year.

Table H-1.3. 2016 Drop-Off Recycling Infrastructure

Community	Paper Retriever Drop-Offs	Paper Retriever Tonnage	Community or District Drop-Off
Amherst city/Twp.	7	69.1	
Avon (City)	12	72.7	
Avon Lake (City)	11	74.8	
Brighton Township	1	7.7	Part-time, multi-material
Brownhelm Township	2	7.5	
Camden Twp./Kipton village	1	3.2	Full-time, fiber only
Carlisle Township	2	4.8	
Columbia Township	1	8.4	
Eaton Township	1	12.8	Full-time multi-material
Elyria city/Twp.	34	182.9	Collection Center: Open part-time to all District residents
Grafton village/Twp.	10	64.6	
Henrietta Township			
Huntington Township	1	6.5	Part-time, multi-material
LaGrange village/Twp.	2	6.0	
Lorain (City)	31	175.4	
N. Ridgeville (City)	14	94.8	
New Russia Township			
Oberlin (City)	12	85.4	
Penfield Township	1	23.0	Part-time, multi-material
Pittsfield Township	1	2.0	

Table H-1.3. 2016 Drop-Off Recycling Infrastructure

Community	Paper Retriever Drop-Offs	Paper Retriever Tonnage	Community or District Drop-Off
Rochester village/Twp.			
S. Amherst (Village)	1	6.0	
Sheffield village/Twp.	7	29.2	
Sheffield Lake (City)	2	4.3	
Vermilion (City)	10	40.7	
Wellington village/Twp.	4	9.6	

Residents in most communities had access to some form of drop-off recycling site within their political subdivision and all residents had access to a recycling drop-off within a reasonable distance from their community.

1. Strengths, Challenges, and Opportunities

Strengths

- Paper Retriever drop-offs are abundant in the District. These drop-offs do not cost the District or the hosts any money to operate and non-profit hosts can receive a performance-based financial incentive.

- The District drop-off at the Collection Center is open to all District residents.

Challenges

- Some drop-offs hosted by Paper Retriever collected less than one ton in 2016. If drop-offs perform poorly, Paper Retriever will eventually remove the drop-off because it is not economical to maintain.

- Multi-material drop-offs are not available within a reasonable distance for all District residents.

Opportunities

- ***Investigate Feasibility of Opening an Additional Multi-Material Drop-Off in Southern Portion of Lorain County***
  The District could try to identify additional locations for multi-material drop-off sites that could be open to all District-residents in order to

serve a greater portion of the population that lives in multi-family housing units.

C. Multi-Family

At this time, the multi-family residential recycling infrastructure is not clearly defined other than the publicly and privately-operated drop-off recycling containers discussed previously in this section.

Drop-off locations provide recycling opportunities for residents who live in multi-family housing units who do not have access to curbside recycling.

The District launched a Multi-Family Housing (MFH) Unit Recycling Grant but did not have any grant applications in 2016 or 2017. The purpose of the grant was to assist communities and apartment managers with implementing recycling programs for residents in multi-family housing units.

Further analysis of the multi-family sector will help to identify sustainable solutions.

1. Strengths, Challenges, and Opportunities

Strengths

- Publicly and privately-operated drop-off recycling containers provide access to recycling for residents in many District communities.

Challenges

- Many drop-offs in the District are fiber-only.
- Paper Retriever locations are not advertised.

Opportunities

- ***Identify Concentrations of MFH Units to Assess Where is the Greatest Need for Additional Infrastructure***
  The District could work with communities and regional planning agencies to identify communities or areas with the greatest concentrations of MFH units. These areas can be investigated to identify if there is an opportunity to provide additional infrastructure that will measurably improve residential sector recycling rates.
- ***Conduct a Residential Survey***
  The District could conduct an electronic survey of residents in multi-family housing units to identify whether their recycling needs are being met. Results could be analyzed by community to support the

District's other research on how and where to improve recycling infrastructure for this demographic.

- ***Facilitate Joint Recycling Contracting for MFH***
  The District could facilitate cooperative contracting amongst multiple MFH buildings within in a geographic region to increase economies of scale and route densities to decrease costs.

- ***Promote Paper Retriever and Other Drop-Off Locations***
  Compile a list of known drop-off locations and promote on the District's website.

SECTIONS H-2 and H-3. Business and Industrial Sector Analysis

This analysis considers both commercial and industrial businesses in Lorain County since the District's business assistance programs service both similarly. This analysis evaluates existing commercial and industrial waste recovery, the existing recycling infrastructure, and the existing programs and services offered by the District or the private sector. The goal of this analysis is help the District identify types of businesses that could be targeted for additional recovery and determine if additional infrastructure or assistance is required to increase recovery of business waste streams.

A. Business and Industry Profiles

The following sections discuss the number and type of businesses in Lorain County, the largest employers, and geographic considerations. The District used the *U.S. Business Database. Rep. Reference USA. Web. 3 Feb 2018* for this analysis.

1. Commercial/Institutional Establishments

Numerous commercial businesses and institutional organizations may have multiple properties within Lorain County and many of these make solid waste management decisions independent of their parent business or organization. Therefore, for planning purposes, the District defines "establishment" as the physical location of a commercial/institutional property.

Based on this definition, there were approximately 9,000 commercial/institutional establishments in Lorain County during the reference year. **Table H-2.1** shows the number of commercial/institutional establishments within each North American Industry Classification System (NAICS) code.

Table H-2.1. 2016 Commercial/Institutional Establishment Statistics

NAICS Code	NAICS Description	Number of Commercial/ Institutional Establishments
42	Wholesale Trade	280
44-45	Retail Trade	1,184
48-49	Transportation and Warehousing	139
51	Information	153
52	Finance and Insurance	516
53	Real Estate and Rental and Leasing	377
54	Professional, Scientific, and Technical Services	688
55	Management of Companies and Enterprises	14

Table H-2.1. 2016 Commercial/Institutional Establishment Statistics

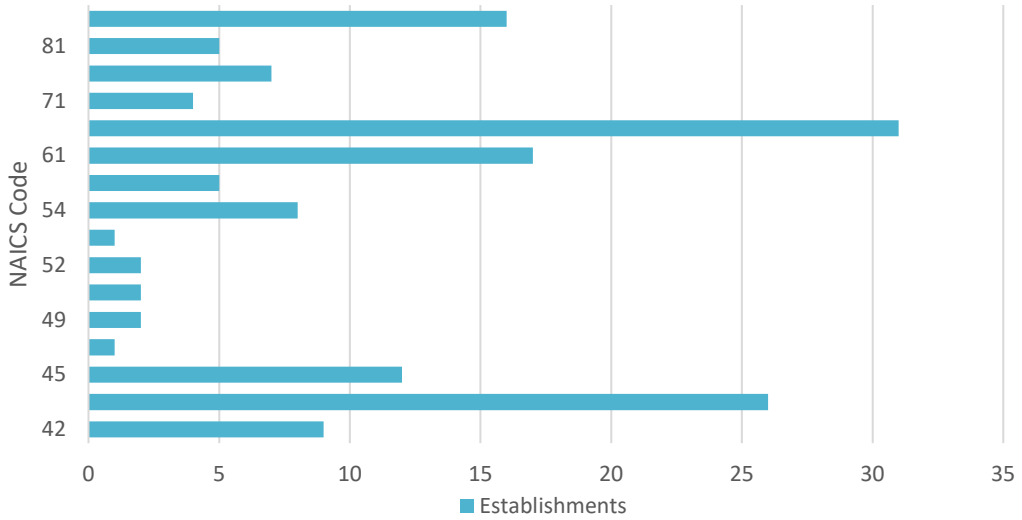
NAICS Code	NAICS Description	Number of Commercial/ Institutional Establishments
56	Administrative and Support and Waste Management and Remediation Services	363
61	Educational Services	290
62	Health Care and Social Assistance	2,065
71	Arts, Entertainment, and Recreation	193
72	Accommodation/Food Service	592
81	Other Services (Except Public Administration)	1,259
92	Public Administration	553

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Feb 2018*

As shown in **Table H-2.1**, the majority of commercial/institutional businesses in Lorain County are health care and social assistance entities, businesses providing other services, and retail trade enterprises.

Based on the District's analysis, 148 or approximately 2% of all commercial and institutional establishments have at least 100 employees. **Figure H-2.1** shows the number of establishments in each NAICS code that have at least 100 employees.

Figure H-2.1. Establishments with at Least 100 Employees



Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Feb. 2018*

The types of businesses that have the most establishments that employ at least 100 people include NAICS code 62 (health care and social assistance), NAICS code 44 (retail trade), and 61 (educational services).

Table H-2.2 identifies the top 10 employers in the District (for all sectors).

Table H-2.2. Top Employers in the District (500+ employees)

Company Name	NAICS	Employees
University Hospitals Elyria MD*	62	2,000
Ford Ohio Assembly Plant*	33	1,800
Mercy Regional Medical Center*	62	1,525
Lorain County Community College	61	1,000
Oberlin College	61	850
Invacare Continuing Care Group*	44	675
PolyOne Corporation*	32	650
Ridge Tool Co.*	33	635
Bendix Commercial Vehicle Systems*	50	617
Forest City Technologies Inc.*	32	500
AdvancePierre Foods*	31	500

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Feb 2018*

*Indicates establishment responded to the District's annual recycling survey and that the business reported recycling during the reference year.

The District received recycling data from 9 out of 11 top employers in the District during the reference year, indicating each establishment has an active recycling program. The District did not receive surveys from Oberlin College or the Lorain County Community College but has confirmed that both establishments have active recycling programs.

2. *Industrial Establishments*

Almost 500 industrial businesses operated in Lorain County during the reference year. Unlike commercial and institutional establishments, most industrial businesses have just one location in Lorain County. **Table H-2.3** shows the number of industrial business within each North American Industry Classification System (NAICS) code, as well as the average staff employed by each industrial business for each NAICS code.

Table H-2.3. 2016 Industrial Statistics

NAICS Code	NAICS Description	Number of Industrial Businesses	Average Number of Employees per Establishment
311	Food	33	11
312	Beverage and Tobacco	7	11
313	Textile Mills	2	38
314	Textile Products	6	4

Table H-2.3. 2016 Industrial Statistics

NAICS Code	NAICS Description	Number of Industrial Businesses	Average Number of Employees per Establishment
315	Apparel	2	3
316	Leather and Allied Products	0	0
321	Wood Products	8	6
322	Paper	7	23
323	Printing	31	7
324	Petroleum and Coal	2	11
325	Chemical Manufacturing	11	76
326	Plastic and Rubber	21	85
327	Non-Metallic Mineral Products	14	36
331	Primary Metals	16	51
332	Fabricated Metals	116	31
333	Machinery	60	29
334	Computer and Electronic Products	14	37
335	Electrical Equipment, Appliances and Components	11	39
336	Transportation Equipment	12	397
337	Furniture and Related Products	18	4
339	Miscellaneous Manufacturing	82	28

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Feb 2018*

About 86% of industrial businesses have an average employment of 10 or more individuals, and the average number of employees in NAICS 336 (Transportation Equipment) is 397. Similar to commercial and institutional establishments, only a small percent of industrial businesses (7%) have a staff of greater than 100 employees. However, there are more than 30 industries with more than 100 employees; the top 20 industrial sector employers are presented in **Table H-2.4**.

Table H-2.4. Largest Industrial Sector Employers

Company Name	City	NAICS	Staff
Ford Ohio Assembly Plant*	Avon Lake	336	1,800
Invacare Corporation*	Elyria	339	675
Poly One Corp*	Avon Lake	325	650
Ridge Tool Co*	Elyria	332	635
Bendix Commercial Vehicle Systems*	Elyria	336	617
Forest City Technologies Inc*	Wellington	326	500
AdvancePierre Foods*	Amherst	311	500
Camaco LLC*	Lorain	336	480

Table H-2.4. Largest Industrial Sector Employers

Company Name	City	NAICS	Staff
Riddell Sports (opened 2017)**	North Ridgeville	339	450
Nordson Corp*	Amherst	339	450
NN, Inc. (formerly Whirlaway Corp)*	Wellington	336	417
Panel Master LLC*	Wellington	335	400
AJ Rose Mfg. Co	Avon	326	350
Diamond Products Inc*	Elyria	333	250
Beckett Gas Inc	North Ridgeville	327	250
Shiloh Industries*	Wellington	332	250
Parker Hydraulic Valve Division	Elyria	332	240
Nelson Stud Welding Inc	Elyria	333	240
US Steel - Lorain Tubular Operations*	Lorain	331	200
Crane Co., Lear Romec Division*	Elyria	334	215

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Feb 2018*

*Indicates establishment responded to the District's annual recycling survey and that the business reported recycling during the reference year.
**Moved from Elyria to North Ridgeville

The District received recycling data from 14 out of 20 largest industries in the Lorain County during the reference year, indicating each establishment has an active recycling program.

The majority of industrial businesses (156 of approximately 473) are located in the City of Elyria. The eight District communities with the largest number of industrial businesses are as follows:

Community	***Number of Industries***
• Elyria	156
• Lorain	54
• Avon	44
• North Ridgeville	39
• Avon Lake	33
• Columbia Station	25
• Wellington	24
• Amherst	24

The City of Elyria has the greatest concentration of industries in the District; it has more than twice as many industries as the City of Lorain, which has the second greatest concentration of industries.

B. Business Recycling Infrastructure

There are a variety of recycling service providers and recyclers that are available to District businesses. **Table H-2.5** identifies key companies or establishments that accepted recyclables from District businesses during the reference year. This list is not exhaustive of all recycling opportunities available to the business sector.

Table H-2.5. Recyclers for District Commercial and Industrial Waste

Material	Company	Address	City	State
E-Scrap, Fluorescent Bulbs, Ballasts, Cardboard and Books	Lorain County Collection Center	43650 Oberlin Elyria Rd	Oberlin	OH
Cardboard, Mixed Paper, Scrap Metal, Plastic	Republic Services	3980 Jennings Rd	Cleveland	OH
Cardboard, Mixed Paper, Scrap Metal, Plastic	Rumpke Waste & Recycling	3131 E Royalton Rd	Broadview Heights	OH
Cardboard, Mixed Paper, Scrap Metal, Plastic	Waste Management	7450 Oak Leaf Rd	Bedford	OH
Scrap Metal	FerroTrade	1305 B Corporate Dr	Hudson	OH
Wood	Cimino Pallet	8500 Clinton Rd	Cleveland	OH
Scrap Metal	Midwest	461 Homestead Ave	Dayton	OH
Scrap Metal	Reed's Salvage	36521 Royalton Rd	Grafton	OH
Scrap Metal	FPT	8550 Aetna Rd	Cleveland	OH
Scrap Metal	BlueStar	201 Williams St	Elyria	OH
Cardboard, Mixed Paper, Plastic	Green Innovations	3100 E 45th St	Cleveland	OH
Mixed Paper	Pinnacle Recycling	2330 Romig Rd	Akron	OH
Mixed Paper, Cardboard, Plastics	Gateway Recycling	4223 E. 49th St	Cleveland	OH
Mixed Paper, Plastics	Medina Recycling	370 Lake Rd	Medina	OH
Wood	Sam's Pallet	12609 Island Rd	Grafton	OH

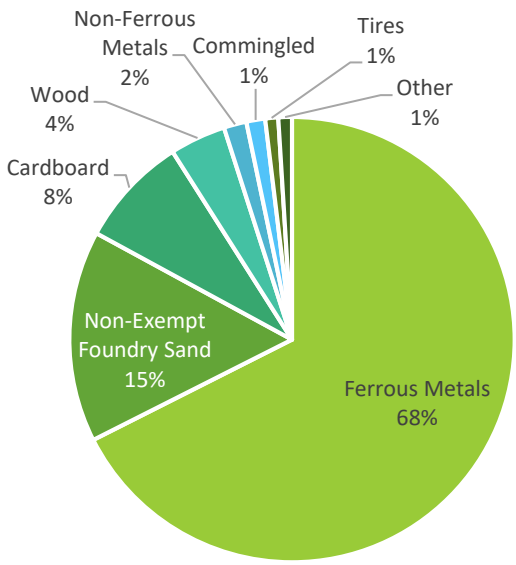
Some of these recycling facilities will collect or accept waste from a business based on their proximity, amount available, and market value of the material. Select facilities provide drop-offs for businesses. In addition, the District is serviced by multiple hauling companies that also process commingled recyclables, such as Republic and Rumpke. Information on processing capacity in the region is provided in Section H-14.

C. Landfill Diversion (Industrial Sector)

The landfill diversion analysis is being conducted for the industrial sector only. Recycling and disposal data can be isolated for the industrial sector, unlike the commercial sector which is combined with residential sector data.

In 2016, industrial businesses recycled approximately 104,112 tons of waste and disposed 91,680 tons. The tons of industrial waste disposed and recycled, including the types of materials recycled, are discussed in more detail in Section *H-7, Diversion Analysis*. **Figure H-2.2** provides the breakdown of the type of recyclables recovered during the reference year.

Figure H-2.2. 2016 Industrial Sector Recyclables Recovered by Material (in tons and percent of total)



As shown by **Figure H-2.2**, ferrous metals comprise the majority of industrial sector recyclables. **Table H-2.6** shows the quantity of material recycled by the industrial sector between 2012 and 2016.

Table H-2.6. 2012-2016 Industrial Recycling by Material

Materials	2012	2013	2014	2015	2016
Ferrous Metals	84,972	64,484	62,415	49,236	70,338
Non-Exempt Foundry Sand	19,211	15,377	16,025	16,041	16,000
Cardboard	3,268	3,300	10,154	13,483	8,394
Wood	1,546	4,103	3,050	4,080	4,235
Non-Ferrous Metals	1,561	1,341	1,999	1,980	1,718
Commingled	315	-	814	1,139	1,419
Tires	3	5	-	-	981

Table H-2.6. 2012-2016 Industrial Recycling by Material

Materials	2012	2013	2014	2015	2016
Mixed Paper	248	415	645	616	643
Plastics	1,300	206	205	86	358
Glass	1	1	2	2	21
Batteries	3	3	4	5	5
Food Waste	1	-	-	-	-
Textiles	25	0	1	1	-
Rubber	-	51	21	66	-
Other	-	1,302	1,208	813	-
Total	**112,453**	**90,589**	**96,542**	**87,547**	**104,112**

As demonstrated in **Table H-2.6**, there have been fluctuations in these quantities during the last five years. One of the overriding variables affecting increases and decreases of materials recycled in the industrial sector is due to whether or not a particular business responded to the District's recycling survey in a given year. Other factors that contribute to variations in tonnage include economic factors, energy/fuel pricing (some Lorain Co. industries produce tubing for fracking operations, so when the cost of oil is low, fracking operations decrease, leading to less of a demand for products from Lorain Co. industries), and other economic issues.

1. District Business and Industry Recycling Assistance Programs

The District provides direct assistance to businesses through information on its website, technical assistance, waste audits, and other services, including the following programs:

a. Waste Audits

The District conducts waste assessments and audits for businesses, industries, and institutions that request the service. The District advertised free waste auditing services on its website. In 2016 there were no waste audits conducted; however, the District has worked with many key employers and large waste generators in the District in the recent past. These include Goodwill, Lorain County Community College, Mercy Health, City of Oberlin, and Valor Home.

b. Specialized Bottle/Can Recycling Collection

The District provides indoor collection containers to schools, businesses, and organizations as requested. In 2016, the District provided 278 boxes and 3,360 bags for bottle and can recycling.

c. Recycling Seminars

On an as-needed basis, the District holds seminars with public officials, citizens, and other interested parties to review opportunities for improving recycling in Lorain County. In 2016, the District held a seminar with surrounding solid waste districts, glass processors, and other economic development professionals to review options for glass. One glass equipment manufacturer attended and presented their equipment for collecting glass at bars and restaurants. A proposal was offered to one city to work with the District on glass collection at bars and restaurants. The project did not move forward in 2016. The major issue is securing a processor and economically sustainable transportation for the material.

d. Lorain County Collection Center Programs Available to Businesses

Lorain County businesses are permitted to participate in the following collection programs at the Lorain County Collection Center: E-Scrap, Fluorescent Bulb and Ballast, cardboard and books (paperback/hard cover).

e. Commercial/Industrial Recognition

The Commercial/Industrial Recycling Recognition program was designed to acknowledge businesses that have innovative recycling programs and that actively participate in the District's annual surveying efforts. During the reference year, this program was temporarily discontinued so the District could evaluate restructuring the program.

f. Business Recycling Roundtable

The District facilitates and promotes recycling roundtable discussions for the business community that focus on innovative recycling processes and applications related to solid waste and recycling contracts, cooperatives, programs, and other related matters. The first meetings focused on small business issues and the second meetings were an open forum regarding solid waste management. This program was postponed in 2015 and has not been re-started. The program will be relaunched pending restructuring and commissioner approval.

g. Assisting with Ohio EPA Market Development Grants

This program is discussed in *Analysis H-5, Economic Incentives*.

h. Recycling Revolving Loan Program

This program is discussed in *Analysis H-5, Economic Incentives*.

i. District Market Development Grants

This program is discussed in *Analysis H-5, Economic Incentives*.

j. Community Incentive Grant Program

This program is discussed in *Analysis H-5, Economic Incentives*.

D. Strengths, Challenges, and Opportunities

Strengths

- There are adequate service providers that accept general recycling and/or provide collection or processing services to Lorain County's business sector.

- The District receives recycling survey data from a majority of the largest employers in the County.

- Waste audits provide one-on-one technical support to the business community; participants receive individualized strategies and implementation plans to improve recycling at their establishment.

- The District's 151 waste audits have identified opportunities for businesses to recycle non-traditional materials, such as food waste.

- The District has facilitated the development of new recycling and composting businesses through connecting generators to transporters and processors.

Challenges

- Due to limited resources, the District does not have the ability to conduct follow-up interviews with businesses that have participated in audits or assessments to determine the effectiveness of the program in terms of implementing the District's suggested waste minimization strategies and increasing recycling or composting. The District does not currently have the resources to monitor the effectiveness of the technical assistance program and whether participation translates into waste reduction.

- Because of the extensive number of small commercial/institutional and industrial establishments in Lorain County, it is difficult to achieve significant impact.

- The District currently does not have an ongoing engagement process with the business community. Interactions and projects tend to be with specific generators; there is a clear opportunity to improve connections with the business sector and understand their needs.

Opportunities

- ***Strategic Approach to Target Businesses for Assistance***
  The District could use a database to target businesses where there are greatest opportunities to recycle based on factors such as number of employees, NAICS code, geographic cluster or proximity to recycling processors. The District could collaborate and survey these targeted businesses to determine if they are interested in District support to start or increase recycling. Based on survey results, the District could design workshops targeting businesses either by NAICS or geographic region.

- ***Commercial Sector Consortiums***
  The District could evaluate establishing commercial sector recycling consortiums in different sectors of the county where commercial activity is dense, such as strip malls and outlet stores where recycling is non-existent.

- ***Meet with Economic Development Directors in Communities***
  The District could learn more about commercial sector generators and their challenges and needs regarding recycling by connecting with economic development directors. The District could use the meetings to educate economic development directors about the District's services so they may help promote the District's programs to their constituents. Developing a relationship with a network of economic development directors throughout Lorain County could help the District stay informed about major changes in the commercial/industrial landscape.

- ***Collaborate with Trade Associations and Similar Organizations***
  The District could collaborate with local commercial and industrial trade associations and similar organizations to reach more generators, distribute information, conduct seminars, and obtain information about business closings, new businesses, or issues affecting recycling/waste management in Lorain County. Examples of organizations include the Lorain County Growth Partnership, Lorain County Port Authority, the Manufacturing Advocacy and Growth Network (MAGNET), the Northeast Ohio Areawide Coordinating Agency (NOACA), Team Lorain County, Ohio Grocers Association, Ohio Manufacturers Association, Ohio Landscapers Association, and Ohio Retail Merchants.

- ***Zero Waste Planning Services for Industry***
  The District could help industrial facilities consider the development of a zero-waste plan. This would include establishing an industrial green team and the development of recommendations for the industry's waste streams.

- ***Promote Ohio Materials Marketplace***
  The District can direct businesses and industries to the Ohio Materials Marketplace. The Ohio Materials Marketplace aims to create a closed-loop, collaborative network of businesses, organizations, and entrepreneurs where one organization's hard-to-recycle waste and by-products becomes another organization's raw material. In addition to diverting waste from landfills, these recovery activities could generate significant cost savings, energy savings, and create new jobs and business opportunities.

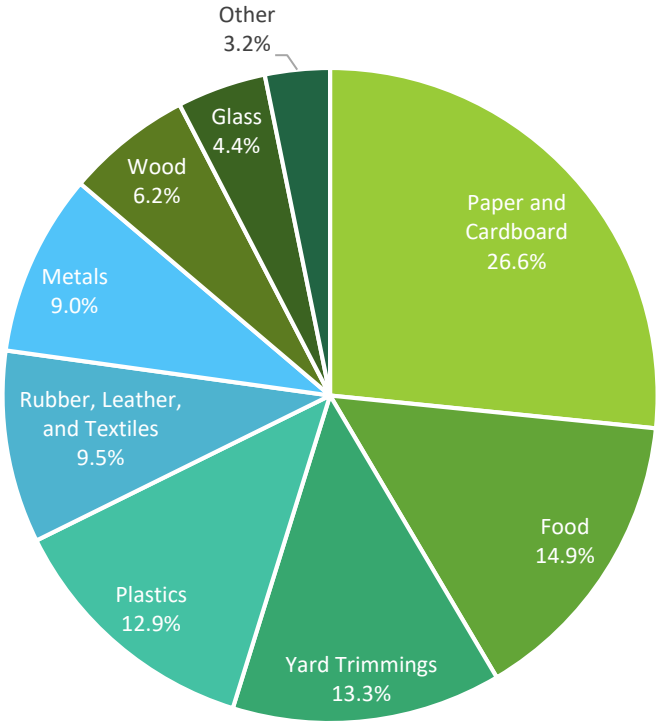
SECTION H-4. Residential/Commercial Waste Composition Analysis

The purpose of this section is to look at the wastes that typically comprise the largest portions of the waste steam by weight and evaluate the availability of and need for programs to recover those materials. The District used the U.S. EPA's waste composition and waste generation estimates to conduct this analysis.

A. Residential/Commercial Sector Waste Composition

According to U.S. EPA, paper and paperboard, food waste, and yard waste are the categories comprising the highest percentages of the residential/commercial waste stream by weight ***before*** any recycling takes place (see **Figure H-4.1**). Therefore, the District has targeted these waste streams for evaluating their management system in Sections B, C, and D of this analysis.

Figure H-4.1. U.S. Residential/Commercial Waste Composition by Weight: 2014



Source: US EPA. *Advancing Sustainable Materials Management: 2014 Fact Sheet*. November 2016.

Applying the percentages in **Figure H-4.1** to the total residential/commercial generation for the District yields the tonnages by material type as shown below in **Figure H-4.2**. Based on the US EPA waste composition estimates, the District generates nearly twice as much paper and paperboard as the next highest category of material (food waste).

Figure H-4.2. Estimated Residential/Commercial Total Generation by Material Type: 2016

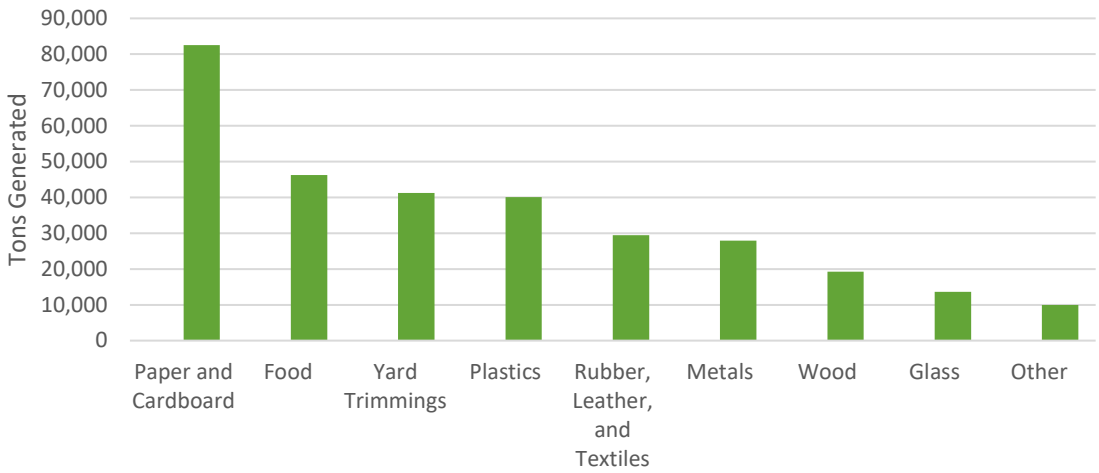


Figure H-4.3 shows annual per capita waste generation by material. *Per capita* waste generation ranges from almost 64 pounds per person/year for "Other" to just over 531 pounds per person/year for paper and paperboard. "Other" includes all other materials, such as diapers, feminine products, bio-hazard materials/sharps, dirt, rock, electronics, HHW, and unrecyclable paper coated with foil or plastic.

Figure H-4.3. District Per Capita Residential/Commercial Generation by Material Type: 2016 (Based on US EPA estimates)

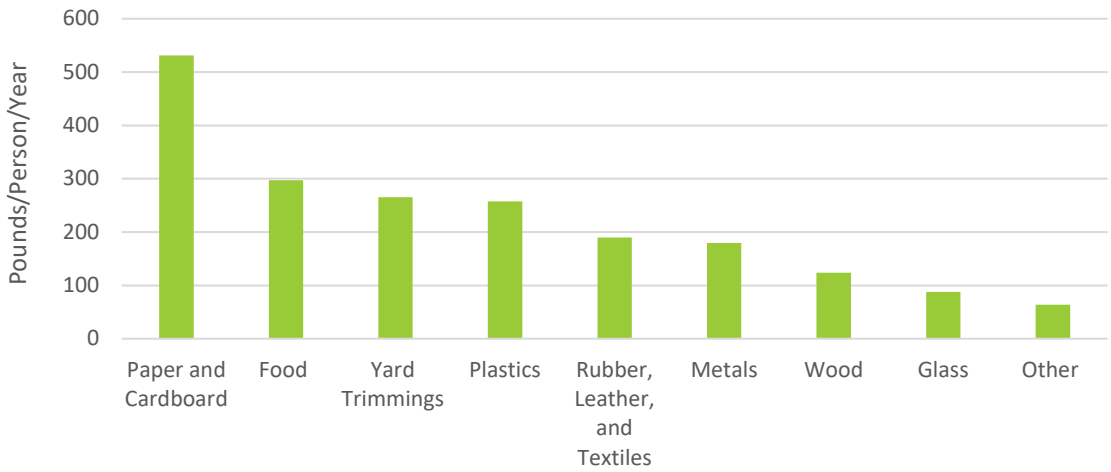
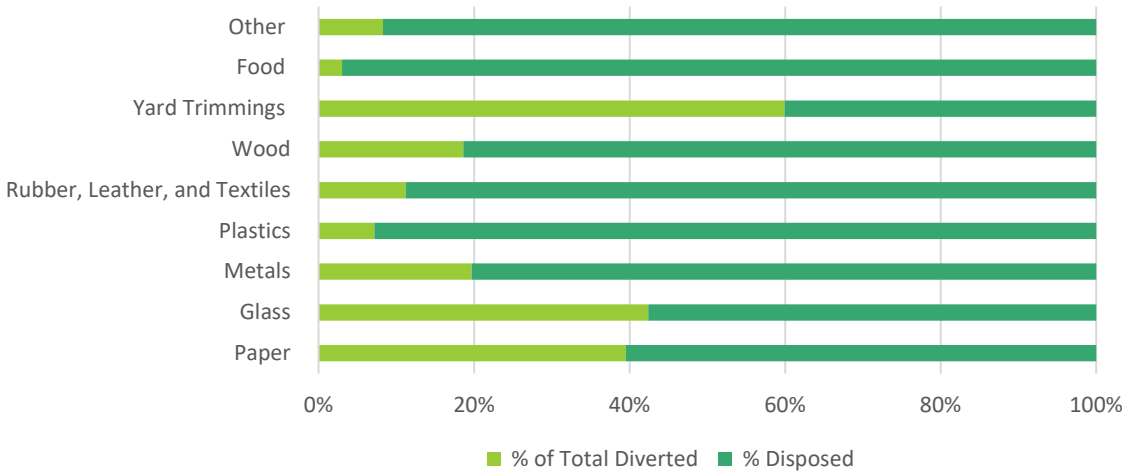


Figure H-4.4 shows the percentage of the residential/commercial materials recovered for recycling in the District (as reported in its 2016 Annual District Report) compared with the total material generated. As shown, the District has the highest recovery rate (or recycling rate) for yard trimmings, which is calculated to be 60%. Glass and fibers (paper/cardboard) are the next two highest recovered materials at 42% and 40% respectively, while food and plastics have the lowest recovery rates, at 3% and 7%, respectively. According to the *US EPA 2014 Fact Sheet*, the national average recycling rates are 90% for cardboard, 61% for yard waste, 33% for glass, 30-31% for plastic containers, and 5% for food waste.

Figure H-4.4. District Material Recycling Rates Compared to Total Generation: 2016



B. Yard Waste Programs

1. Processing

Based on Ohio EPA reports, 18 Class II and Class IV composting facilities were available to process District yard waste in 2016. All but two were located within Lorain County. **Table H-4.1** identifies these 18 facilities and the amount of material processed originating from within the District.

Table H-4.1. Class II and IV Compost Facilities and Processing Data

Facility	In-District Yard Waste Processed	Outside District Yard Waste Processed (TPY)	Percent of Yard Waste Originating from the District
Alman Brothers Excavating	DNR	DNR	N/A
Amherst Township Yard Waste Collection Site	DNR	DNR	N/A
Avon Lake Central Fueling	4,598	0	100%

Table H-4.1. Class II and IV Compost Facilities and Processing Data

Facility	In-District Yard Waste Processed	Outside District Yard Waste Processed (TPY)	Percent of Yard Waste Originating from the District
Avon Miller Rd. Composting Facility (Kurtz Bros Inc.)	13,381	8,920	60%
Carlisle Township	152	0	100%
DDBK LLC	DNR	DNR	N/A
Eaton Township Composting Center	8	0	100%
JDS Trucking, Inc	DNR	DNR	N/A
JS Composting	0	0	0%
City of Lorain Composting Facility	993	148	87%
M & B Trucking Express Corp.	DNR	DNR	N/A
Moore Road Compost Facility	DNR	DNR	N/A
Morton's Landscape Development Co.	DNR	DNR	N/A
Oberlin Compost	587	0	100%
Three-Z, Inc. - Westside Yard	2,862	0	100%
Yard Waste Recovery - Barnes Nursery	1,740	4,473	28%
Cloverleaf Composting Facility	414	0	100%
#1 Landscape	4	185	2%

Notes: The total processed by registered compost facilities is 8 tons less than the total reported on the ADR; a minimal quantity of yard waste was processed on a non-registered site and land applied. In 2016, these compost facilities processed 24,738 tons originating within the District.

The seven facilities in the table that have no data did not respond to the survey, and therefore, recovery of yard waste may be higher than reported.

All 18 facilities are available to the public. Many District communities are reliant upon these facilities for yard waste processing. Therefore, if a facility closes or raises their fees, the sustainability of a community's yard waste program may be compromised if an alternative facility within reasonable hauling distance is not available or is operating near capacity. Ohio EPA does not require Class II and IV composting facilities to indicate their annual processing capacity; therefore, the District is not able to evaluate whether there is sufficient yard waste processing capacity in the region or if facilities are operating near capacity limits.

2. Residential Yard Waste Collection Programs

In 2016, 12 out of 32 political subdivisions in the District operated or contracted for yard waste and/or leaf collection programs. The District communities that reported having yard waste or leaf collection included the following:

- City of Amherst
- Amherst Township
- City of Avon
- City of Avon Lake
- Eaton Township
- Village of Grafton
- Village of LaGrange
- City of North Ridgeville
- City of Oberlin
- City of Sheffield Lake
- Sheffield Township
- Village of Sheffield

Community yard waste collection programs are responsible for diverting only a portion of District-generated yard waste from landfills. Community yard waste/leaf collection programs collected 7,263 tons (or 29%) of the 24,738 tons of yard waste composted by the residential/commercial sector in the District during the reference year.

3. Education

The District provides funding to the OSU Agricultural Extension Office to educate residents about backyard composting through compost seminars, information posted on the website, radio broadcasts, and a stand at the Lorain County Fair. The Extension Office offers multiple composting seminars during the spring and fall throughout Lorain County. The seminars educate residents about the science of composting and provide residents with how-to-compost instruction. The Lorain County website includes the following:

- Yard waste composting tips
- Suggestions to participate in municipal compost programs
- Encouragement to compost at home
- A direct phone number to the OSU Agricultural Educator
- Information on OSU Extension Office's programs to bring to schools

Table H-4.2 summarizes the District's yard waste management system.

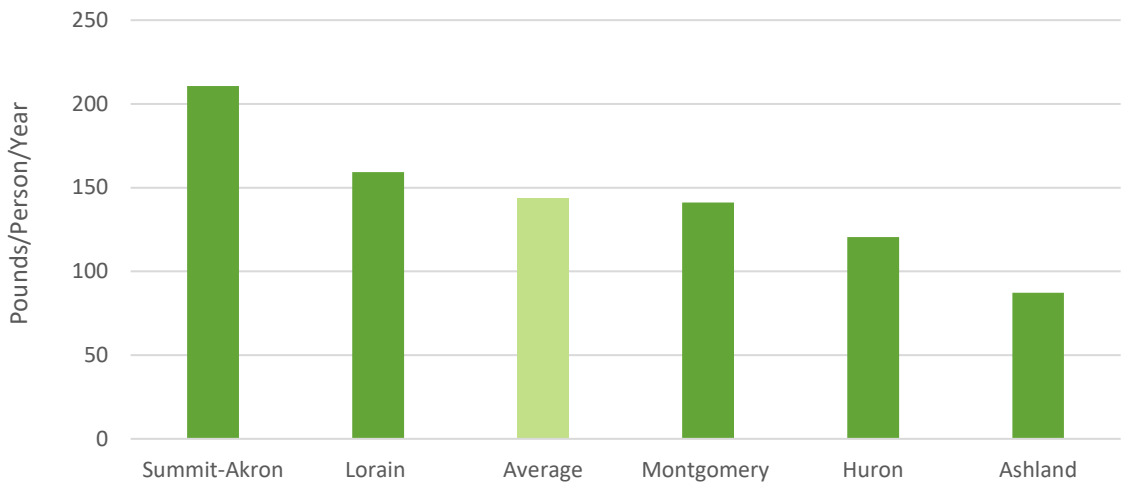
Table H-4.2. District Yard Waste Management System Summary

Description	Details
Service Area	District-wide
Types of yard waste reduced/recycled	Yard waste, brush, leaves, grass, wood
Tons of yard waste recycled (2016)	24,738
Program Costs	*District* = $17,400 spent on paying OSU Agricultural Extension Office, $50,000 salary to county engineer

Description	Details
Program Operator/Contractor	Political subdivisions, private sector compost facilities, OSU Agricultural Extension Office

Figure H-4.5 represents recovery rates for the District compared to other selected, urban/rural mix solid waste management districts in Ohio.

Figure H-4.5 Yard Waste Recovery Rates Benchmark



Compared to other mixed urban/rural Districts in Ohio, Lorain County recovers a higher than average quantity of yard waste per capita. The District promotes home composting to residents which is difficult to quantify and may result in another reason that the District's yard waste composting totals may be understated.

C. Food Waste Composting Programs

In 2016, there were no Class II registered compost facilities operating in the District that accepted food waste. Food waste generated in Lorain County was sent to one known out-of-District Class II composting facility for processing. Food waste from Wal-Mart and other locations was collected by Organix, a food waste hauler, and delivered to an unreported facility for animal feed. In-District food waste processing and options for food waste collection are issues in Lorain County.

1. Food Waste Haulers and Processors

The following companies provide food waste hauling and/or processing services to District generators.

1. Yard Waste Recovery – Barnes Nursey – Processor
2. Organix – Hauler

2. Food Waste Programs

Due to the limited infrastructure for managing food waste in Lorain County, there are no District programs directly related to reducing food waste. The following is a sample of notable food waste composting programs operated by other parties in the District:

1. Walmart (utilizes Organix to haul food waste)
2. Oberlin College (manages food waste on campus or delivers to a local farm)

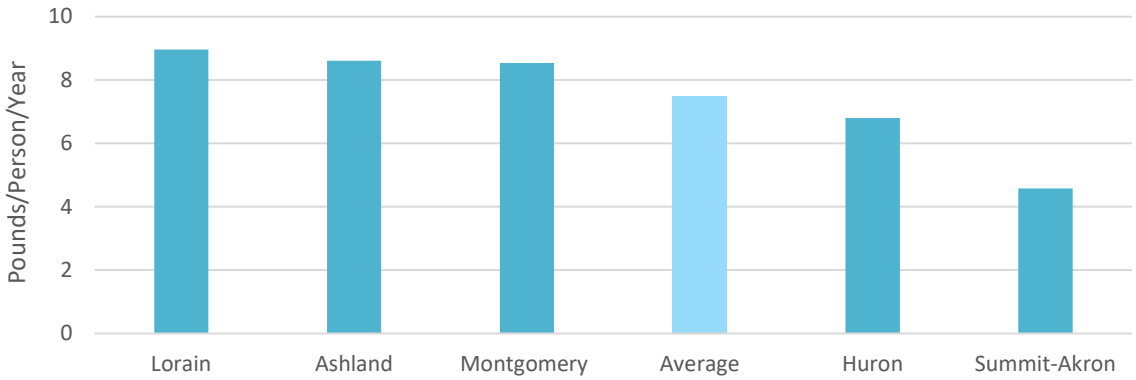
3. Market Development and Education

The District provides food waste composting education and technical assistance. In 2016, the District:

- Provided a direct phone number to the OSU Agricultural Educator
- Provided information on OSU Extension Office's programs to bring to schools
- Worked with Barnes Nursery, Ohio EPA, and other entities to identify suitable sites for a potential compost site for food waste
- Hired a contractor to analyze the feasibility of an organics recycling site

Figure H-4.6 represents food waste recovery rates for the District compared to other mixed urban/rural districts in Ohio and shows that Lorain County had the highest per capita food waste recovery.

Figure H-4.6. Recovery Rates of Residential/Commercial Food Waste for Selected Ohio SWMDs: 2016

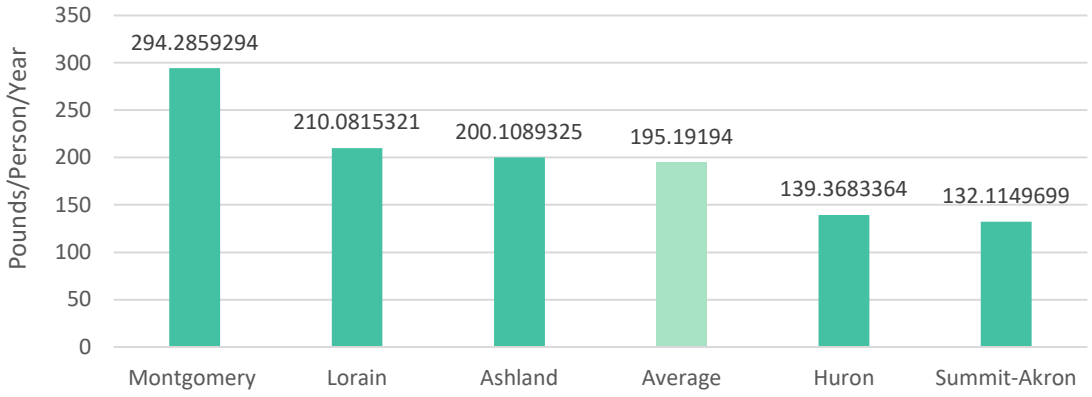


D. Fiber (Paper) Recycling Programs

Lorain County has an extensive, mature network of fiber recycling infrastructure and programs. Fiber includes cardboard, mixed paper, office paper, and newspaper and comprises about one-fourth off all residential/commercial waste generated. All curbside recycling programs in the District accept fiber as well as all

drop-offs listed in **Appendix B, Table B-2.** Paper Retriever is a privately-operated company that operates in the District and provides drop-off containers to non-profit organizations and schools and pays for paper based on the tons collected. In 2016, there were approximately 168 Paper Retriever drop-off sites located throughout the District. In addition, the District operated the Lorain County Collection Center, which accepted 95 tons of fiber in 2016. The District received a grant for a mobile document shred truck. The District advertised the program but did not begin using the shred truck until 2017. Documents shredded in the mobile document shred truck are recycled. The District provides comprehensive information for residents and businesses about cardboard and paper recycling opportunities in its annual handout pamphlet, the District Annual Report, and on its social media page.

Figure H-4.7. Recovery Rates of Residential/Commercial Fiber Waste for Selected Ohio SWMDs: 2016



Note: Fiber includes mixed paper and cardboard reported on 2016 Annual District Reports, plus the percentage (52%) of commingled materials that is estimated to contain fiber and cardboard. The commingled breakdown statistics were reported by an Ohio MRF operator.

The District's residential and commercial sectors recycled approximately 31,646 tons of fiber in 2016. Approximately 29%, or 9,180 tons, was recovered from residential curbside and drop-off recycling programs. The remaining 71%, or 22,217 tons, was recycled by the commercial sector. The top five types of businesses, as classified by North American Industry Classification System (NAICS) code, that recycled the most fibers in 2016 include:

- NAICS Code 61, Educational Services: 3,228 tons
  - NAICS Code 61 examples: Elementary and secondary schools, colleges, universities, and professional schools, junior colleges, automobile driving schools, cosmetology and barber schools, and apprenticeship training

- NAICS Code 44, Retail Trade: 1,032 tons

  - NAICS Code 44 examples: Supermarkets and other grocery stores, home centers, hardware stores, gasoline stations, and electronics stores

- NAICS Code 42, Wholesale Trade: 983 tons
  - NAICS Code 42 examples: Motor vehicle supplies wholesalers, office equipment wholesalers, commercial equipment wholesalers, hardware wholesalers, printing and writing paper wholesalers, grocery product wholesalers

- NAICS Code 45, Retail Trade: 545 tons
  - NAICS Code 45 examples: Hobby stores, florists, book stores, pet supplies stores, vending machine operators, used merchandise stores, souvenir stores

- NAICS Code 62, Health Care and Social Assistance: 353 tons
  - NAICS Code 62 examples: Offices of physicians, dentists, chiropractors, optometrists, and mental health practitioners, freestanding ambulatory surgical and emergency centers, medical laboratories, and family planning centers

The amount of fiber material recycled in the District is above average compared to other mixed urban/rural solid waste districts in Ohio (see **Figure H-4.7**). Since fiber is the largest component of the District's residential/commercial waste stream, opportunities to increase fiber diversion are significant given the plentiful opportunities and infrastructure. Strategies to increase fiber recycling should focus on education and awareness to promote participation in existing programs and the use of existing infrastructure.

The District's county-wide recycling education campaign and website will play a key role in improving fiber recovery rates. The website offers educational materials. There are plentiful opportunities for residents, especially kids, and businesses to recycle paper and cardboard for no cost; the focus during this planning period will be to increase the quantity of materials recycled by current recycling program participants and to improve participation rates.

E. Strengths, Challenges, and Opportunities

The following section summarizes the strengths and challenges for residential/commercial waste composition.

Strengths

- The District has high recovery rates for glass (42%).

- There are abundant education materials, services, and opportunities provided by the District with information online for public access.

- All municipalities in the District have some sort of a curbside recycling program.

- Opportunities to recycle paper for no charge are plentiful throughout the District.

- The Lorain County Collection Center accepts many hard-to-recycle items from residents.

Challenges

- There are opportunities to improve overall residential/commercial waste diversion, which was 23% during 2016.

- There are limited options for managing food waste in the District and only one known food waste hauler that provided service in Lorain County. The District will continue to evaluate opportunities at the municipal and county level for food waste diversion.

- Only 12 municipalities in the District have a yard waste curbside collection program.

- Current market conditions for some recyclables including glass and some plastics make expanding recycling programs challenging.

- Despite the widespread opportunities to recycle paper throughout the District, estimates indicate that only 40% of the paper generated is recycled, while 60% is still being disposed.

- Export restrictions and higher recycling standards on fiber and mixed plastics by China may affect local recyclers and MRF operators. Impacts from trade restrictions will be more pronounced on the East and West coasts but the longer these restrictions stay in place, the more likely it will be that Ohio will be impacted in the long-term and affect markets and pricing.

Opportunities

The District has developed a series of potential improvements, initiatives, and/or strategies to be considered for implementation in the new planning period based on the analysis, conclusions, strengths and challenges, and other factors identified in this section.

The following opportunities for potential improvements are designed to improve the challenges identified above.

- ***Yard Waste Contracting Consortiums***
  Evaluate whether there is interest in establishing municipal yard waste contracting consortiums to obtain longer contracts and stable pricing for communities. If communities express interest, the District would facilitate the development of the consortium and handle the bid in the same way it developed its disposal and recycling consortiums. To determine the level of interest, the District could survey those communities that operate municipal leaf collection programs and rely on private sector facilities for processing to determine the following:

  - Community interest in participating in a contracting consortium
  - Bid specifications and parameters
  - Potential locations for the delivery of the consortium's materials.

- ***Target High Volume Food Waste Generators***
  Identify high-volume food waste generators to target for increased diversion by creating a list based on specific NAICS and/or SIC codes and number of employees. The District should contact the high-volume food waste generators identified to determine their interest in diverting food waste. A survey to collect data and information from the high-volume generators should be prepared in advance of contacting the generators. The District could then assist the companies with establishing a food waste diversion program.

- ***Facilitate Food Rescue Program***
  Facilitate collaboration among entities that generate food waste and those that rescue food waste (such as Oberlin Community Services). The District could host a workshop with community groups that provide food rescue programs. The goal of the workshop and any subsequent programming would be to connect groups that provide food rescue services with generators that need their services, as well as educate entities that are able to donate food about the legal protections that exist concerning food donation (such as 42 U.S. Code § 1791 - Bill Emerson Good Samaritan Food Donation Act).

- ***At-Home Compost Education and Compost Bin Sales for Residents***
  The District could consider providing workshops for residents to compost at home and provide options to purchase home composting vessels at a reasonable or discounted rate. The Cuyahoga County Solid Waste Management District is the District's neighbor to the east. Cuyahoga County operates a similar program. The District could engage with Cuyahoga County to see if there are opportunities to piggyback on

purchasing residential composting vessels using the District's special pricing.

- ***Target Commercial Sector Fiber Generators***
  Target commercial sector generators of fiber to increase diversion. Specifically, the District should develop measurable statistics from a baseline to evaluate the success of a targeted program. The District could meet with fiber recyclers face-to-face to discuss opportunities for expanding fiber-collection infrastructure to commercial sector.

  The District could also investigate the feasibility of establishing its own fiber drop-offs using municipal facilities. These could serve small businesses and multi-family residents.

SECTION H-5. Economic Incentive Analysis

In accordance with Goal 6 of the 2009 State Solid Waste Management Plan, the District is required to explore how to incorporate economic incentives into source reduction and recycling programs. For this analysis, the existing economic incentives that the District offers to encourage people to recycle will be evaluated. The District offers several programs which directly or indirectly provide economic incentives for greater recycling or waste reduction.

A. Existing Volume-Based Programs

The District currently has Pay-As-You-Throw (PAYT) programs in almost every municipality, village, and township in the District. Some of the townships allow the residents to opt out of their contracted programs. The PAYT program is cart based where residents can choose the size trash cart with differential costs for each size container. Container sizes are standard 96-gallon for trash at the outset of the program and 64-gallon container for recycling. In some communities, senior citizens are provided a smaller cart. The cost differential was a requirement when communities initially rolled out their PAYT programs and is a contractual requirement of the Consortium which includes 11 communities. Trash is limited to the cart and collected weekly along with recyclables. There is a mix of managing the collection costs for trash, recycling, and in some cases yard waste. Cities can collect the costs through the utility bills.

1. Analysis and Evaluation

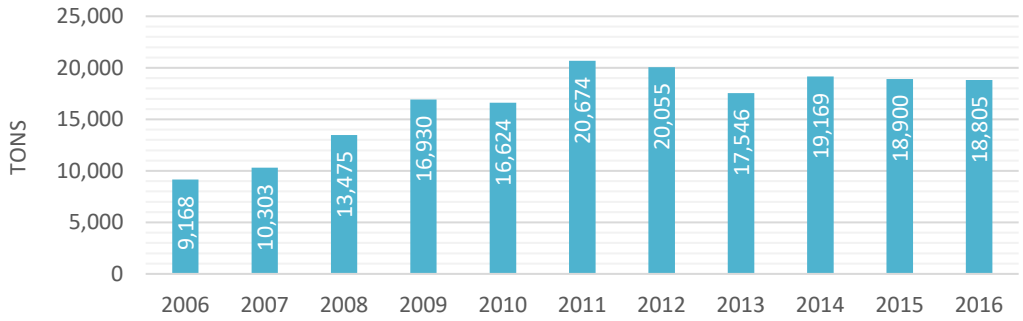
During the initial rollout of the PAYT programs, residents had a choice of two or three cart sizes. Since the rollout, the District does not have a clear understanding of the number and types of carts out in each community. Obtaining a clearer picture of the operations in each community may be difficult as haulers are private sector and may not provide the data. Two cities operate hauling operations where data may be easier to obtain. It will be necessary to evaluate each of the community's programs in a partnership with the recycling coordinator from each community. Knowing the number of carts and opportunities for residents to exchange either to smaller or larger carts should be examined.

In addition to cart size concerns, the District is very aware that contamination in the recycling cart causes issues with processing and the value of recyclables. The District should evaluate programs in the municipalities and townships to analyze the amount of contamination that exists. In addition, an effort to properly educate the residential community on the proper materials to recycle and materials that are unacceptable should also be a part of the District outreach.

2. Conclusions, Strengths, and Challenges

Initial data from the conception of PAYT programs in Lorain County have consistently shown a dramatic increase in recycling. Some communities exceeded 100% increases. Dramatic growth in recycling from 2006 to 2016 is shown in the following figure.

Figure H-5.1. 2006-2016 Curbside Recycling Totals



Note: All communities except the City of Lorain transitioned to a cart-based PAYT program in 2011. The City of Lorain transitioned in 2017.

Now that the program, in some cases, are almost a decade old, the recycling numbers are not increasing in every community; in fact, in some community's year-to-year change there is a decline. There are many potential reasons for this occurring including lack of education, the incentives are not clear to the resident now that the program is in place, and a lack of promotional campaigns.

Strengths

- The District invested in developing the PAYT programs.
- The District established standards for the implementation of PAYT programs.
- The District initially prepared guidelines for communities to follow.
- The District provides incentive funding for communities that implement PAYT.
- The Consortium bid clearly leverages three sizes of carts for trash and no cost for recycling.

Challenges

- There is little to no monitoring of the program. The District needs "boots on the ground" to help each community.
- Residents that include contaminated recyclables or trash in the recycling bins are not educated about the proper methods for recycling.

- The District lacks data on the number of carts and sizes per community.

- The District needs to work with the recycling coordinators to improve program performance and education outreach.

- Recycling coordinators and District staff should find opportunities and approaches to work together to promote program improvement.

B. Grants/Financial

The District provides several grants and a financial loan program which provide incentives to municipalities and townships to target different audiences encouraging the implementation of recycling or promoting increased recycling. These include the following:

- State of Ohio Recycling Market Development Grants
- Revolving Loan Program
- District Market Development Grant
- Community Incentive Grant Program
- Glass Recycling Grant Program
- Multi-Family Housing Unit Grant Program
- Yard Waste Incentive Grant

1. Analysis and Evaluation

a. State of Ohio Recycling Market Development Grant

The District applies to Ohio EPA annually for various grant funding. In 2016, the District applied for and received the following grants:

- Scrap Tire - $12,000 – Farm Tire Collection Event
- Barnes Nursery - $66,538 – food waste trucks and containers

These grants help the District to continue to develop and/or expand programming for specific waste materials.

b. Lorain County SWMD Revolving Loan Fund

The District operates a Recycling Revolving Loan Fund (RRLF) for businesses and organizations (including non-profits) that utilize post-consumer recyclable materials either in their building materials or in their manufacturing processes. The fund contains $500,000 that is available to Lorain County businesses. The objectives of the RRLF are:

- To promote recycling business opportunities;
- To provide additional markets for recycled materials;
- To retain or create recycling related jobs; and
- To increase manufacturing capacity for recyclable materials in Lorain County by working with existing businesses and attracting new businesses to the region to utilize the recyclable materials collected locally.

In 2016, there were no applications for new loans, however one loan remained active during the year.

c. Lorain County SWMD Market Development Grants

These grants are promoted throughout the year at District presentations and on the web. The grants target solid waste recycling and reuse. Six grant applications were received and three were funded.

- Habitat for Humanity – $12,347 – Containers for overflow recycling items and energy efficient blinds.
- Columbia Local School District – $1,270 – Park Benches.
- Grafton Mid-View Public Library – $549 – Community Garden.

d. Community Incentive Grants

The District operates an annual Community Incentive Grant program to encourage political subdivisions with curbside recycling to continue or improve their programs. To participate in the grant program, political subdivisions are required to submit recycling and compost tonnage information to the District's online data collection system, Re-TRAC Connect.

Diversion tonnage submitted by political subdivisions participating in the grant program are reviewed for accuracy and cross-checked against totals submitted to the District by each community's hauler. The District divides the total funds available for the grant program by the quantity of creditable tons reported by communities and

determines the per ton value. The level of funding available for the grant program is based on a formula dependent on disposal fees collected by the District.

Political subdivisions that recycle more are eligible for larger sums of grant funding. For 100% of a political subdivision's reported recycling tonnage to count, the political subdivision must operate a non-subscription curbside recycling program in conjunction with a pay-as-you-throw or volume-based disposal system. This system is considered to be the most effective method for maximizing recycling and participation rates for the residents in single-family housing units. Annual incentive grant funding is determined in the first quarter of the year based on the previous 12 months revenues (checks received January through December minus dollars rebated through the Agreement to Republic Waste). The table below illustrates the availability of grant funding based on County revenues.

Table H-5.1. Community Incentive Grant Funding Availability

County Revenues	Available Grant Funding
$2 million to $2.1 million	$200,000
Over $2.1 million to $2.2 million	$225,000
Over $2.2 million to $2.3 million	$250,000
Over $2.3 million to $2.4 million	$275,000
Over $2.4 million to $2.5 million	$300,000
Over $2.5 million to $2.6 million	$335,000
Over $2.6 million to $2.7 million	$370,000
Over $2.7 million to $2.8 million	$405,000
Over $2.8 million to $2.9 million	$445,000
Over $2.9 million to $3.0 million	$485,000
Over $3.0 million to $3.1 million	$525,000
Over $3.1 million to $3.2 million	$575,000
Over $3.2 million to $3.3 million	$625,000
Over $3.3 million to $3.4 million	$675,000
Over $3.4 million to $3.5 million	$735,000
Over $3.5 million	$60,000 for each $100,000

In 2016, the District provided approximately $300,000 in Community Incentive Grants to cities, villages, and townships in Lorain County. The purpose of the grants was to provide local governments with financial support to expand or enhance residential recycling programs. Available funding for individual communities ranged from $259 to $44,593.

The City of Lorain voted in 2016 to upgrade their manual curbside collection and blue bag recycling system to automated collection for waste and recycling. The new system was rolled out in April of 2017 with a two-cart system for each single-family household.

e. Glass Recycling Grant Program

The District made several attempts to get this grant program underway. Unfortunately, glass markets in northeast Ohio made it difficult to secure a processor. The District held several meetings with glass recyclers and Ohio EPA. It was decided by the Policy Committee that the District will not focus on glass in this Plan Update. If markets change and processing capacity for a glass separation program for commercial entities becomes more economically feasible, the District will revisit this grant program.

f. Multi-Family Housing Unit Grant Program

The District's grant program including working with apartment property managers to implement a recycling program in an apartment complex or multi-family complexes. The recycling program could include the following:

- Containers for residents to collect recyclables in their household.
- A contract with a hauler to place a recycling dumpster at the multi-family complex.
- An education program to prepare residents for the recycling opportunity.

The District attempted to contact apartment complex managers through either a survey or advertising program. Eligible apartment complexes would be eligible for one year's recycling support including the cost for homeowner containers and the collection costs of recyclables. The requirement would be that the apartment complex would sign a three-year agreement with the hauler for the service. Year one would be covered by the District; years two and three would be covered by the apartment complex. Funding is allocated at $35,000 per year.

The advertising and contacts to find a sponsor in this area were unsuccessful. One city showed interest in the grant, but the grant application never materialized. The District will need to refine the program to attract participants. Through discussions with adjacent SWMDs, similar multi-family housing unit programs were unsuccessful and encountered numerous challenges. Other Districts have voiced that programs specific to MFH units were time consuming and unsuccessful, and it may be prudent to invest in drop-offs to service this sector when working with limited resources. If the policy committee decides to continue pursuing this program, the District can

revisit conversations with adjacent SWMDs to gather additional information and suggestions.

g. Yard Waste Incentive Grant

The District postponed the launch of this program because the Organics Facility was not constructed. In 2017, the feasibility of the organics facility was evaluated. The District is going to reevaluate an organics facility in 2019. If the study should show the project is economically feasible and the authorization is given to build and operate then this incentive grant program will potentially begin in 2019/2020.

2. Conclusions, Strengths, and Challenges

The seven grant programs have provided economic incentives for several specific solid waste materials and generation sectors. As with any program that has been in place for a while, there are areas for improvement and change. Ultimately there are programs in place that have not been as successful as originally intended. Other grant programs await the completion of facilities before being activated. Moving forward there will be decisions made to continue grant programs with appropriate refinements or discontinue with the approval of this Plan Update.

District staff may also consider grants for plastic to oil conversion (pyrolysis) and anaerobic digestion for organics, food waste, manures, and fats, oil, and grease. Current energy costs and other market conditions impact these potential projects. The District will continue to meet with companies interested in developing these new technologies to explore options to divert more solid waste material from disposal. The adjustments will be included in *Appendix I*.

Strengths

- The District has several grants focused on reducing waste and increasing recycling.
- Grant funding helps communities maintain a focus on their curbside recycling programs.
- Incentive grants are tied to tons recycled.
- Funding for incentive grants are tied to revenues received by the District and not negotiated annually.

- District provides loan funds for recycling equipment to encourage manufacturing using recycled materials.

Challenges

- Ensuring the appropriate audiences are aware of grant and loan opportunities.
- Ensuring less populated communities receive adequate funding.
- Completing organics project to determine likelihood of District facility to provide yard waste grants to communities.
- Finding processors for certain materials such as residential glass recycling.
- Requirements for monitoring the curbside programs to ensure they meet District requirements.
- As the solid waste materials change, the District must be able to adjust programs to achieve maximum diversion.

SECTION H-6. Restricted and Difficult to Manage Waste Analysis

The District has emphasized the proper management of difficult to manage wastes with the establishment of the Lorain County Collection Center (Collection Center). The Collection Center was developed as a part of a previously ratified Solid Waste Management Plan. For many years, the District held one day collections for household hazardous waste (HHW), electronic waste (E-Scrap) and tires. While these programs were successful, they were no longer a cost-effective way for the District to offer these services. Late in 2009, the District leased a significant portion of a Lorain County Port Authority-owned building for the purpose of establishing a permanent drop-off facility for hazardous waste materials. The building was completely remodeled to accommodate the District's needs. The Collection Center is designed to be a drive-through for residents delivering their HHW, fluorescent bulbs, E-Scrap, tires, books, cardboard, recyclables and other difficult to manage materials. The Collection Center is open 12 pm - 6 pm on Mondays and Wednesdays and 9 am - 6 pm on Saturdays.

Many factors were considered in the Collection Center design process including: health and safety for employees and patrons, ample space for sorting/staging and packing materials, along with the ability for vendors to easily access the loading docks to pick up the trailers of materials. The District was conscientious of not having a negative impact on neighboring residents and businesses. As a result, the District has never received any complaints. This facility enables residents to not only divert materials from the landfill but also properly dispose of household hazardous waste materials. It was important to have the Collection Center maintain the delivery and storage of accepted special waste in-house. Residents arrive at the facility and pass through the entrance and long corridor where they are instructed to move forward carefully to the drop-off zone.

The Collection Center was awarded the 2013 & 2017 Bronze Award from the Solid Waste Association of North America (SWANA) for Special Waste Collection. The Collection Center continues to evolve with new services for residents and expansion of its programs in addition to the volume of participants. The District is now servicing over 15,000 vehicles per year through the Collection Center. The layout of the facility is included in **Figure H-6.1** and **Figure H-6.2**.

Figure H-6.1. Inside Site Layout

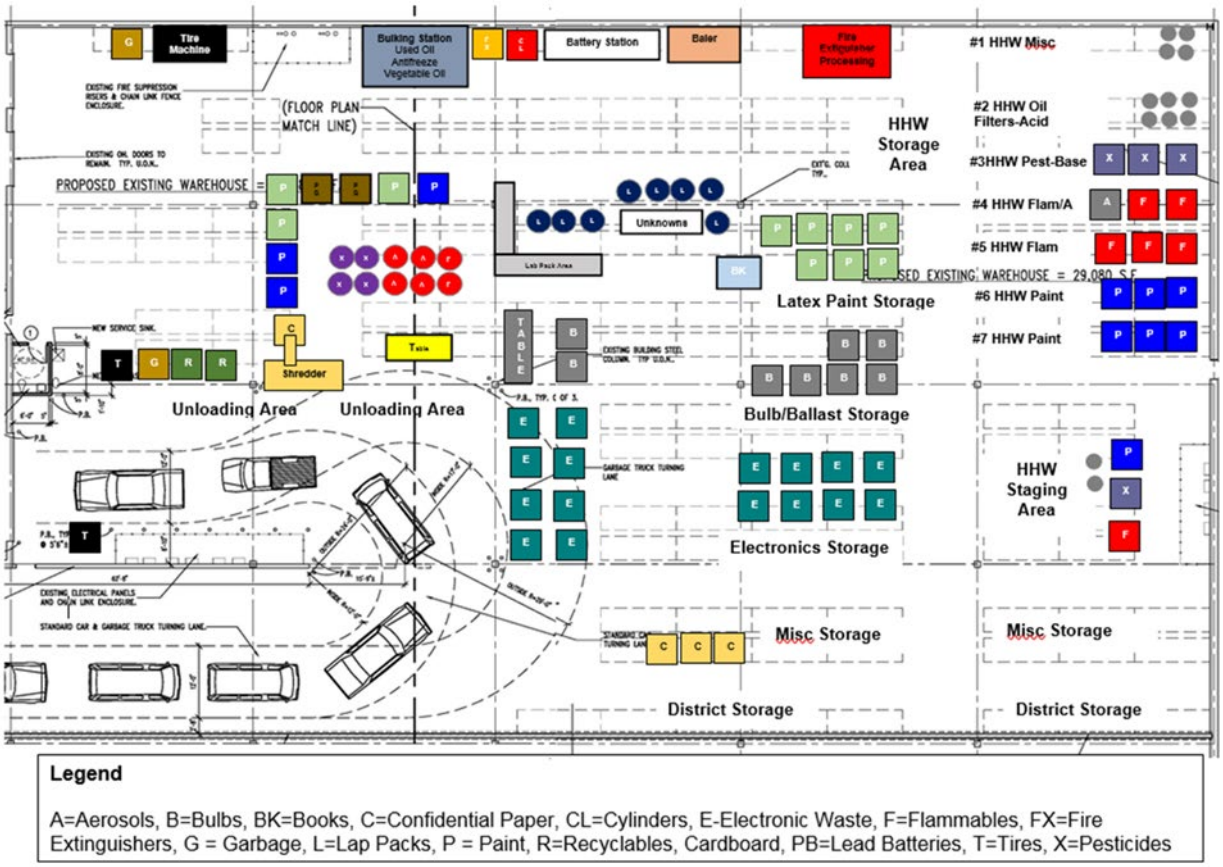
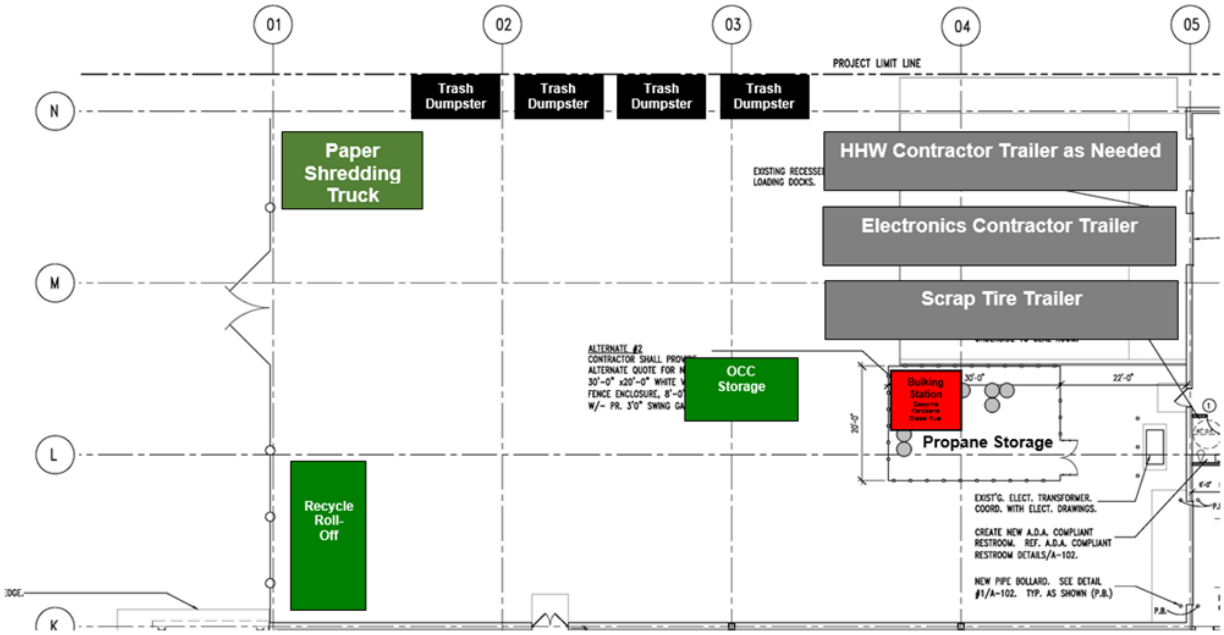


Figure H-6.2. Outside Site Layout



The careful management of the materials brought to the Collection Center has kept costs and labor under control and has allowed the District to expand services in recent years. The facility now accepts:

Corrosives

- Acids, Caustics, Rechargeable Batteries, Button Batteries, Hydraulic Brake Fluid

Flammables

- Latex-Based Paints/Stains/Sealers, Oil-Based Paints/Stains/Sealers, Aerosol Cans, Turpentine, Paint Thinner, Adhesives, Solvents, Oven Cleaners, Lighter Fluid, Butane Lighter Fluid, Oil Filters, Propane Tanks (Up to 33-Pound Only), Oxygen and MAPP Gas Cylinders

Reactives:

- Fertilizers, Pool Chlorine, Oxidizers

Toxics:

- Household Bleach, Antifreeze, Herbicides, Pesticides, Mercury & Mercury Devices, Roofing Tar, Concrete Sealers, Fire Extinguishers

E-Scrap:

- (Computers, TV's, & Other Electronics) Personal Computers (CPU), Video Monitors (CRT), Flat-Screen Monitors, Mice, Keyboards & Joysticks, Printers, Plotters & Scanners, Hard Drives & Tape Drives, Computer Speakers, Diskette Drives & CD Drives, Data Terminals & Modems, Servers & Network Hardware, UPS Systems, Cables & Circuit Boards, Software, Tapes, Diskettes & CD's, Desktop Office Equipment (Typewriters, Calculators, Fax Machines, etc.), Household Televisions (Up to 27" Only; No Large Console TV's), Home Audio Equipment, Microwave Ovens, Smoke Detectors, Reference Manuals & Books, All Refillable Printer Cartridges, All Cell Phones (with battery, charger and other accessories preferred)

Scrap Tires:

- (Limited to 10 Tires): On-The-Rim / Off-The-Rim, Tires up to 20" Rim Diameter, All Bicycle & Motorcycle Tires

Fluorescent Lamp & Ballast:

- Straight Fluorescent Tubes, All Lengths (including green-tipped tubes), All U-Shaped, Circular and Odd-Shaped Lamps, Compact Fluorescent Lamps (CFL), Neon Lights and Signs (Tubing Only), High Intensity Discharge (HID) Bulbs, HPS, MH & MV Ballasts & Transformers from All Fluorescent Light Fixtures

The Collection Center does not accept:

Ammunition, Explosives, Road Flares

Biomedical / Infectious Waste / Pharmaceuticals

- Residents are directed to participating police stations that have drop off boxes in their lobbies for pharmaceuticals. The Drug Enforcement Agency has collections twice each year in cooperation the local drug task force. Residents are also advised of the proper method for the disposal of sharps and are referred to the Lorain County Health Department for all other medical items.

All Appliances (Except Microwaves)

- Lorain County residents are directed to Blue Star metals or Sugar Ridge scrap yards. Blue Star has a freon recovery and can accept refrigerators. Residents have to deliver the appliance to the appropriate location. Ohio Edison offers a program to pick up the appliance and provide $50 rebate.

Non-Fluorescent Lamps

- (Incandescent Household Bulbs, Spotlights, Headlights, etc.)

Tires (with a Rim Diameter Greater than 20")

Radioactive Materials (Except Smoke Detectors)

Asbestos in Any Form (Loose or Encapsulated)

Construction Debris

- (Shingles, Treated Lumber, Railroad Ties, Carpeting, etc.)

Televisions (with a Width Greater than 27")

- Console Televisions – Best Buy will accept up to 32 inches but residents must call first for program details and learn about the fee charged.

Furniture, Carpet & Mattresses

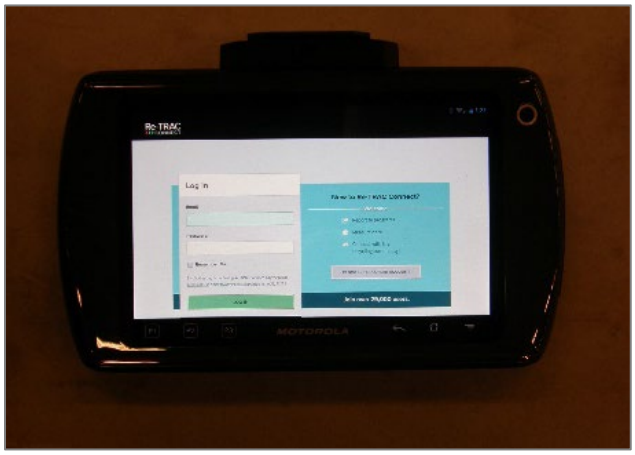
- The useable materials are directed to Habitat for Humanity Restore and not managed by the District.

The District has taken a forward-thinking approach to create a revenue stream for materials that can be sold directly. This helps to offset the facility's overall operating expenses.

Because of the ever-increasing participation and positive community feedback, the District is now in the process of expanding our footprint within the building. The modifications will include re-routing the driver's exit lane which will give additional space to staff for unloading vehicles and sorting materials for processing along with more storage rack space. Two classrooms are to be added for presentations to students from area schools on the importance of recycling and its impact on the environment. There will also be a baler room for staff to offload the shredded paper from our mobile document shred truck and bale the material onsite. This will then be stored and sold in volume by the truck load. This shows how the District has been able to evolve as the communities needs change or materials market changes.

A. Equipment, Systems, and Technologies

Special consideration was given to ventilating and cooling, and emergency evacuation of dangerous fumes. These were addressed by a single custom-designed system. Strategically-placed holes were cut into the outer walls - holes that are each five feet square in size, covered in heavy steel mesh on the outside, and equipped inside with a set of electrically-operated louvers. Each set of two louvered openings is remotely-controlled and linked to one of two powerful exhaust fans mounted on the roof. The fan in the center draws air in through the openings on the far wall, then up and out at ceiling level. The second fan, using a large ceiling-to-floor duct, draws fresh air at floor level across the unloading zone and the HHW sorting area and through the entire length of the entrance lanes. Two electrical control panels allow the staff to manually activate either or both systems as needed. A third control panel, entirely computerized, monitors three sets of sensors located throughout the building. One set detects the excessive presence of carbon monoxide; the second set does the same for nitrous oxide. This protects the staff and the public from a buildup of automotive exhaust gases. The final set of sensors will start the fans if the ambient temperature in the working area exceeds a programmable limit (currently set at 80 degrees F). This provides automatic cooling on hot summer days.



District employees assigned to work at the Collection Center greet the residents during hours of operation and empty the special wastes from the vehicles. Residents are asked to provide their driver's license to verify that they are Lorain County residents. Staff then swipe the license through a hand-held device to log resident's information and the type of materials brought to the Collection Center. The electronic tablet was added to the center in 2016; the District developed the software in partnership with Emerge Knowledge

creators of the Re-TRAC System. The software allowed the District to monitor the data of community participation. The database is now showing additional value because it allows staff to monitor if the facility is receiving illegally dumped materials by businesses trying to dispose of scrap tires or other materials not accepted from businesses. As part of the building expansion, the District will also upgrade the software utilized by the tablets to be Windows based.

Once removed from vehicles, special wastes are separated by type of material. HHW materials are separated by type of material and placed in appropriate containers for shipping. Similarly, bulbs and ballasts are sorted and placed in shipping containers. The facility design includes rear docks where tires can be directly loaded onto trailers to transport to scrap tire recycling facilities.

The contractor ensures that District personnel are properly trained to store materials in the correct containers and that unidentified materials are segregated for later identification by the vendor.

The following equipment is used at the facility:

- Bobcat
- Automated Stretch Wrap Machine
- Hydraulic Cardboard Baler
- Electric Floor Sweeper and Floor Scrubber
- Pallet Jack
- Gaylord Containers
- Rack Storage System
- Transfer Trailers
- Fork Lift with Accessories
- Tire Rim Changer

The automated stretch wrap machine has increased efficiency and lowered supply costs. Speed has increased in wrapping materials for shipment. Loads are more secure and use less wrapping material than if done manually. The forklift provides the facility efficiency in storage of product and spacing. Trailers pulled to the back dock allow for the immediate loading of scrap tires and shipping once the trailer is loaded. The cardboard baler eliminates the need to flatten boxes and allows for the baling and selling of cardboard. The tire changer allows staff to safely remove the rims from tires dropped off at the Collection Center. Rims are then taken to a local scrap yard and sold. The floor sweeper and scrubber allow for a high level of cleanliness and maintenance.

Each of the special wastes is managed with a concern for the environment and human health. This includes:

- Oil based paints are recycled into a fuel. Latex based paints are recycled into useable paint.

- Corrosive materials and reactives are neutralized and they are landfilled after they are determined to be non-hazardous.
- Toxics are incinerated.

Household hazardous waste is sorted and packaged to carefully ship materials to the District's contractor. Household hazardous wastes are processed at the contractor's facility.

E-Scrap is collected and processed by the District's E-Scrap contractor. Other materials are scrapped for their metals, plastic, and glass and are recycled.

Tires are collected and processed by the District's Scrap Tire vendor. The tires are shredded and returned to commerce as playground and track surfaces, tire derived fuel, and other products.

B. Lorain Collection Center Statistics

Figures H-6.3 - H-6.15 provide seven years of statistics for the Collection Center programming. Tables provide information on the tons of materials collected and their associated costs for operating.

Figure H-6.3. Grand Totals - Multiple Year Summary

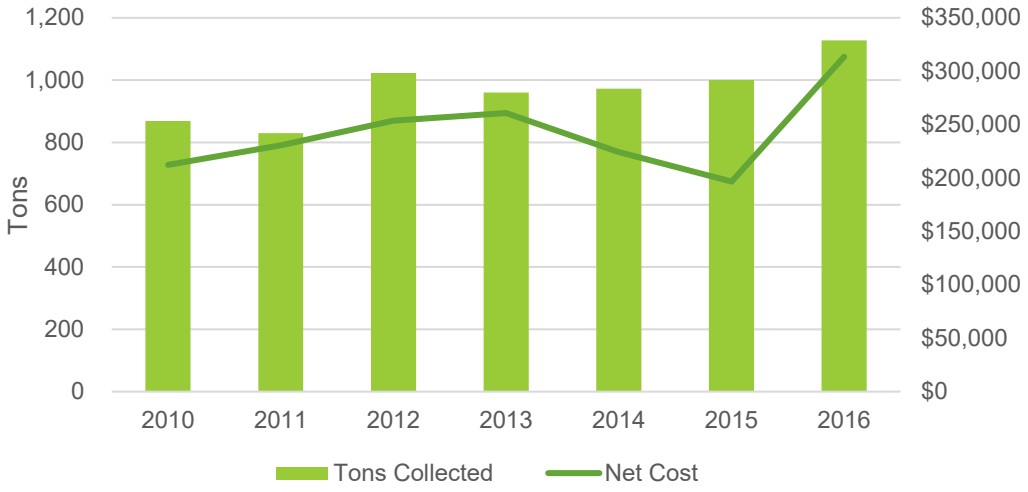


Figure H-6.4 presents the e-scrap collection program totals. Prior to 2015, the District paid a per pound processing cost for electronics. After 2015, commodity

markets changed and the District was able to start generating a revenue from the electronics (which is not reflected in the following table- revenue information is captured in Appendix O). Because electronics were more valuable in 2015 and 2016 than they had been in previous years, the costs dropped significantly to $107 and $777, respectively. Program costs includes palletizing and transportation costs.

Figure H-6.4. E-Scrap Collection Program

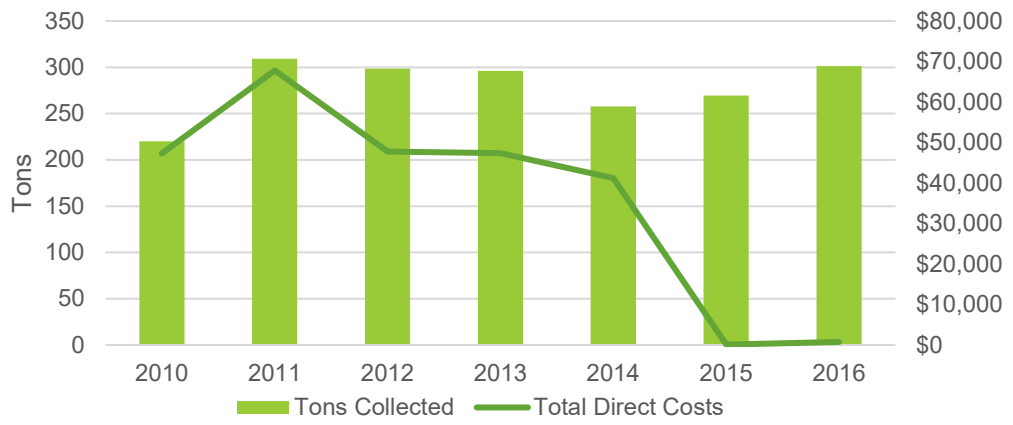


Figure H-6.5 presents the household hazardous waste collection program totals. Per pound processing costs were rising but fairly steady from 2010 to 2014, ranging from $0.28/pound in 2010 to $0.34/pound in 2014. In 2015 and 2016, per pound costs increased to $0.59 and $0.70, respectively. The notable per ton cost increase from 2014 to 2015 is somewhat misleading; prior to 2015, latex paint tonnage and costs were previously included in the HHW category. The per pound cost of processing paint is approximately $0.05/pound. The District collects a significant amount of paint (in 2015, 110 tons were collected). By including latex paint in with HHW, it artificially drove down the average per pound processing costs.

Figure H-6.5. Household Hazardous Waste Collection Program

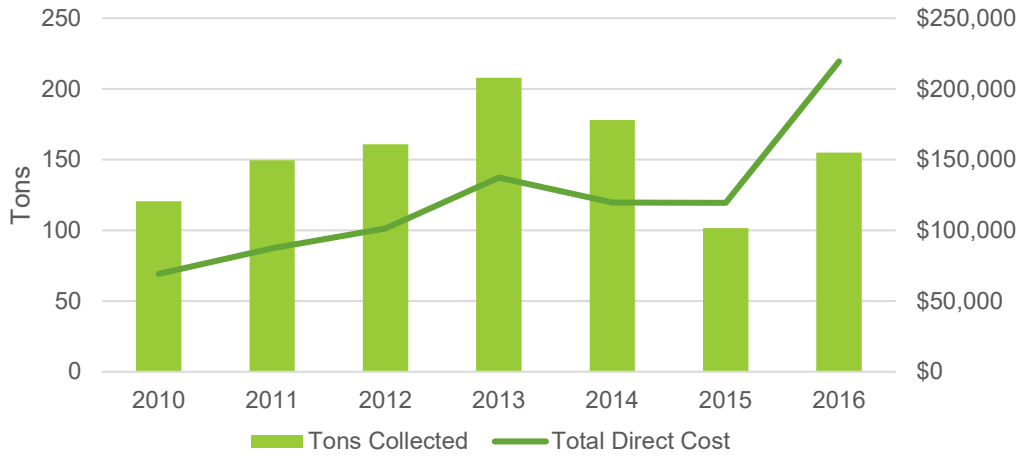


Figure H-6.6. Books & Paper Collection Program

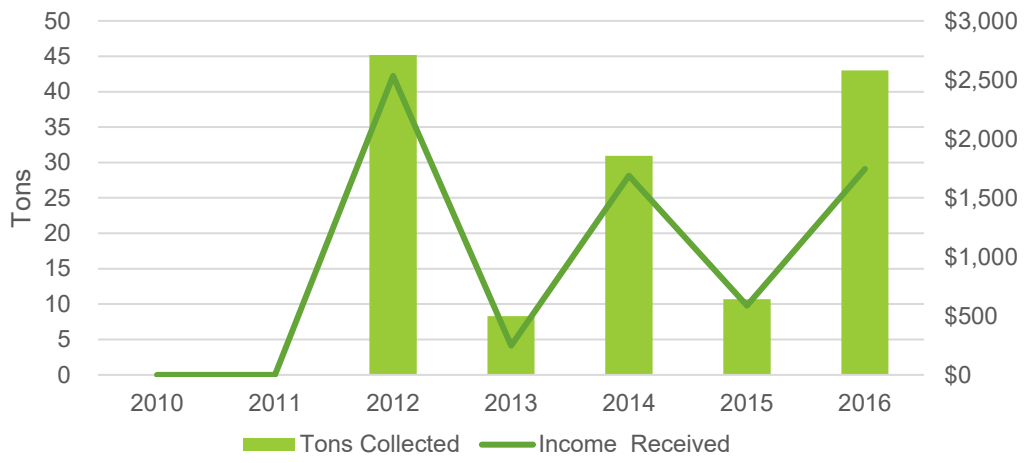


Figure H-6.7. Baled Corrugated Cardboard (OCC) Collection Program

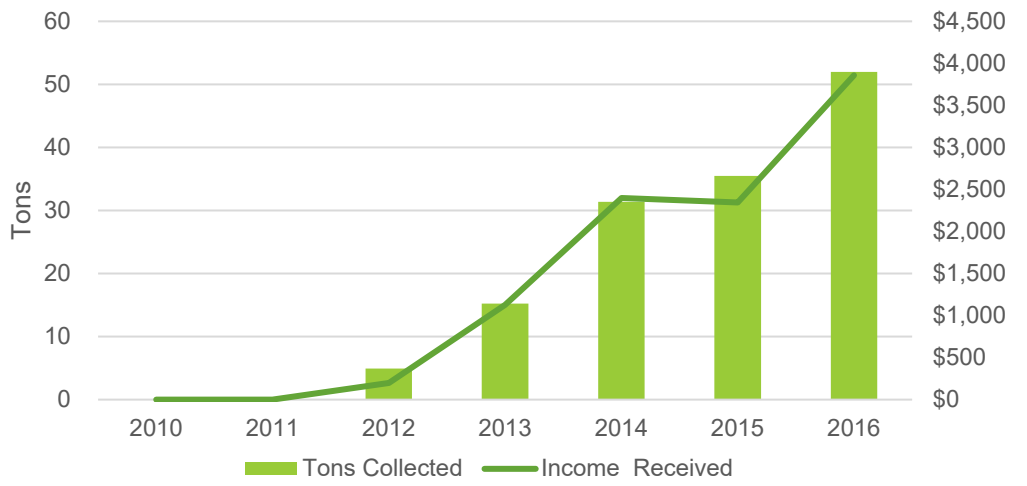


Figure H-6.8. Scrap Metal Collection Program

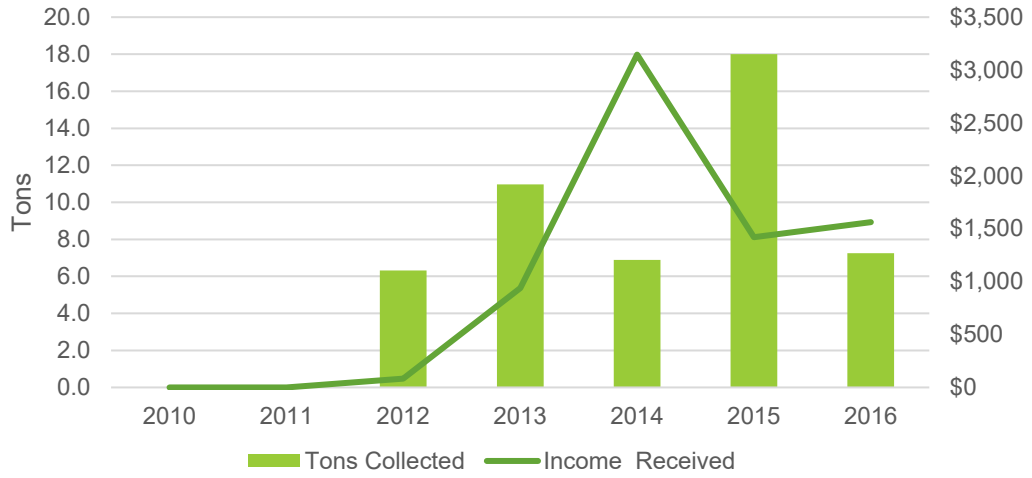


Figure H-6.9 presents the scrap tire collection program totals. Per pound processing costs increased significantly between 2015 and 2016. Per pound costs increased

from $0.06 in 2015 to $0.08 in 2016. The tons of scrap tires collected only increased 2% from 2015 to 2016, but program costs increased 47%. The rising program costs are due to the vendor increasing collection and processing costs. For example, agricultural tires were $210/ton in 2015 and $300/ton in 2016, with an additional inbound freight charge of $200 per trailer. The District will continue to obtain competitive bids for collection and processing costs, but the tire market in this region is dominated by one service provider.

Figure H-6.9. Scrap Tire Collection Program

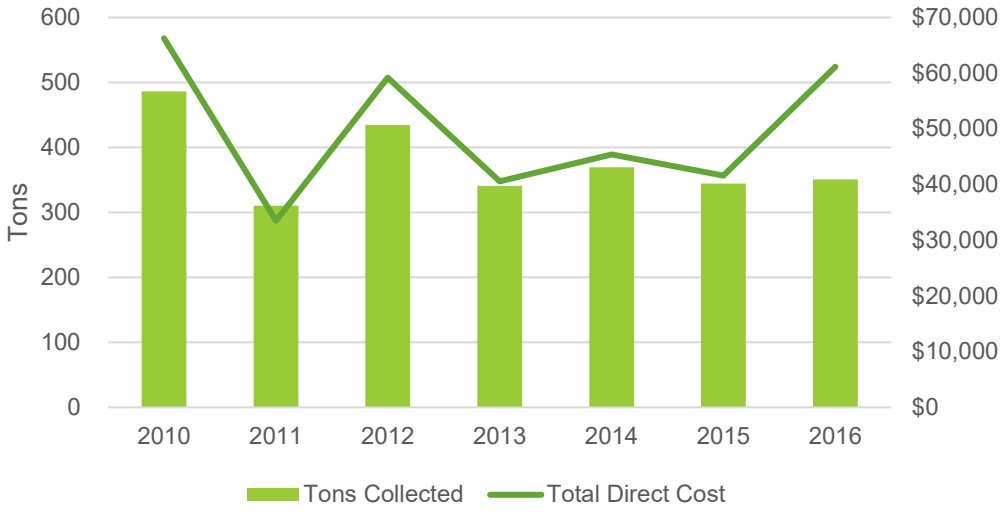


Figure H-6.10. Curbside Recyclables Collection Program

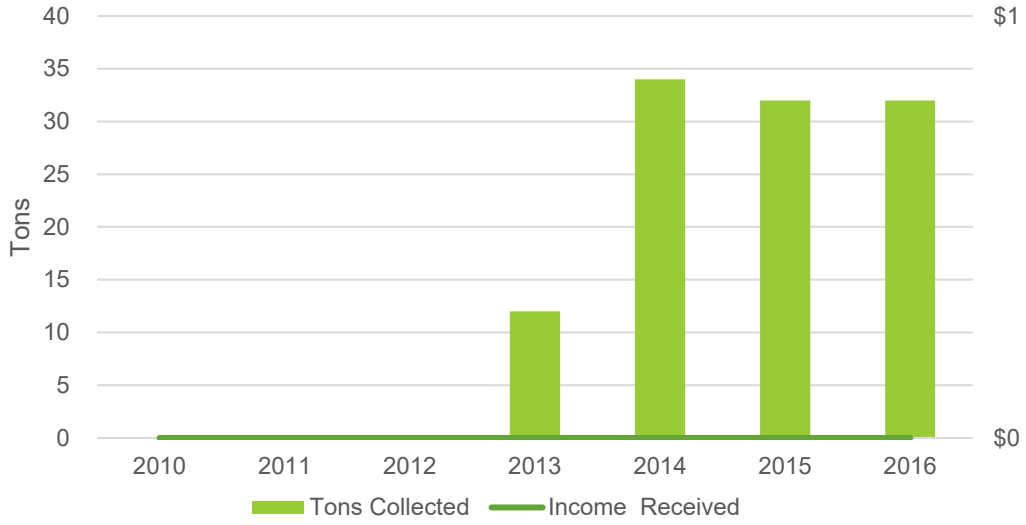


Figure H-6.11. Latex Paint Collection Program

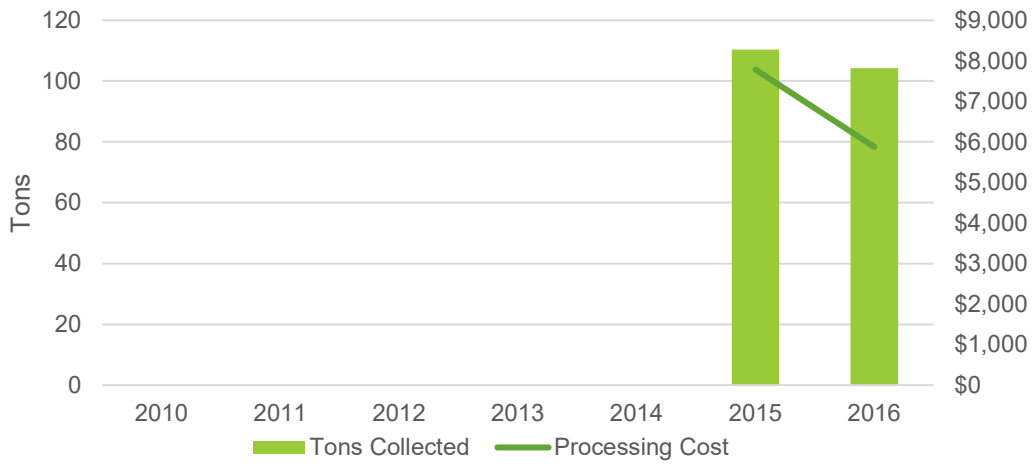


Figure H-6.12. Anti-Freeze Collection Program

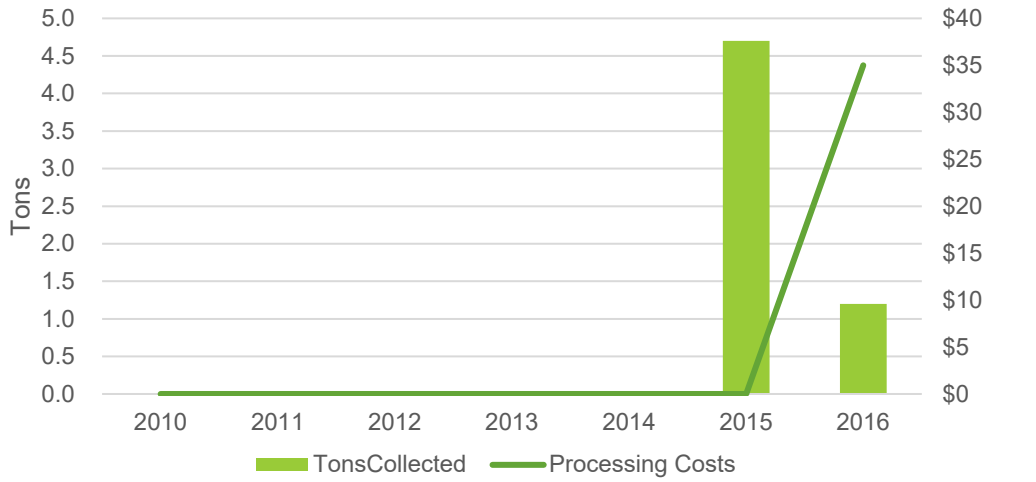


Figure H-6.13. Motor Oil Collection Program

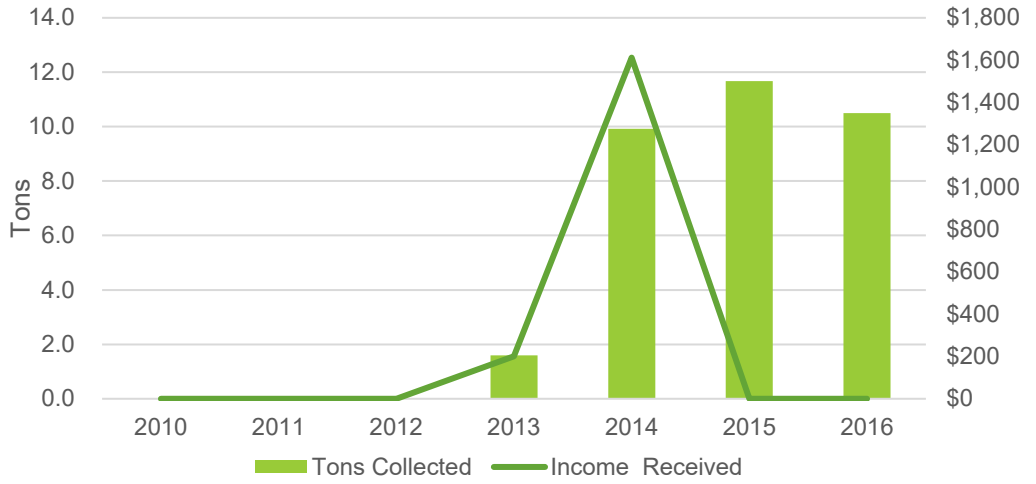


Figure H-6.14. Vegetable Oil Collection Program

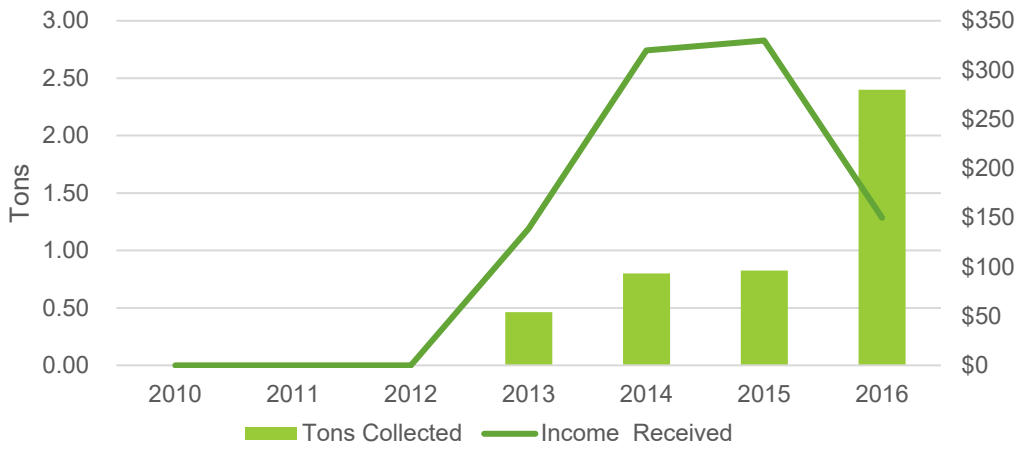
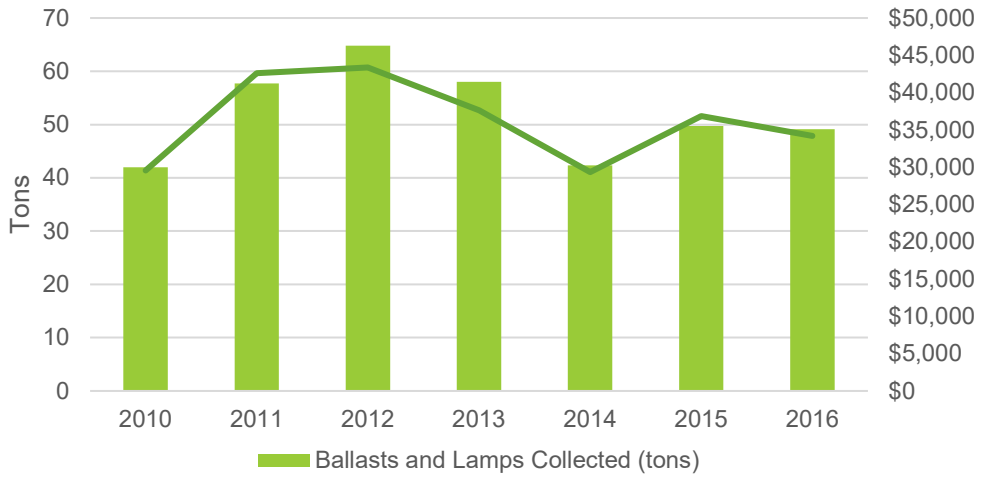


Figure H-6.15. Bulb & Ballast Collection Program



3. Analysis and Evaluation

The creation of the Collection Center changed how Lorain County manages difficult, restricted, and special materials. The early operations for one-day collection of HHW were more expensive and did not provide the convenience that a year-round facility offers. The Collection Center is truly a public-private partnership with the County operating the facility and working with numerous private sector vendors to process and return many of these special materials back to commerce or use as alternative fuels.

More than two million pounds of materials were diverted and recycled in 2016. There have been continuous increases in the volume of materials managed since the facility opened almost eight years ago. The annual costs for the operation of the facility are carefully managed, and the District is constantly evaluating the relationships with their vendors to increase efficiency.

4. Conclusions, Strengths, and Potential Initiatives

Strengths

- It provides service throughout the year to all Lorain County residents.
- Local businesses are also provided collection service for fluorescent bulbs, ballasts, cardboard, books, paper and e-scrap.
- The County provides the labor force.
- The County retrofitted an old commercial building that hosted few tenants. This was a classic reuse/repurpose of an existing and previously unused site.
- The facility has ample space to expand programs.
- The facility does not compete with the private sector and is a partner with several private sector businesses.
- The Collection Center provides sensitive, personal document shredding services for residents.
- The Collection Center has collected agricultural tires during special collections.
- The programs have created a revenue stream by selling books, cardboard, lead acid batteries, printer cartridges, recyclable paper, scrap metal, and vegetable oil.

Potential Initiatives

The District recently conducted a comprehensive evaluation of the Collection Center. A list of priorities and recommendations were provided to the District Director and management for review. This list is included below with the current status of each of the recommendations and challenges.

Residential Surveying and Acceptance of Materials

Recommendation	Approval	Priority	Status
Add new language to electronic survey system for residents to certify materials delivered are residential only. Language should be accompanied by a signature by the resident. Suggested language: I certify that the HHW materials I have brought today are from a residential household from Lorain County and were used for residential purposes. The materials were Not brought from or used for commercial, industrial, government, medical facility/office, church, non-profit, school/university, or farm/agricultural purposes.	Yes	High	In Progress
Create a sign that is visible by participants in the loading area that depicts the unacceptable materials.	TBD		
Ensure that the web site and handout materials match on acceptable and unacceptable materials and all staff are aware of the details. Special agreements with communities and or other organizations should be communicated to the staff so they know whether to accept non-household materials.	Yes	High	Completed
Update handheld survey system for user-friendly operation as submitted to Brandi by Chris in previous communications	TBD		

Confidential Paper Shredding

Recommendation	Approval	Priority	Status
Revise old procedures to include options for shredding immediately if requested by resident and for new mobile collection program. A new procedure has been drafted and sent to the District for review.	Yes	Medium	In Progress
Only have 2 keys available for locked carts (1 for team leader and 1 for Unloader). Do not hang on the column.	Yes	Medium	
Purchase a new shredder for the Collection Center.	Yes	Medium	In Progress
Position loaded confidential paper carts in main Collection Center area (Aisle 1) until shredding occurs. Do not store in cold storage area.	Yes	Medium	Complete

HHW Packaging

Recommendation	Approval	Priority	Status
Conduct annual training for all HHW staff.	Yes	Annual	2018 to be scheduled
Initial training occurred on August 11, 2017.	Yes	High	Complete
Move cleaner storage tables from dock side of packing area to opposite side for safety reasons. Move paint to old cleaner area.	Yes	High	Complete
Move rechargeable battery sorting area to north wall and reorganize bulb area to make room for acids/caustics, pool chemicals, and oxidizers.	Yes	High	Completed
Dispose of drywall compounds as normal trash. Possibly disposal of accumulated drywall compound as a one-time shipment if needed as special waste.	Yes	High	In Progress
Discharge fire extinguisher powder into bags (not drums) and dispose as normal trash in small quantities over time.	Yes	Medium	In Progress
Develop fire extinguisher management plan.	Yes	Medium	In Progress
Use cardboard box stapler instead of tape to close oil-based paints' cubic yard boxes.	Yes	Medium	Getting Quotes
Minimize use of vermiculite for loose packs and only use for lab pack materials.	Yes	Medium	Complete
Do not throw HHW into drums or boxes. Place into each container and stack neatly to maximize container capacity.	TBD		
Do not use pallets for HHW drums, only boxes. This operation would require, if accepted by District, a new drum handling system. The following is suggested for consideration: http://drum-handlers.liftomatic.com/viewitems/forklift-mounted-drum-handlers/heavy-duty-forklift-mounted-drum-handlers	TBD		
Have Ross return pallets from HHW shipments or pick up equal amount shipped as needed.	Yes	High	Not Implemented, Ross Declined

Staffing

Recommendation	Approval	Priority	Status
Assign specific responsibilities for each Team Leader (TL) for the following areas: • HHW (including cylinders) and inventory (suggest Brad) • Special materials (fire extinguishers, smoke detectors) (suggest Chris) • Electronics (suggest Dave E) • Oil/antifreeze bulking and lead acid batteries (suggest David B) • Supplies and cold storage (drums, PPE, pallets, boxes) (suggest John B) • Paper shredding (Roger) • Bulbs and ballasts (suggest George) Communicate new responsibilities at a TL meeting.	TBD	High	Sent to Commissioners for Approval
Develop schedule for TLs that is consistent for the purposes of area of responsibilities and to maintain part-time status. Need each TL to be working each week to maintain consistency and efficiencies along with communications.	TBD	High	Sent to Commissioners for Approval
Install a white board at Center for TL communications on issues, things to be done, or recently completed activities to improve communications.	TBD	High	Sent to Commissioners for Approval
Conduct monthly meetings with TLs and District on procedures, safety, and other topics to improve communications, safety, and efficiencies.	TBD	High	Sent to Commissioners for Approval
Develop TL text group to communicate on weekly updates and shipment schedule.	Yes	High	Complete
Staff should not be working in shorts and tennis shoes. All staff should be in Level D personal protective equipment at a minimum which includes work shirt, pants, safety glasses, and work safety boots. District should provide uniforms and boots per OSHA requirements.	TBD		
Staff that bulk oils, antifreeze, or solvents (future) should also wear a protective apron and splash shield.	TBD		
TLs should conduct a safety/operational meeting each day with unloaders and	TBD	High	Sent to Commissioners for Approval

Recommendation	Approval	Priority	Status
MRDD to review key issues and to cover safety related topics.			
Specific TLs should be used for loading waste (Suggest Brad, Chris, Dave E.)	TBD		
1 TL and 1 Material Handler required for loading cardboard bales onto trucks	TBD		

HHW Storage

Recommendation	Approval	Priority	Status
Create a dedicated staging area for HHW materials packed. Staging area will be for HHW materials to be checked for proper packing and labeling then added to the inventory for the next HHW shipment.	Yes	High	Complete
Develop an HHW inventory sheet that will depict inventory of HHW ready for shipment.	Yes	High	Complete
Create a dedicated storage area with rows (up to 7) to received HHW materials from staging area.	Yes	High	Complete
Inventory unknown cylinders (Ross) and determine disposal options. In progress	Yes	High	In Progress
Inventory O2 cylinders and determine local reuse options.	Yes	High	Complete
Inventory CO2 cylinders and determine disposal options.	Yes	Medium	Complete Sugar Ridge Accepted
Develop bulking stations outside for gasoline, kerosene, and diesel fuel.	TBD		
Move unknown chemicals from north wall to new chemical area adjacent to packing area.	Yes	High	Complete
Create an acid and caustic sorting table.	Yes	High	Complete
Create an oxidizer and pool chemical sorting area.	Yes	High	Complete
Move mercury drums to HHW storage, repack if necessary to reduce size of drums and ship more frequently.	Yes	Medium	Complete
Convert as many waste streams as possible into cubic yard container systems to maximize capacity and improve efficiencies (possible candidates are pesticides, aerosols, and loose pack flammables).	No	n/a	n/a

Electronics

Recommendation	Approval	Priority	Status
Stop toner cartridge sorting operations and include in normal electronics loads.	Yes	High	Complete
Double stack pallets so pallets can be prepared for shipment then added to trailer instead of placing on racks single stack	Yes	High	In Progress

Latex Paint

Recommendation	Approval	Priority	Status
Use rack system to allow for double-stacked pallets so pallets can be prepared for shipment, added to racks, and not moved again until loading trucks	TBD	TBD	TBD

Bulbs/Ballasts

Recommendation	Approval	Priority	Status
Use rack system to allow for double-stacked pallets so pallets can be prepared for shipment, added to racks, and not moved again until loading trucks	TBD	TBD	TBD

Miscellaneous

Recommendation	Approval	Priority	Status
Add OCC container by tire racks for larger loads of OCC coming in or purchase movable dumpster.	Yes	High	Complete
Eliminate residents being able to drive through operational area of the Center to drop-off OCC.	Yes	High	Complete
Replace tip dumpsters with user-friendly dumpsters for Trash, Cardboard, Recyclables	Yes	Medium	In Progress
Organize unused drum area including large accumulation of drums marked for oil and antifreeze. Only use closed-top drums for oil and antifreeze and only maintain the minimum needed for oil and antifreeze and vegetable oil. Use all opened-top drums that are UN rated for HHW materials.	Yes	High	Complete
Reorganize cold storage area for drums, pallets, HHW boxes, non-hazardous boxes, pallets and other misc. supplies. This area should be separate from cold storage of recyclable materials (paper, OCC, books) for future shipment.	Yes	High	Complete
Move trash dumpster from dock area to unloading area.	Yes	High	Completed
Shipments for waste and supplies should only occur on Tuesdays and Thursdays	Yes	High	Complete

Recommendation	Approval	Priority	Status
Purchase two-way radios for Center for use by TLs/Material Handlers onsite and anyone on special projects offsite (shredding, scrap yard)	Yes	Medium	Getting Quotes

Previous To-Do List

Recommendation	Approval	Priority	Status
Install dock light in new dock.	Yes	High	Complete
Install fan in new dock.	Yes	High	Complete
Paint new dock frame.	Yes	High	Primed Needs Top Coat
Install ladder hangers up front.	Yes	High	Complete
Repair north side gutters.	No	n/a	Port Authority
Repair bathroom drywall and cold storage.			
Trim trees on north side.	No	n/a	Port Authority
Cut and spray weeds, sign area, and compost area.	Yes	High	Sign Area Weeded
Spread compost out.	Yes	High	Complete
Paint lines, curbs, and polls	Yes	Medium	In Progress
Purchase bolts for racks.	Yes	High	Dave to Do
Annual service contracts for equipment	Yes	Medium	Dave to Do

SECTION H-7. Diversion Analysis

The table below shows the amounts of solid waste which were generated and diverted via recycling from 2012 to 2016. Overall, total recycling has fluctuated each year between 2012 and 2016 despite the population increasing each year. Generation of solid waste typically has increased over the five-year period in conjunction with population increases.

Table H-7.1. Disposal and Recycling in the District: 2012 – 2016

Year	Population	Grand Total Generation (Tons)	Total Recycling (Tons)	Per Capita Generation (PPD)	Per Capita Recycling (PPD)	Annual % Change in Total Tons Generated	Annual % Change in Tons Recycled
2012	305,818	461,281	190,614	8.26	3.42	-	
2013	307,787	427,553	165,161	7.61	2.94	-7.3%	-13%
2014	308,536	455,491	183,072	8.09	3.25	6.5%	11%
2015	309,835	453,917	168,121	8.03	2.97	-0.3%	-8%
2016	310,987	476,952	184,785	8.40	3.26	5.1%	10%

A. Residential/Commercial Sector

The residential/commercial sector diverted more than 25% of the waste generated in Lorain County. The District meets Ohio's Goal #2 for recycling diversion in the R/C sector.

1. Analysis and Evaluation

The District's R/C diversion rate during the past five years has remained consistent, only fluctuating between 25.79% to 28.27% from 2012 to 2016 (see **Table H-7.2**). The per capita diversion rate as measured in terms of pounds per person per day (PPD) also has remained fairly consistent from 2012 to 2016.

Table H-7.2. R/C Diversion Rates: 2012 – 2016

Year	Population	Disposed (Tons)	Recycled (Tons)	Total Generation (Tons)	Total Diversion (%)	Per Capita Diversion (PPD)
2012	305,818	223,960	78,475	302,435	25.95%	1.41
2013	307,787	214,534	74,573	289,107	25.79%	1.33
2014	308,536	219,512	86,530	306,042	28.27%	1.54
2015	309,835	225,583	80,373	305,956	26.27%	1.42
2016	310,987	229,739	80,673	310,412	25.99%	1.42

In the current plan for the District, Lorain County was projected to generate a total of 297,561 tons in 2016, which it exceeded in 2016. The current plan

also projected that the diversion rate in the residential/commercial sector would not fluctuate. The data from 2012 to 2016 agrees with this projection.

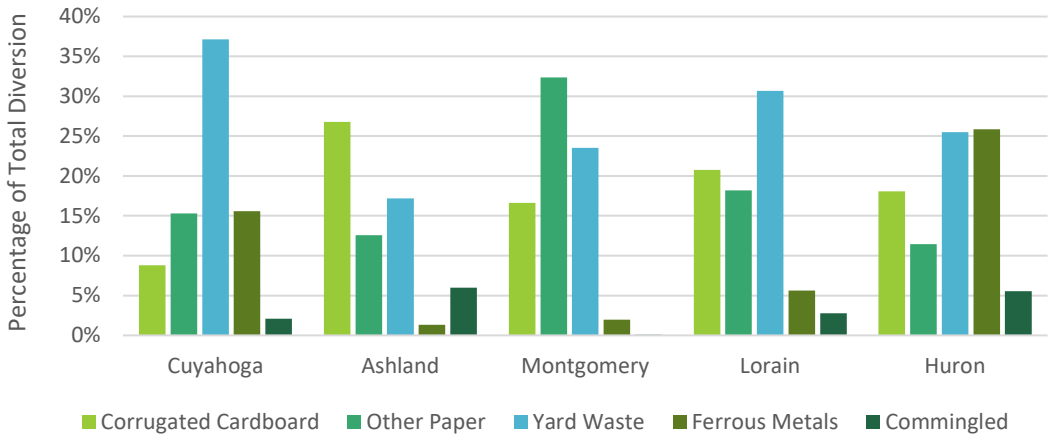
Compared to other mixed rural/urban and surrounding SWMDs in Ohio, the diversion rate for Lorain County is near the median for percent recycled and per capita recycled (see **Table H-7.3**). Compared to Montgomery SWMD, Lorain County has a higher diversion rate but a lower per capita diversion rate; and compared to Huron SWMD, Lorain County has a lower diversion rate but a higher per capita diversion rate. This may be caused by the differences in population, but overall, Lorain is near the median compared to other similar SWMDs.

Table H-7.3. R/C Diversion Rates for Other Select Ohio SWMDs: 2016

SWMD Name	Diversion Rate	
	Percent (%)	Per Capita (PPD)
Lorain	26.0%	1.42
Cuyahoga	30.4%	2.04
Summit	23.6%	1.33
Ashland	32.8%	1.50
Montgomery	23.5%	1.65
Huron	27.2%	1.21

The materials in the residential/commercial sector representing the greatest percentage of total diversion are presented for multiple districts in **Figure H-7.1**. Yard waste represents the greatest percentage of the diversion tonnage for Lorain County. Following yard waste, the next most recycled types of material were corrugated cardboard and other paper respectively. These three materials were often the most recycled materials in the comparison districts, and ferrous metals and commingled recycling are typically the fourth and fifth most-recycled material for most districts.

Figure H-7.1. Types of R/C Materials Recycled in Other SWMDs: 2016



B. Industrial Sector

The District has not reached Ohio's industrial sector recycling goal of 66% established in the *2009 State Solid Waste Management Plan*.

1. Analysis and Evaluation

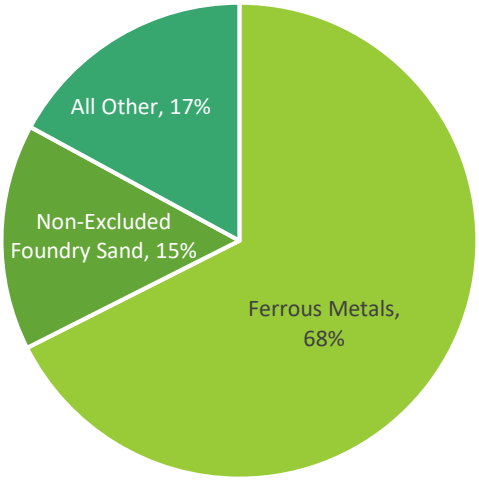
The industrial recycling rates in the District for 2012 through 2016 are shown in **Table H-7.4**. Diversion rates have significantly dropped each year until 2015, but in 2016, it increased again. The fluctuation in both generation and recycling rates primarily have to do with the fluctuation in the market's supply and demand and the general economy. Disposal rates have increased significantly over this timeframe.

Table H-7.4. Industrial Recycling Rates for Lorain: 2012 – 2016

Year	Population	Disposed (Tons)	Recycled (Tons)	Total Generation (Tons)	Total Diversion (%)	Per Capita Diversion (PPD)
2012	305,818	46,707.0	112,139.0	158,846.0	70.6%	2.01
2013	307,787	47,857.9	90,588.6	138,446.5	65.4%	1.61
2014	308,536	52,906.2	96,542.3	149,448.5	64.6%	1.71
2015	309,835	60,213.3	87,747.3	147,960.7	59.3%	1.55
2016	310,987	62,428.0	104,112.1	166,540.1	62.5%	1.83
% Change from 2012-16		**34%**	**-7%**	**5%**	**-8.1%**	**-8.9%**

Ferrous metals represent the highest-volume material recycled from industrial sources, followed by non-excluded foundry sand at 15% (see **Figure H-7.2**).

Figure H-7.2. Industrial Material Types Recycled in Lorain: 2016



The District's industrial recycling rate for 2016 is compared to other mixed rural/urban and surrounding SWMDs as shown in **Table H-7.5**. The only compared SWMD that has a lower industrial sector diversion rate than Lorain County is Summit-Akron SWMD. All other compared SWMDs have a higher industrial sector diversion rate than Lorain County, and these other districts exceed the State's industrial sector recycling goal.

Table H-7.5. Industrial Diversion Rate Comparison

SWMD Name	Industrial Diversion Rate (%)
Summit	38.9%
Lorain	62.5%
Ashland	71.5%
Cuyahoga	74.0%
Montgomery	88.0%
Huron	89.5%

The industrial NAICS categories that reported recycling the most materials in 2016 are as follows:

- 331 Primary Metal Manufacturing – 48,330 tons
- 336 Transportation Equipment Manufacturing – 29,446 tons
- 332 Fabricated Metal Product Manufacturing – 12,958 tons

These sectors' primary materials recycled consisted mostly of ferrous metals, non-exempt foundry sand, wood, and commingled materials.

C. Conclusions

The residential/commercial and industrial sectors in Lorain County SWMD both have room for improvement in the future as the District's total diversion rate has decreased in 2016 since 2012.

The residential/commercial sector in the District had a fairly consistent diversion rate from 2012-2016. The overall recycling tonnage in the R/C sector has increased between 2012 and 2016; however, this stems from the fact that the overall generation tonnage has also increased in that sector. Although the R/C sector meets the State's residential/commercial sector diversion rate goal, it has made little, if any, improvement in this rate since 2012. The District's R/C sector's diversion rate is similar to other SWMDs compared, but it has room for improvement since three other similar districts have higher diversion rates and higher per capita diversion rates. Other sections of this Plan will include recommendations for improving diversion rates.

The District should provide attention to the industrial sector to continue striving to achieve the industrial sector diversion goal of the State of 66% since it recycled 62.5% in 2016. The industrial sector in the District has recently increased its diversion rate in 2016 from 59.3% in 2015, but it had been decreasing dramatically from 2012 to 2015. This is because of two reasons: 1) fluctuations in total generation and total recycling were caused by large recyclable-material producers that are sensitive to market influences and 2) a dramatic increase in disposal tonnage from 2012 to 2016. The industrial sector in the District has been impacted by markets for oil and other materials that are cyclical in the economy. The District should provide technical assistance to this sector to encourage those industries not diverting material to develop programs.

SECTION H-8. Special Program Needs Analysis

Ohio law gives districts the ability to fund activities that are not related to achieving the goals of the state's solid waste management plan. The policy committee is to evaluate the performance of any existing programs and discuss if there is a need to add any special programs in this Plan Update.

The programs presented in Section H-8 are all programs conducted or funded by the District which were identified and implemented through the previous Plan Update. They include:

- Funding the Lorain County Health District
- Funding for the Lorain County Sheriff's Department – Environmental Crimes Unit
- Funding for the Lorain County Engineer
- Funding for the Disaster Debris Program under the Lorain County Emergency Management Agency
- Funding for the Open Dump & Scrap Tire Clean-Up Grant
- Implementation of the Host Community Agreement for Reserved Landfill Capacity
- Third Party Financial Audit

These special programs are important to the success of managing solid waste and enforcing regulations, repairing roads, planning for emergencies, and maintaining revenues for operations. Each program is summarized and highlighted below.

A. Special Programs

1. Lorain County Health District

The District provides financial assistance to the Lorain County Health Department which merged the City of Elyria and City of Lorain Health Districts into one organization in 2017. The Health District began signing a Memorandum of Understanding (MOU) listing the scope of services they will provide to the District prior to performing services for the year.

The Health District proposal for 2018 includes a listing of the regulatory services to be provided. This includes administrative functions such as solid waste facility license application maintenance, review, and issuance. The Health District maintains files for each facility and takes enforcement action when necessary. The Health District will take immediate action where necessary for serious public health threats. The Health District provides legal assistance to local and state agencies.

Programmatic functions include inspections of active and closed landfills, transfer stations (if applicable), and composting facilities. Complaints for any of those facilities including any open dumping complaints are

investigated to protect public health and the environment. The Health District has 16 active facilities to inspect and ensure they are maintaining compliance including the Lorain County Landfill and composting facilities. There are two closed landfills they also monitor.

Table H-8.1. Health Department Facilities Inspected

Facility	Type	Status	Annual Inspection Frequency (minimum)
Lorain County Landfill	SW Landfill	Active	4
Avon Lake Closed MSW Landfill	SW Landfill	Closed	1
Huntington Landfill	SW Landfill	Closed	1
Lorain Class IV Compost	Composting	Active	1
Avon Lake Class IV Compost	Composting	Active	1
Allman Brothers Class IV Compost	Composting	Active	1
Amherst Twp. Class IV Compost	Composting	Active	1
Carlisle Twp. Class IV Compost	Composting	Active	1
DDBK, LLC Class IV Compost	Composting	Active	1
Eaton Twp. Class IV Compost	Composting	Active	1
JDS Trucking Class IV Compost	Composting	Active	1
LS Composting Class IV	Composting	Active	1
Kurtz Bros/Miller Rd Class IV Compost	Composting	Active	1
M&B Trucking Class IV Compost	Composting	Active	1
Moore Road Class IV Compost	Composting	Active	1
Morton's Landscape Class IV Compost	Composting	Active	1
Oberlin City Class IV Compost	Composting	Active	1
Three Z Supply Class IV Compost	Composting	Active	1

The Health District manages any complaints on scrap tires and associated facilities. There are more than 100 known locations in the District where scrap tires are generated.

The Health District manages odor complaints. This is a significant part of their activities. Numerous complaints are received annually from working face operations at the Lorain County Landfill. This includes early inspections to make sure adequate cover and landfill operations were proper to determine if the complaint was justified or if weather and wind caused the odor issue.

Open dumping and lack of property maintenance is also a focus of the Health District. Escalated complaints and responses are coordinated with the Environmental Crimes Unit of the Sheriff's Office.

The proposal for 2018 includes time and funding for 11 Health District employees for approximately $156,000, not including other direct costs and

expenses. The 11 employees spend a portion of their time working on solid waste management tasks.

Each year, the Health District is required to submit an annual report detailing the activities completed during the prior year. The District will provide the Health District with a review of their final reports annually. If the report is not complete (as determined by the District) funding can be withheld the following year.

2. Sheriff's Department

The Sheriff's Department's Environmental Crimes Unit provides two deputies to conduct numerous investigations into open dumping or violations of solid waste law in Lorain County. The deputies work with the District to prioritize projects and investigations. The Sheriff's Department has also assisted in several investigations including assistance to Ohio EPA. In 2016, investigations included dumpster investigations, tire litter citations, open burning warnings, junk yard inspections, and property cleanups.

The Sheriff's Department also completed 221 trash vehicle permits which were issued to haulers operating in the District. The District will continue to provide funding for the environmental crime investigations.

The Sheriff will also take legal action against violators of District flow control regulations or other violations to the Ohio Revised Code related to solid waste to ensure District rules are being followed.

The Sheriff provides the District with an annual report on the number of cases pursued, submitted to the courts, and other related activities.

3. Lorain County Engineer

The Lorain County Engineer receives solid waste management funding for the patching and repair of county roads near solid waste management facilities. The Engineer uses funding for hot asphalt material and/or cold mix. The funding in 2016 covered mill and fill and pothole patching on Oberlin Road and Oberlin Elyria Road.

The Engineer's Office provides a scope of work annually and completes an annual report on the equipment, labor, and other costs necessary to complete road repair work. The Engineering Department receives $50,000 annually.

4. Emergency Management Agency

The District's Disaster Debris Management Plan remains incorporated in the master emergency plan for Lorain County as Appendix J. Lorain County political subdivisions have experienced severe floods, wind storms, ice storms, and tornados. All these weather-related events have the potential to generate significant amounts of debris that will need to be managed for collection and proper disposal. The Plan also discusses potential plans for terrorism. In order to activate policies and procedures in the Disaster Debris Management Plan, the Commissioners (or their designee) must provide approval.

The Disaster Debris Plan covers many topics including:

a. Situation & Assumptions

b. Concept of Operations

- Direction and Control
- Disaster Intelligence
- Communications
- Notification and Warning
- Emergency Public Information
- Protective Actions
- Mass Care
- Health & Medical: Environmental Compliance, Household Hazardous Waste
- Resource Support – Debris Estimating, Contracts, Temporary Storage, Landfills, Terrorism, Documentation & forms, Volunteer Organizations.
- Recovery – Debris Removal Priorities and Operations, Phase II

c. Organizational Roles and Responsibilities

- Local Government Agencies and Departments: Local Jurisdictions Debris Manager, Local Jurisdiction Service Personnel, County Prosecutor, County Engineer/Road Maintenance Department, Lorain County Solid Waste District, Lorain County Purchasing, supporting state agencies

d. Administration & Logistics

e. Plan Development & Maintenance

The District entered an MOU with Republic Waste Services which confirms pricing and hauling costs if a disaster was to occur. The District periodically adjusts the pricing and MOU to bring costs and services up-to-date.

5. Open Dump & Scrap Tire Clean-Up Grant

The Open Dump & Scrap Tire Clean-Up Grant program has been in existence since the initial Plan was approved and is the District's policy for open dump cleanups. Open dumps include illegally disposed solid waste or waste tires. The Board of Health can apply for funding for the cleanup of open dump sites. The funding will be allocated out of the unencumbered fund balance. The Board of Health seeking these funds shall meet the following guidelines:

1. Applications for funding will be accepted throughout the year. The District will provide the application form (see Section H-8. Attachment 1).

2. Funds will be allocated to County or Health Department. The District shall allocate funds from the unencumbered fund balance with County Commissioners' approval.

3. The Board of Health can apply for clean-up funds at more than one site.

4. Funds can only be used for clean-up of properties located within the District.

5. Applications will be reviewed by the District Director. The District Director will formulate a recommendation for approval/disapproval. The County Commissioners will take final action for approval/disapproval.

6. It is recommended that all legal processes should be exhausted before District funds are requested by the Board of Health. However, under certain circumstances it may be appropriate to apply for the funding before exhausting all legal remedies. The circumstances may include, but not be limited to, immediate health threats, fire hazards, etc. The Board of Health will make a recommendation to the District if a site meets the circumstances for immediate attention.

7. The District shall be reimbursed from any monies collected from judgments against the owners/operators of properties with open

dumps. The Board of Health and/or related agencies shall place a lien against the property.

8. Once the cleanup is complete the Board of Health must file a final report with the District. The report must include:

- An estimate of the number of tires or weight of the tires removed.
- The weight of the solid waste removed.
- The total cost for the cleanup.
- Methodology for recovering District funds.
- Name of the contractor used for cleanup and location where materials are delivered for disposal or recycling.

6. The Host Community Agreement

The District and Republic Services have an Agreement that requires Republic Waste Services to pay the County $0.60 for each ton of out-of-District waste delivered to the Lorain County Landfill. The District determined that by entering into a host community agreement provides stability for long term solid waste management needs. It would also result in substantial economic development as well as fiscal and environmental benefits for the District and the County in general. The District entered into the Agreement to maintain adequate reserved disposal capacity at the landfill to handle all or a substantial portion of the future solid waste needs of the District. The following sections were included in the agreement.

1. Term of the initial period was three years and has an option for three one-year extensions.

2. Solid Waste – must be accepted as part of the Agreement. Hazardous Waste or Infectious Waste is not permitted.

3. Reserved Capacity – 1,250 tons per day are reserved for the District.

4. Out-of-district waste – All Cuyahoga County waste collected by the company must be delivered to Lorain County.

5. Facility Improvements – The Company shall make facility improvements to allow the Landfill to comply with the in-District solid waste reserved capacity.

6. Tipping Fee Discount – The Company must provide Lorain County residents a discount of ten percent off of the gate rate posted for the disposal of self-hauled residential solid waste.

7. Pride Day – The Company must provide one solid waste dumpster to each participating political subdivision in the District in connection with Pride Day. The District will work with political subdivisions to include a recycling dumpster for Pride Day when new bid specifications for collection services are developed.

8. Free Collection and Disposal for County Facilities – The Company will provide free solid waste collection, disposal services, recycling collection, and processing to all Lorain County buildings noted in Exhibit A.

9. District Fees – The Company shall pay the District each month all disposal and generation fees levied on waste delivered to the landfill. The District shall support and work diligently to set and keep the amount of the District fee levied on out-of-District solid waste delivered to the Landfill to equal two dollars per ton for each ton of out-of-district solid waste. The Company shall pay the District sixty cents per ton ($0.60) on any out-of-district solid waste disposed at the landfill (the Additional Fee).

10. District Consideration – The District shall use best efforts to support the Company's future expansion of the landfill, provide District-wide programs that will direct any natural disaster debris with the exception of wood waste from all communities to the Landfill and the District assuming the cost of collection and disposal of the natural disaster debris, and continue to exercise flow control pursuant to the provisions in the District's Plan during the term of this Agreement including any extensions.

11. Daily Log Inspection – The Company shall note the County and State, if other than Ohio, of generation of each shipment of solid waste accepted for disposal at the Landfill on daily operating log kept for the Landfill as required by Ohio Administrative Code. Inspections of logs shall be conducted during normal business hours and the District shall provide 24 hours' notice.

12-19. Remaining Sections include Breach, Termination, Notices, Entire Agreement, Waiver, Applicable Laws, and Binding Effect; No Third-Party Beneficiaries.

7. Third Party Financial Audit

The District has conducted an independent accountant report annually for many years. The accountant's review of all expenditures included payroll,

administrative costs, and programmatic costs. The review identifies if there are outstanding issues that the District must correct or remediate.

The review indicated that all expenditures were in compliance with the ten allowable uses without exception. All expenditures were within the District budget without exception.

The cost for the Audit is approximately $15,000.

D. Strengths, Challenges, and Opportunities

Strengths

- The District and Emergency Management's advance planning will assist disaster planning and implementation with debris collection and processing needs.
- The District continues to track current and future solid waste trends to make proactive changes to programming and activities.
- The Health District has a focused scope of work and provides services to the entire County.
- The Solid Waste District only has one Health District to coordinate work and resources.
- The Health District inspects operating solid waste facilities to ensure compliance.
- The Health District is in compliance with Ohio EPA program requirements.
- The Sheriff continues to provide law enforcement for important solid waste and environmental cases.
- The Sheriff helps to enforce District rules on flow control and hauler licensing.
- The Engineer helps repair road damage on arterials near the landfill.
- The District conducts an audit regularly to ensure expenditures are in-line with allowable uses.

Challenges

- Keeping each of these departments focused on the allowable uses of the funds.
- Regular communications with each department.
- Updating the host agreement.
- Evaluating the value of the programs through annual reports supplied to the District.
- Ensuring reports and payments from the hauler are provided in a timely manner.
- Potential international, national, state, and local changes in policies that could negatively impact District plans and programming (i.e. Chinese Sword).

Opportunities

- Extending the host community agreement and ensuring current services are implemented.
- Securing required report data and information from the hauler.
- Focus law enforcement on potential violators with flow control and open dumping.
- Ensure the Health District is identifying open dump and scrap tire dump facilities for clean-up.
- Continue to update the Disaster Debris Plan and pricing for hauling, collection and disposal of debris from storm damage, flooding or other natural disasters.
- Host semiannual meetings with Health and Sheriff departments to ensure scope of services are being implemented and address potential issues.

SECTION H-8. Attachment 1

Application for Open Dump & Scrap Tire Clean-Up Grant

Lorain County Solid Waste Management District

Lorain County Board of Commissioners

Application For
Open Dump & Scrap Tire Clean-Up
Grant

Calendar Year:

_____

Date of Application:

_____

From:
(Full Name of Applicant Organization)

_____

1

Open Dump & Scrap Tire Clean-Up Grant

The Open Dump & Scrap Tire Clean-Up Grant program has been in existence since the initial Plan was approved and is the District's policy for open dump cleanups. Open dumps include illegally disposed solid waste or waste tires. The Board of Health can apply for funding for the cleanup of open dump sites. The funding will be allocated out of the unencumbered fund balance. The Board of Health seeking these funds shall meet the following guidelines:

1. Applications for funding will be accepted throughout the year. The District will provide the application form (below).

2. Funds will be allocated to County or Health Department. The District shall allocate funds from the unencumbered fund balance with County Commissioners' approval.

3. The Board of Health can apply for clean-up funds at more than one site.

4. Funds can only be used for clean-up of properties located within the District.

5. Applications will be reviewed by the District Director. The District Director will formulate a recommendation for approval/disapproval. The County Commissioners will take final action for approval/disapproval.

6. It is recommended that all legal processes should be exhausted before District funds are requested by the Board of Health. However, under certain circumstances it may be appropriate to apply for the funding before exhausting all legal remedies. The circumstances may include, but not be limited to, immediate health threats, fire hazards, etc. The Board of Health will make a recommendation to the District if a site meets the circumstances for immediate attention.

7. The District shall be reimbursed from any monies collected from judgments against the owners/operators of properties with open dumps. The Board of Health and/or related agencies shall place a lien against the property.

8. Once the cleanup is complete the Board of Health must file a final report with the District. The report must include:

    a. An estimate of the number of tires or weight of the tires removed.
    b. The weight of the solid waste removed.
    c. The total cost for the cleanup.
    d. Methodology for recovering District funds.
    e. Name of the contractor used for cleanup and location where materials are delivered for disposal or recycling.

Open Dump & Scrap Tire Clean-Up Grant Application

This application is for Board of Health to apply for funding for the cleanup of open dump sites. Open sumps include illegally disposed solid waste or waste tires.

Instructions: Submit completed application to Tiffany Barker at tbarker@loraincounty.us. If you have any questions, please call 440-328-2368.

Part I:		**Open Dump & Scrap Tire Clean-Up Grant Application**
Board of Health:		
Health Department Manager:		
Email address of person listed above:		
Telephone number of person listed above:		
Board of Health street mailing address:		
City:	**State:**	**Zip:**
Amount of Open Dump & Scrap Tire Clean-Up Grant program funding for which your Board of Health is applying:		
$		**Continue to Part II.**

3

Instructions: In the table below, please list each expenditure and cost. Add all amounts listed in the right-hand column and enter the total on the last line of the table.

Part II:	Expenditures
Itemized expenditures	*Amount*
TOTAL:	$
Continue to Part III.	

Instructions: In the space provided below, please provide details about each expenditure listed in Part II. If needed, you may attach additional pages.

Part III:	Explanation of Each Expenditures

4

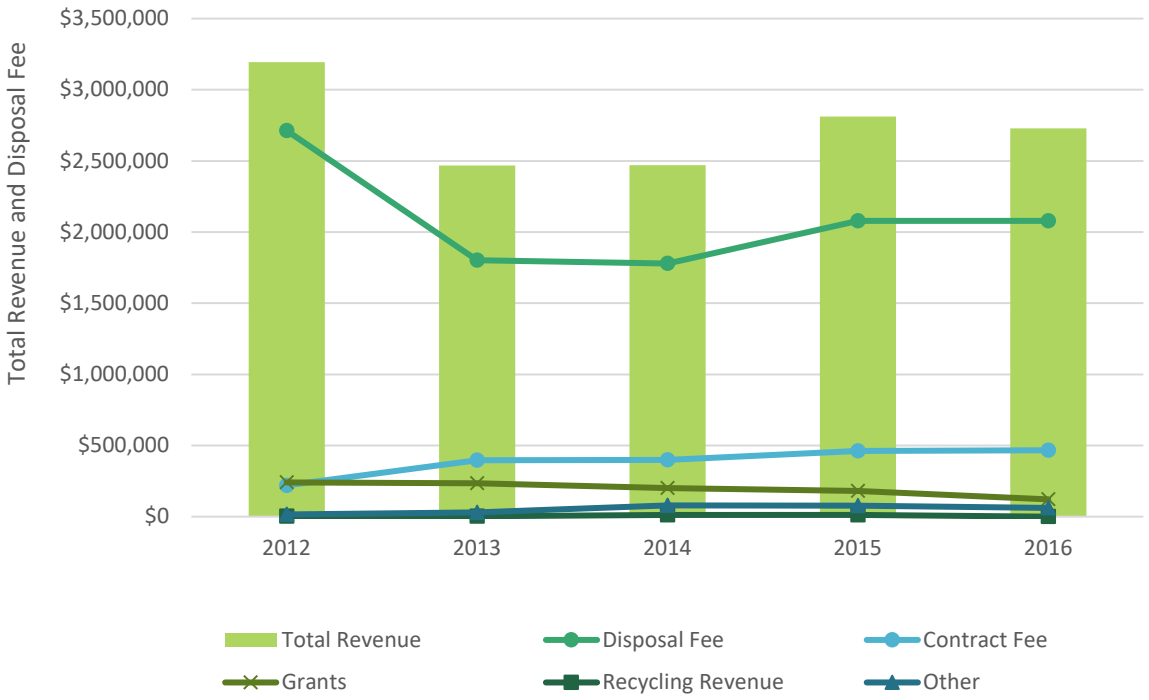
SECTION H-9. Financial Analysis

The financial analysis focuses on three areas: revenues, expenses, and District fund balances.

A. Revenues

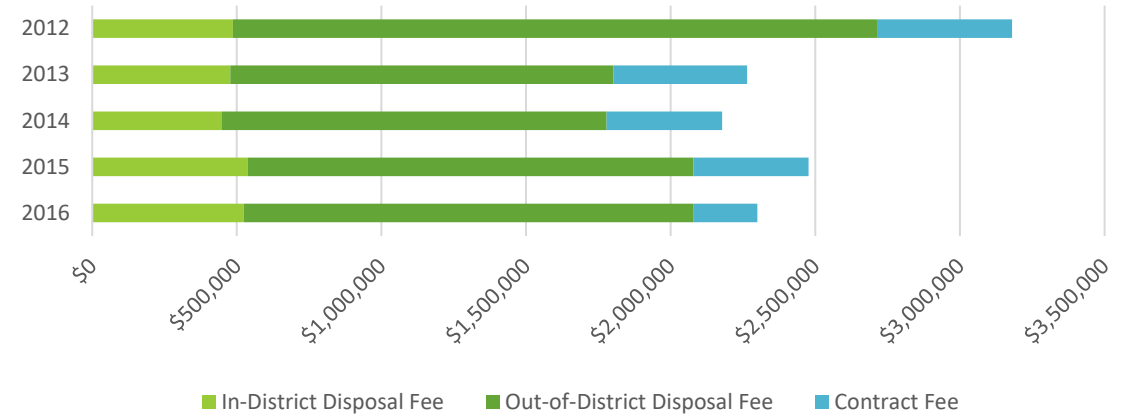
The disposal fee has consistently provided the majority of the District's revenue since 2012. Contracts with solid waste facilities for the disposal of waste has comprised the second largest amount of revenue for the District since 2013. Over the past five years ranging from 2012 to 2016, total revenue has ranged from a low as $2.47 million in 2013 to a high of $3.19 million in 2012.

Figure H-9.1. Sources of Revenue for the District: 2012 – 2016



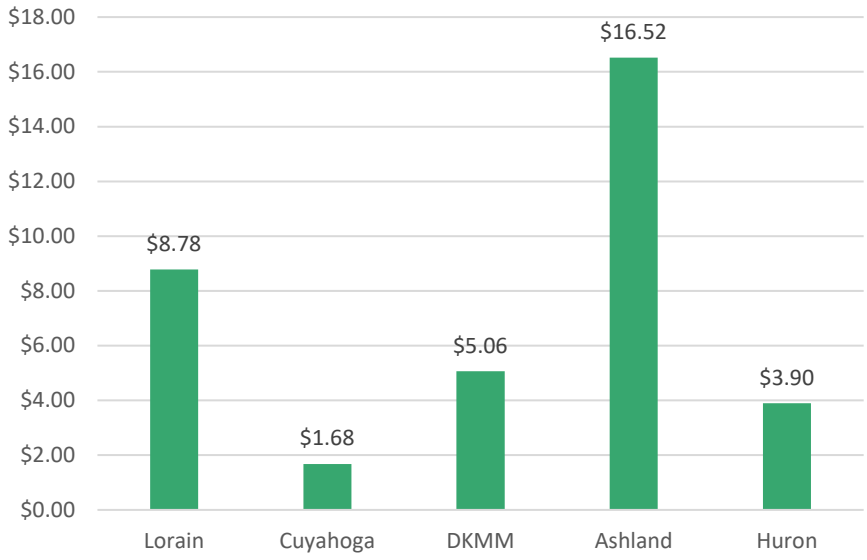
In 2012, the District signed a host community agreement lowering the out-of-District disposal fee from $4 per ton to $2 per ton, which resulted in lower disposal fee revenue and overall revenue. Contract fees increased with this host community agreement, which states that the District will be paid $0.60 per out-of-District ton disposed in the Lorain County Landfill. Out-of-District disposal fees have made up most of the total disposal fees for the District for each of the last five years (see **Figure H-9.2**), but the in-District disposal fees have increased in 2015 and 2016.

Figure H-9.2. Fees from Waste Disposed in Lorain County: 2012-2016



On a per person basis, the District collected an average of $8.86 per capita during 2012 through 2016. Compared to four similar and nearby solid waste districts, the Ashland County SWMD has the most revenue collected per person (see **Figure H-9.3**). However, Ashland has a relatively low population compared to the rest of the districts, resulting in a much higher per capita revenue.

Figure H-9.3. Comparison of Revenues Collected Per Capita in 2016



The District's current Plan projected that approximately $2.39 million would be collected in revenues during 2016. The actual amount collected was $2.7 million, or approximately $339,000 more than projected.

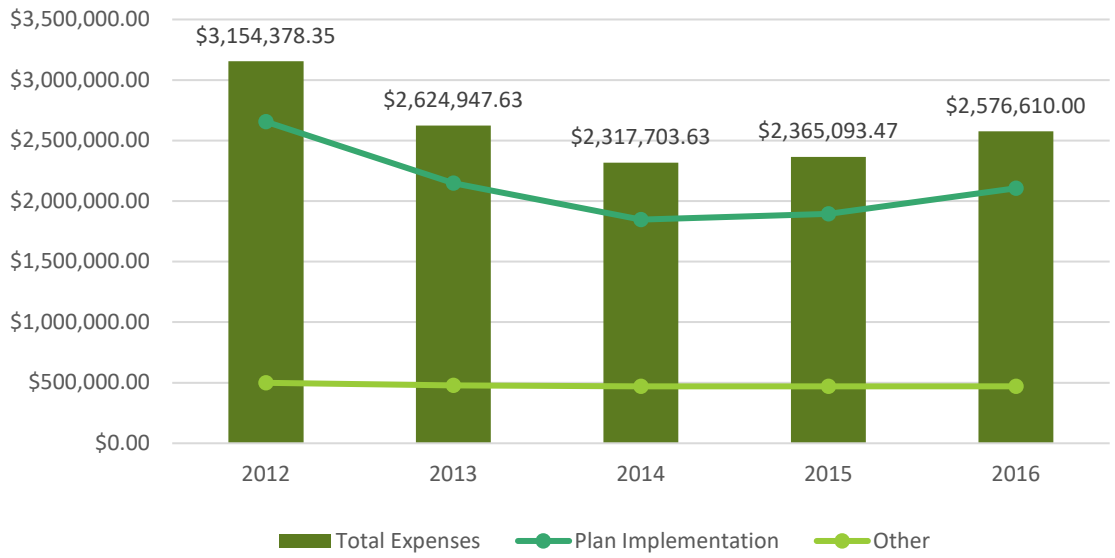
In summary, the District's major revenue streams appear to be relatively stable and should continue to provide sufficient money for operations. The current Host Community Agreement expires in May 2018, but the District plans to renew this

agreement with Republic for an additional year as the agreement allows a one-year renewal up to three times before creating a new agreement. With this renewal, the set disposal and contract fees for disposal should continue to provide sufficient funds for the District at least through 2019. If the District decides to renew the agreement two more times, these fees will provide revenue through 2021.

B. Expenditures

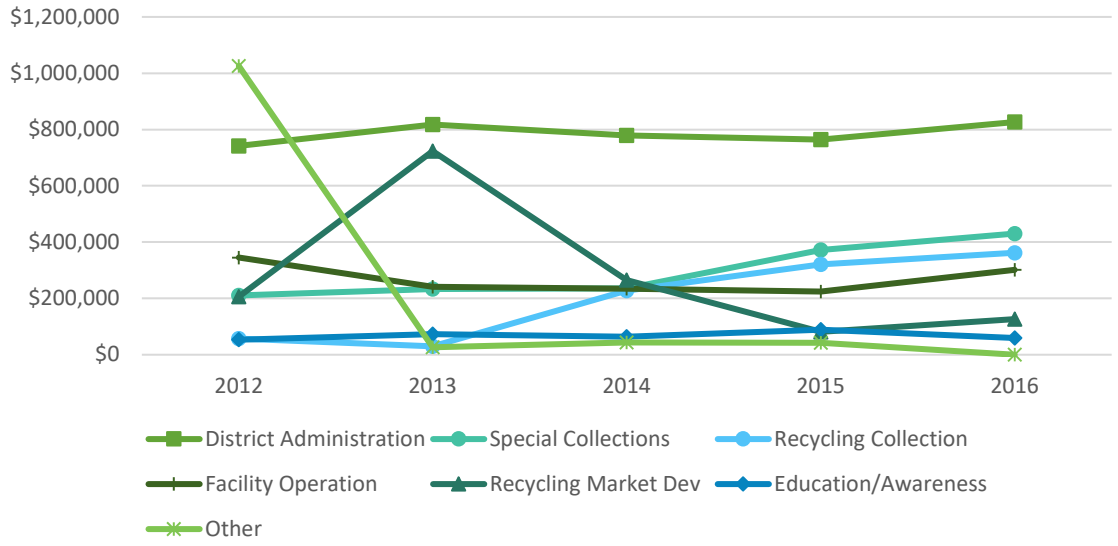
The main expenditure for the District reported to Ohio EPA since 2012 has been plan implementation, as shown in the following figure. The "other" category in **Figure H-9.4** represents plan prep/monitoring, health department and enforcement, county assistance, and anti-litter efforts. The total expenditures for the District have ranged from a low of $2.32 million in 2014 to $3.15 million in 2012. The average overall expenditures during the five-year period was $2.61 million annually. The total expenses for the District as projected in the current Plan were $2.34 million for 2016, or approximately $235,000 more than the actual expenditures.

Figure H-9.4. District Expenditures: 2012 – 2016



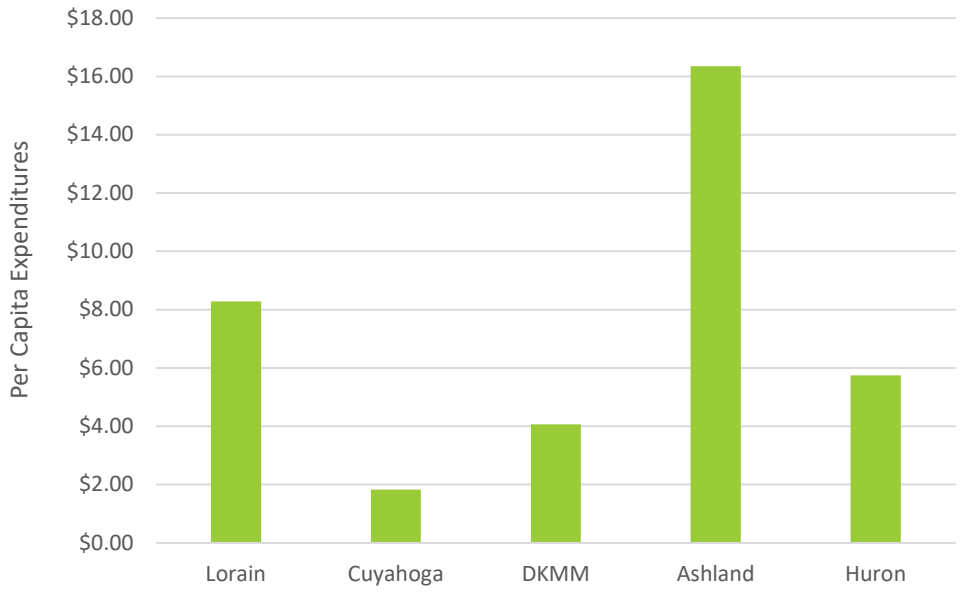
Plan Implementation makes up most of the District's expenditures while most of the other expenditures stay relatively stable. The sub-categories of implementing the Plan is shown in **Figure H-9.5**. "Other" in this case includes yard waste management, dump clean-up, litter collection, service contracts, and emergency debris management. The reason that "Other" expenditures are significantly high in 2012 is because service contracts that year cost more than $1,000,000 with the new Host Community Agreement with Republic. In 2013, more than $700,000 in expenditures were reported in the Quarterly Fee Report for Recycling Market Development. Unfortunately the District Director has retired and additional detail about the expenditure is no longer available.

Figure H-9.5. Plan Implementation Sub-Categories: 2012-2016



A comparison of the total expenditures per capita is shown in **Figure H-9.6**. Ashland SWMD has the highest per capita expenditure rate of the five solid waste management districts depicted. The reasoning for this again is because of its low population. However, Lorain County has the highest total expenditure of the compared districts.

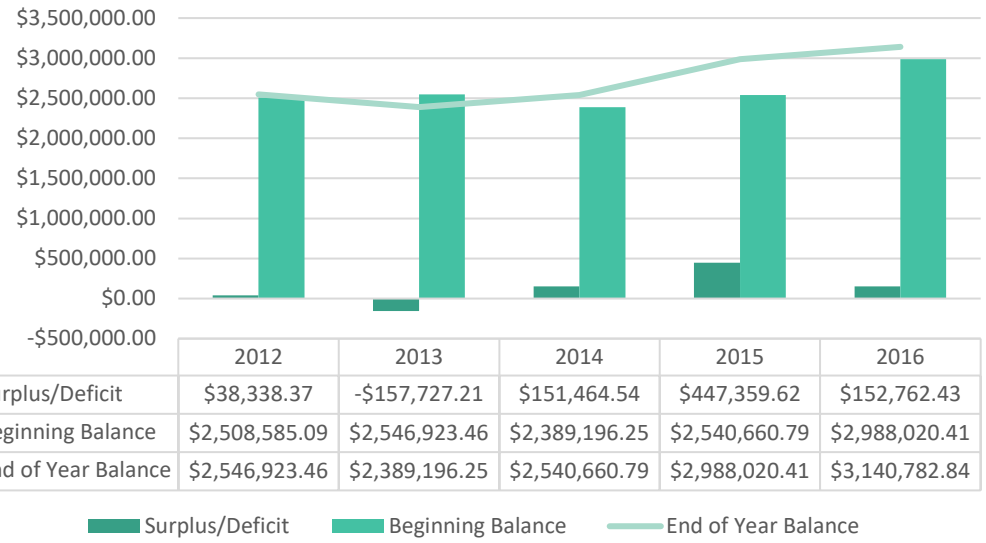
Figure H-9.6. Comparison of District Expenditures Per Capita: 2016



C. Balances

Annual revenues have exceeded expenditures in four of the last five years. The only year the District had higher expenditures than revenues was 2013, with the total deficit reaching approximately $157,000, as demonstrated in **Figure H-9.7**. However, the District has maintained a positive year-end balance every year because of the addition of carry-over balances from previous years. This total year-end balance provides a comfortable level for the District to be able to pay for operation costs as well as provide a defense against any unexpected expenditures in the future. Additionally, Lorain County is evaluating a new tire collection and organic collection system for the District, and this balance would help to fund these initiatives.

Figure H-9.7. District Annual Surplus/Deficit and Year-End Balances: 2012-2016



	2012	2013	2014	2015	2016
Surplus/Deficit	$38,338.37	-$157,727.21	$151,464.54	$447,359.62	$152,762.43
Beginning Balance	$2,508,585.09	$2,546,923.46	$2,389,196.25	$2,540,660.79	$2,988,020.41
End of Year Balance	$2,546,923.46	$2,389,196.25	$2,540,660.79	$2,988,020.41	$3,140,782.84

SECTION H-10. Regional Analysis

The purpose of the regional analysis is to consider regional opportunities for collaboration and partnerships and to also consider how the District's decisions may impact other stakeholders in the region. This analysis may result in the creation of a systematic plan to communicate, collaborate, and/or partner with the stakeholders identified through this process. This analysis may also indicate that the actions of the District and current regional initiatives are sufficient, and no further efforts are warranted.

A. Regional Partnerships, Communication and Collaboration

The District has initiated programmatic discussions on a regional level regarding solid waste management in northeast Ohio. The District has included other solid waste districts in the northeast Ohio region in several regional discussions on glass, organics and food waste, waste consortiums, solid waste enforcement, Household Hazardous Waste (HHW), and other solid waste management issues including the following Regional strengths:

B. Strengths

- The District investigated opportunities to establish a regional glass processing facility. Meetings were held with northeast Ohio districts to evaluate methods of collection from commercial facilities end users and potential processors. Meetings with Ohio EPA were also held to discuss statewide opportunities. Issues with glass contamination, a lack of sorting equipment to adequately sort glass from trash at the Republic MRF in Lorain County, and the low commodity value of glass cullet have resulted in the District postponing its efforts to attempt to expand glass recycling in the region.

- The District was evaluating an organics processing facility. Meetings were held with districts in the region to determine whether a District facility could serve as a regional solution for food waste and other organic materials. Currently, the District was unable to identify adequate tonnage to justify the facility and ensure its financial sustainability, so the project is on hold until circumstances change.

- The District established a trash and recycling consortium with political subdivisions. Initial discussions for membership included political subdivisions outside the District. Due to the success of the first consortium, the process was continued after the first contract was set to expire. The second bid development for the consortium round began in June 2018. In December of 2018, bids were received by three service providers. Communities will make a decision on service providers and the new contract will begin in April of 2019.

The District is evaluating a scrap tire facility project that could serve the northeast Ohio region. The project is dependent upon the location of an end market user of scrap tires in the region.

- The District has held solid waste enforcement seminars with sheriff personnel that included Districts from northeast Ohio.

- The District has held other meetings with surrounding districts regarding the Lorain County Collection Center and possible opportunities between counties.

C. Regional Impact Considerations

Lorain County is the home to one of the larger private sector landfills operating in northeast Ohio. The Republic Waste Services facility manages approximately 1.1 million tons annually. The District generates approximately 365,000 tons with most of it disposed at the in-District facility. The landfill has just over 10 years of capacity remaining without an expansion. The Lorain County Landfill receives waste from most of the counties in northeast Ohio - a truly regional solution for counties without landfill capacity. In addition, Republic Waste Services also operates a full-service material recovery facility adjacent to the landfill. This facility also serves communities in adjacent counties and processed 35,000 tons of recyclable material in 2016. Solid waste management in Lorain County is important to Lorain County's economy and the northeast Ohio region.

D. Regional Analysis Conclusions and Challenges

The District provides the northeast Ohio region with disposal and recycling solutions due to the fact one of the largest private sector facilities is located in Lorain County. The District has also served as a leader in programming and providing opportunities for other solid waste districts to consider partnering on joint programs.

Developing joint programs and/or facilities is difficult due to the following challenges:

- Regional economics
- Managing a joint resource
- Regional project controls
- Cost structure
- Guarantees and contracts for materials and end uses.

The District intends to continue the development of facilities and programs that can be modeled at the regional level if feasible with economics and markets making sense.

SECTION H-11. Population Analysis

Lorain County's population continues to increase slowly. From 2010 – 2016, the County's population increased 0.26% on average annually. This is an increase of approximately 5,000 residents over the seven-year period. The most recent two-year estimate shows the County's population increased by approximately 1,500 residents or 0.38% between 2015 and 2016. During the same period, the State of Ohio's population increased 0.08% or approximately 9,000.[4] As demonstrated in Appendix C, the District's population is expected to steadily increase throughout the planning period. The population is expected to increase by 2.7 percent from 2016 through the fifth year of the planning period (year 2024), and increase by more than 4.2 percent by the end of the planning period.

Population for the last two years showed a small redistribution of population out of the larger cities and into smaller municipalities or the townships. Based on population changes from 2010 to 2016, population change was most significant in the following areas:

- Greatest increase for municipalities:

  - ✓ City of North Ridgeville +3,517 residents, +1.8%
  - ✓ City of Avon +1,614 residents, +1.2%
  - ✓ City of Avon Lake + 1,078 residents, +0.7%
  - ✓ Sheffield Village +106 residents, +0.4%
  - ✓ Wellington Village +59 residents, +0.2%

[4] Ohio County Profiles - Ohio Development Services Agency, Office of Research. (3/2017) https://development.ohio.gov/files/research/P5007.pdf

SECTION H-12. Data Collection Analysis

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 source 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 not able to demonstrate achieving Goal #2 of the State Plan, which requires a waste reduction and recycling rate of at least 25% for residential/commercial waste and a recycling rate of at least 66% for industrial waste. In the reference year, the District's residential/commercial sector achieved a 26% waste reduction and recycling rate and the industrial sector achieved a 63% recycling rate.

A. Residential Sector

The District operates the Recycling Incentive Grant program annually, which requires all cities, townships, and villages to report residential recycling totals to the District using an electronic survey platform (Re-TRAC Connect) in order to be eligible for grant funding. The District has established relationships with its communities, which is evident by the 100% reporting rate.

Residential sector recycling tonnages reported by communities includes data from curbside and drop-off recycling programs, yard waste collection programs, and special waste collection programs, such as Household Hazardous Waste (HHW) and scrap tires.

Data reported by communities for curbside and drop-off programs is cross-referenced against tonnage reported by community from the two haulers that provide service to the residential sector for accuracy. If discrepancies are identified, they are investigated with the community and/or hauler.

Data from District-sponsored programs, such as its Scrap Tire Collection, Used Anti-Freeze Recycling, HHW Collection, and Electronics Collection are included in residential sector recycling totals. The District's various contractors provide data for these programs.

1. Ohio EPA Data

The District uses the following Ohio EPA's annually published data when calculating residential recycling performance in conjunction with the residential data collection activities described above: Material Recovery

Facility, Compost Facility Data Report, and Scrap Tire Data Report. This data is obtained from Ohio EPA's website:

http://www.epa.ohio.gov/dmwm/Home/SWMgmtPlanning2.aspx

The District ensures that double counting does not take place when using Ohio EPA data and District-collected data from communities and other third parties. No issues with using Ohio EPA data for the residential sector have been identified.

The District obtains data from private recycling companies that operate programs independent of those provided by an individual community. An example of this is the Royal Oak Paper Retriever program.

2. Residential Sector Data Gaps

The District is confident that the residential sector recycling data collected represents a nearly complete picture of the residential sector recycling activities that take place throughout the District. All major sources of recycling tonnage are captured by the District's current data collection activities. If there are gaps in data, the District estimates that they are negligible quantities.

3. Strengths, Challenges, and Opportunities

Out of the three sectors of waste generators, the District is most confident with the residential sector recycling data. The District will continue its current efforts.

Strengths

- Confident with residential sector recycling data.

Challenges

- The District has not required communities to submit disposal data; therefore, the District is not capable of analyzing recycling trends on a deeper level when significant increases or decreases occur. For example, if a community reports a decrease in recycling, the District does not have adequate data to identify whether recycling rates have decreased, increased, or remained the same based on how disposal quantities may have fluctuated. To further complicate the issue of obtaining disposal data, residents in some communities are able to choose haulers other than the haulers providing recycling services. There are only two companies that provide curbside recycling

collection but multiple waste haulers. The District has the cooperation of the recycling haulers but may not be able to obtain disposal totals by community.

Opportunities

- The District can approach the haulers in Lorain County to identify whether solid waste data is available on a community level. If data is available, the District will begin collecting the information.

- The District could require disposal data be provided by community for the Lorain County Consortium Contract.

B. Commercial/Institutional Sector

The District gathers data from two sources using a variety of methods to capture data from the commercial sector as described below:

1. Ohio EPA Data

The District uses the following Ohio EPA's annually published data for the commercial sector data: Material Recovery Facility and Commercial Recycling Data Report, Compost Facility Data Report, and Scrap Tire Data Report. This data is obtained from Ohio EPA's website:

http://www.epa.ohio.gov/dmwm/Home/SWMgmtPlanning2.aspx

The District ensures that double counting does not take place when using Ohio EPA data and District collected data from commercial entities and other third parties. No issues with using Ohio EPA data for the commercial/institutional sector have been identified.

2. Generator Data

The District sends a hard copy mailed survey and an electronic survey to targeted commercial sector generators to obtain recycling data each year. The list of recipients for the hard copy survey conducted through the mail is developed using the following steps:

- Generate base list of commercial institutions with at least 20 employees using a business database such as *Reference USA*.
- Cross-reference list to ensure key generators listed in the Lorain County Chamber of Commerce's directory are included.
- Search news articles from the previous calendar year to identify new businesses that should be added to survey list.

- Remove businesses that reply regularly (within last three years) using the electronic survey so multiple forms of the survey are not delivered to businesses that regularly participate.

The hard copy survey is updated annually. To collect reference year data, the District used a template created by Ohio EPA. Participation rates were underwhelming. The District continually makes evidence-based improvements to try to boost participation rates. For example, using phrases such as "it would help us out" can result in an increase in response rates of up to 18%. The following year, the District updated the cover letter, survey, and envelope. Examples of the most up-to-date survey materials are available in **Section H-12, Attachment 1**.

To collect reference year data for 2016, hard copy surveys were mailed to 305 commercial sector businesses in 2017. Follow-up phone calls were made to the businesses with the largest number of employees if a response was not received by the deadline. The paper survey yielded 14 new responses or a response rate of 4.6%.

Table H-12.1. Commercial Sector Mailed Survey Response Rate

Commercial Sector Mailed Survey	
Total Surveys Mailed	305
Total Responses Received	14
Response Rate	**4.6%**

Electronic survey accounts were created for businesses that responded to the mailed hard copy survey so the District could survey them electronically the following year and reduce paper waste.

Businesses that responded to the District's survey in the past were sent an electronic survey request. The electronic survey request was sent using a mail merge, which allowed the District to customize some fields in the letter. An example of the electronic survey request is available in **Section H-12, Attachment 1**. The District e-mailed 168 electronic survey requests during the reference year. Reminder e-mails were sent to survey recipients one week before the deadline and a follow-up email was sent to survey recipients that did not respond by the deadline. The District received 31 responses, or a response rate of 18.5%.

Table H-12.2. Commercial Sector Electronic Survey Response Rate

Commercial Sector Electronic Survey	
Total Surveys E-mailed	168
Total Responses Received	31
Response Rate	**18.5%**

In addition, the District was able to move forward 31 responses from businesses that responded during the previous two years. The District confirmed that these businesses were still operating before including the responses in the reference year data. There were a total of 76 commercial sector responses from 2014-2016 gathered through traditional and electronic survey methods that were included in the annual data calculation. Most responses represented one business location, but some responses reflect recycling from more than one location. For example, the United States Postal Service submitted one response for all post offices in Lorain County.

A combined total of 473 commercial sector surveys were sent via mail/email. The single-year response rate was 45 out of 473, or 9.5%. The supplemented response rate (which included responses from 2014 and 2015) was 76 out of 473, or 16.1%.

Table H-12.3. Commercial Sector Survey Response Rates – Combined Methods (Mail/Email)

Commercial Sector Survey – Combined Methods (Mail/Email)	
Total Surveys Sent	473
Total Responses Received	45
Single Year (2016) Response Rate	**9.5%**
Supplemented Response Rate (2014-2016)	**16.1%**

The District primarily relies upon generator data to compile commercial sector recycling totals. A minimal amount of broker/processor and hauler data is used. The potential for double-counting materials is addressed by comparing responses from generators with processors, haulers, and material recovery facilities. Each commercial business and institution is asked to provide the processor receiving their materials. For example, if a business reports recycling 200 tons of cardboard and also reports that this material was sent to ABC Processor, and that ABC Processor responded to the survey and reported received 1,000 tons of cardboard from the District, then only the amount reported by ABC Processor would be included in the District's recycling totals, and not the 200 tons from the business. If processor data is used, tonnage reported by businesses that did not report which processor they used is also excluded from calculations.

3. Commercial Sector Data Gaps

The District is confident that it receives survey responses from the majority of key generators in Lorain County, which is demonstrated in **Table H-2.2**. The District's survey efforts are robust, thoughtful, and continually improving. The District estimates that gaps in data are likely minimal compared to the overall tons reported.

4. Strengths, Challenges, and Opportunities

Strengths

- Captures data from largest generators based on total number of employees.

Challenges

- Increasing participation rates has been a challenge for the District. It previously relied solely on electronic surveying to collect annual data. In an effort to improve participation rates, a mailed survey was employed in addition to the electronic survey. Strategies to further improve response rates may be available, but the District will need to evaluate the benefits compared to the financial costs and human capital/time investments.

Opportunities

- The District could develop a program whereby staff would contact a certain number of businesses each year through a phone call or face-to-face meeting. The District could target key generators that have not previously participated in the annual survey to identify whether they have a recycling program, introduce them to District programs and services, and request their participation in the survey.

E. Industrial Sector

The District gathers data from two sources using a variety of methods to capture data from the industrial sector as described below: Ohio EPA data and generator data.

1. Ohio EPA Data

The District uses the Ohio EPA Material Recovery Facility Report to gather industrial sector data from one local MRF. This data is obtained from Ohio EPA's website:
http://www.epa.ohio.gov/dmwm/Home/SWMgmtPlanning2.aspx

The District ensures that double counting does not take place when using Ohio EPA data and District collected data from industrial entities and other third parties. No issues with using Ohio EPA data for the industrial sector have been identified.

2. Generator Data

The District conducts a mailed and an electronic survey of industrial sector generators. The industrial sector survey is conducted using the same methodology as the commercial sector survey, which is described previously in this section.

To collect reference year data for 2016, surveys were mailed to 84 industries in 2017. Follow up phone calls were made to the industries with the largest number of employees if a response was not received by the deadline. The paper survey yielded 8 new responses or a response rate of 9.5%.

Table H-12.4. Industrial Sector Mailed Survey Response Rate

Industrial Sector Mailed Survey	
Total Surveys Mailed	84
Total Responses Received	8
Response Rate	**9.5%**

Electronic survey accounts were created for industries that responded to the mailed survey so the District could survey them electronically the following year.

Industries that responded to the District's survey in the past were sent an electronic survey request. The District e-mailed 82 electronic survey requests during the reference year. Reminder e-mails were sent to survey recipients one week before the deadline and a follow-up email was sent to survey recipients that did not respond by the deadline. The District received 31 responses, or a response rate of 37.8%.

Table H-12.5. Industrial Sector Electronic Survey Response Rate

Industrial Sector Electronic Survey	
Total Surveys E-mailed	82
Total Responses Received	31
Response Rate	**37.8%**

In addition, the District was able to move forward 17 responses from industries that responded during the previous two years. The District confirmed that these industries were still operating before including the responses in the reference year data. There was a total of 56 industrial sector responses from 2014-2016 gathered through traditional and electronic survey methods that were included in the annual data calculation.

A combined total of 166 industrial sector surveys were sent via mail/email. The single-year response rate was 39 out of 166, or 23.5%. The supplemented response rate (which included responses from 2014 and 2015) was 56 out of 166, or 33.7%.

Table H-12.6. Industrial Sector Survey Response Rates – Combined Methods (Mail/Email)

Industrial Sector Survey – Combined Methods (Mail/Email)	
Total Surveys Sent	166
Total Responses Received	39
Single Year (2016) Response Rate	**23.5%**
Supplemented Response Rate (2014-2016)	**33.7%**

Measures to eliminate double counting recycling data are described in the commercial section.

3. Industrial Sector Data Gaps

The District receives survey data from the majority of the key industrial sector facilities in Lorain County, which is demonstrated in **Table H-2.4**. The District estimates that gaps in data are likely minimal compared to the overall tons reported.

4. Strengths, Challenges, and Opportunities

See “Strengths, Challenges, and Opportunities” under the Commercial Sector analysis.

SECTION H-12. Attachment 1

Survey Envelope

Lorain County Commissioners
c/o GT Environmental, Inc.
635 Park Meadow Road, Suite 112
Westerville, OH 43081

WE NEED YOUR INPUT
to improve recycling
in Lorain County

Survey Cover Letter (via Mail)

LORAIN COUNTY COMMISSIONERS

Lori Kokoski Ted Kalo Matt Lundy

226 Middle Avenue
Elyria, OH 44035
Office: 440-329-5111
Fax: 440-323-3357
www.loraincounty.us

County Administrator
James R. Cordes
440-329-5760

Clerk of Board of Commissioners
Theresa Upton
440-329-5103

Animal Control Officer
Timothy Pihlblad
440-326-5997

Budget Director
Lisa Hobart
440-329-5201

Charles Berry Bridge Superintendant
Al Zocchi
440-244-2137

Children & Family Council
440-284-4464

Community Development Director
Don Romancak
440-328-2323

E-9-1-1 Director
Tracy Slagle
440-329-5444

Emergency Management & Homeland Security Director
Thomas Kelley
440-329-5117

Facilities Management Director
Karen Davis
440-329-5102

Human Resources Department
440-329-5150

IT Director
Ernie Smith
440-329-5786

Lorain County Crime/Drug Lab Director
Emmanuel de Leon
440-329-5636

Lorain County Transit
Pamela Novak
440-329-5525

Office of Sustainability Coordinator
Michael Challender
440-328-2361

Purchasing
KC Saunders
440-329-5240

Records Center Supervisor
Denise Lindak
440-326-4866

Solid Waste Director
Keith Bailey
440-329-5442

Visit Lorain County
440-984-5282

Workforce Development Director
Mike Longo
440-284-1834

March 2018

Dear Facility Manager:

THE LORAIN COUNTY SOLID WASTE MANAGEMENT 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 2017. 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 enclosed survey using only **calendar year 2017 information**. The information requested 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 this survey should take only a few minutes. Only materials generated within Lorain County should be reported.

Please submit your completed survey by **Friday, April 13, 2018** via e-mail (**mkathleen@gtenvironmental.com**) or fax (**614-899-9255**). For assistance, please contact the District's consultant, Molly Kathleen, with any questions regarding this survey. Molly can be reached by phone at 614-794-3570, ext. 11. We appreciate your cooperation in completing this survey.

Sincerely,

Keith A. Bailey

Keith A. Bailey
District Director

Enclosure

Survey (via Mail)

LORAIN COUNTY COMMISSIONERS
Ted Kalo Lori Kokoski Matt Lundy

Lorain County
Solid Waste Management District

2017 Recycling Survey

This recycling survey is being conducted by the Lorain County Solid Waste Management District to identify the type and amount of recyclables generated within Lorain County during 2017. The District will use this information for summary purposes only; no company's survey response will be reported individually. Your response to this survey will help measure Lorain County's progress toward state-mandated recycling goals and help us provide programs that meet local needs.

PLEASE RETURN COMPLETED SURVEY BY **APRIL 13, 2018** USING ONE OF THESE METHODS:

Email to: mkathleen@gtenvironmental.com
Fax to: (614) 899-9255

If you have any questions or need assistance completing the survey, contact the District's consultant, Molly Kathleen, at (614) 794-3570, ext. 11.

1. Contact Information (this information will be kept **private**):

Company Name: _____

Company Mailing Address: _____

Contact Name: _____ Number of Employees: _____

Phone Number: _____ Email address: _____

2. Does your organization recycle? (please check one)
❑ Yes **(CONTINUE)**
❑ No **(END – Please return survey as directed above)**

3. Please complete the following table by reporting the amount of materials recycled in **2017** that were generated *within* Lorain County. In the "Amount" column, enter the quantity recycled in 2017, then check the unit of measurement in the "Measurement" column. You may estimate if necessary. In the "Recycler" column, please indicate the hauler that collects the reported material or where the material goes after it leaves your establishment.

Material	Amount	Measurement	Recycler
Example: Mixed Recycling (aka "single stream" or "commingled")	3.5	❑ Pounds ☒ Tons ❑ Cubic Yards	Recycling Brothers of Ohio
Mixed Recycling (aka "single stream" or "commingled")		❑ Pounds ❑ Tons ❑ Cubic Yards	
Ferrous Metals (steel, iron, food cans) Do not report auto bodies or construction/demolition materials such as rebar		❑ Pounds ❑ Tons ❑ Cubic Yards	

Continue > > >

1

Material	Amount	Measurement	Recycler
Non-Ferrous Metals (aluminum, copper, brass, beverage cans) *Do not report auto bodies or construction and demolition materials such as aluminum siding*		❑ Pounds ❑ Tons ❑ Cubic Yards	
Paper (newsprint, office, glossy, etc.)		❑ Pounds ❑ Tons ❑ Cubic Yards	
Cardboard/Paperboard		❑ Pounds ❑ Tons ❑ Cubic Yards	
Plastics (#1-#7)		❑ Pounds ❑ Tons ❑ Cubic Yards	
Glass		❑ Pounds ❑ Tons ❑ Cubic Yards	
Food		❑ Pounds ❑ Tons ❑ Cubic Yards	
Appliances (aka "white goods")		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Wood (pallets, scrap, etc.)		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Pallets	
Yard Waste (leaves, grass, brush, trimmings)		❑ Pounds ❑ Tons ❑ Cubic Yards	
Electronics		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Used Motor Oil		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Gallons	
Textiles (Clothing)		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Batteries: *Circle one:* Household Batteries Lead-Acid (Vehicle) Batteries		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Other (specify): _____		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Other (specify): _____		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Other (specify): _____		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	
Other (specify): _____		❑ Pounds ❑ Tons ❑ Cubic Yards ❑ Number/Units	

THANK YOU FOR YOUR HELP!

2

Survey Cover Letter (via Email)

Dear <Name>,

THE LORAIN COUNTY SOLID WASTE MANAGEMENT DISTRICT NEEDS YOUR HELP.

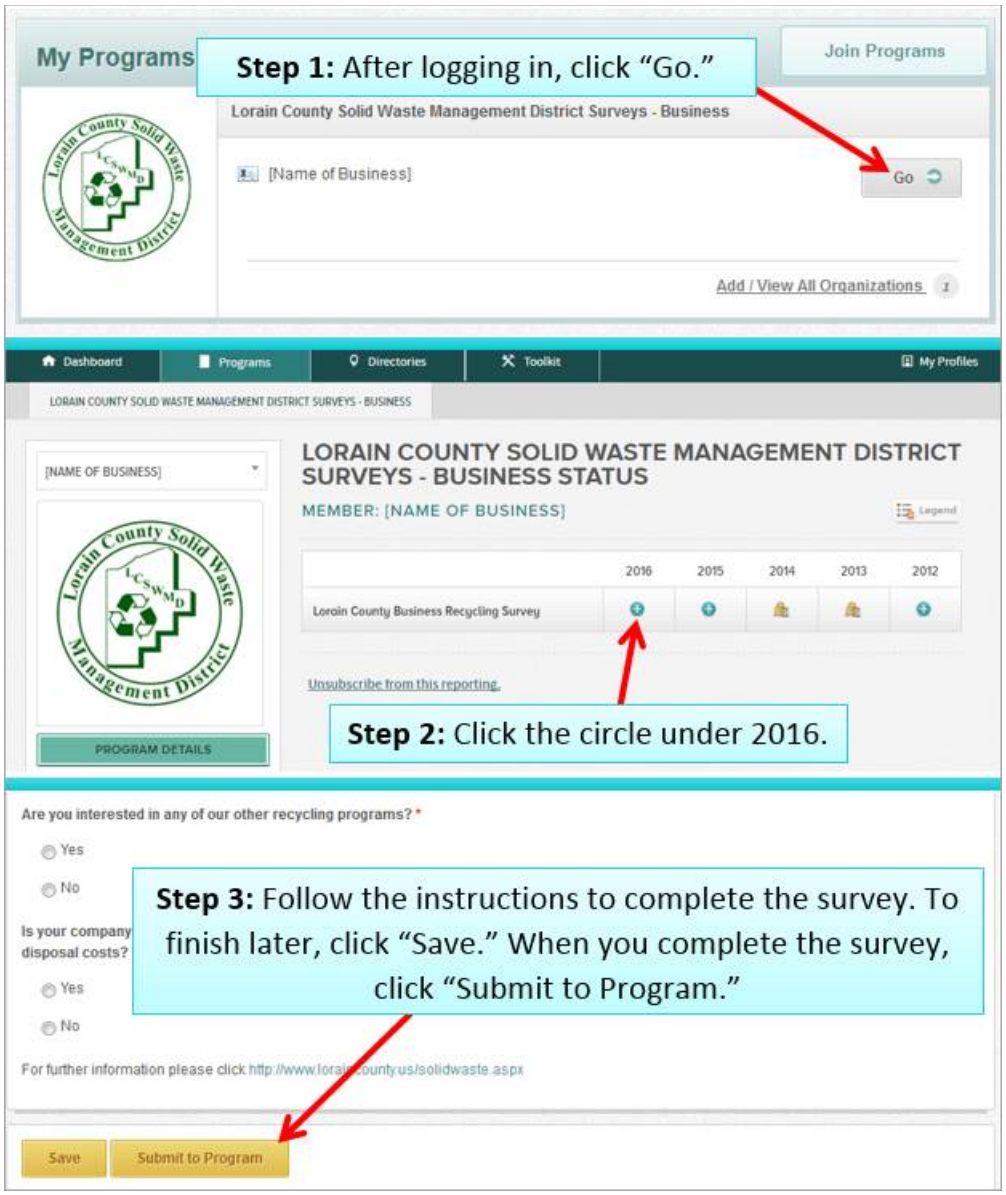
To help us track local recycling efforts, and to fulfill our state obligations, the Lorain County Solid Waste Management District asks for your participation in a brief survey regarding the total pounds/tons recycled by your workplace in 2016. The data you provide will be combined with other businesses' data, so your individual company's or organization's information will not be identified.

Please submit calendar year 2016 recycling information for **<BUSINESS NAME>** by **Friday, March 31, 2017.** Completing this survey should only take a few minutes. Only materials generated within Lorain County, Ohio should be reported.

Completing the survey is quick and easy! An account has been created for you. To complete the survey, use the following log-in information:

Website: https://connect.re-trac.com/login
Username: <User Email Address>
Password: <User Password>

The survey can be completed in 3 simple steps:



If you have any questions, please contact the District's consultant Molly Kathleen of GT Environmental at 614-794-3570 ext. 11 or mkathleen@gtenvironmental.com.

*****IMPORTANT: If you are not the correct contact person, please respond with the name and email address of the alternate who will complete this annual request on behalf of your company. If your establishment does not recycle, please respond "No Recycling." If you submit a response electronically and receive a duplicate survey request in the mail, please disregard the second request.**

Thank you for your help!

This message was sent to you on behalf of Keith A. Bailey, Director of the Lorain County Solid Waste Management District.

SECTION H-13. Education and Outreach Analysis

This Section of Appendix H evaluates the District's existing education, outreach, and technical assistance efforts, which are described in detail in Appendix L. The purpose of this analysis in Appendix H is to determine whether the existing programs are effectively and adequately reaching each of the District's target audiences.

A. Target Audiences

The 2009 State Solid Waste Management Plan established nine goals for Districts to achieve. One of the goals requires that solid waste management districts (SWMDs) 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. The District has five target audiences, including:

- Residents
- Schools
- Commercial businesses and institutions
- Industries
- Communities and elected officials

1. Residents

The District provides a website for residents to find appropriate information on the many program opportunities. This includes:

- Scrap Tire drop-off locations
- Agricultural Tire Collection Events
- Paper Shred Days
- Appliance Recycling Information
- America Recycles Day
- Lorain County Pride Day
- Keep Lorain County Beautiful
- Kids' Corner for Recycling Learning
- Recycling Tips and Reducing Carbon Footprint through recycling
- Collection Center Schedule and Materials Accepted
- Recycling Frequently Asked Questions
- Composting How to Classes through the Lorain Extension Agent
- Composting website offered by the OSU Extension office.

The District also has targeted radio and paper advertisements on District programs and activities for Lorain County residents.

The District publishes a District Annual Report (DAR) every year and distributes to interested residents. The DAR includes data from each community on recycling and descriptions of District programs and activities.

2. Schools

The District provides educational opportunities for students throughout the school year. This includes:

- School presentations on waste reduction and recycling
- Collection Center tours
- America Recycles Day student and class pledges
- Student Calendar Contest & Photograph Contest
- Lending Library
- Photograph & Caption Contest
- Lorain Pride Day T-shirt Design Contest

In 2016, the District conducted 146 presentations in Lorain County schools to over 4,000 students.

3. Commercial Businesses and Institutions

The District provides educational and program opportunities to the business and institutional sector as follows:

- Waste assessments and audits (free)
- Zero waste planning
- Commercial paper recycling program

4. Industries

- Waste assessments
- Zero waste planning
- District surveys industries annually with an opportunity to request technical assistance.

5. Communities and Elected Officials

- Meetings and information on District programs to recycling coordinators
- Presentations to Lorain County Alliance on District consortiums
- Meetings with township trustees on solid waste issues
- Meetings with individual communities on grant opportunities
- Clean and Beautiful Trailer

- Presentations on Recycling & Waste Reduction when requested.

B. Strengths, Challenges, Opportunities

Evaluating the educational opportunities and the audiences reached outlines areas of strength and several challenges. There are also areas for improvement which create opportunities which are presented below.

Strengths

- Each audience receives attention from the District.
- Many programs are geared to educating and encouraging participation within the residential sector.
- A District focus for many years has also been the students and schools.
- The District communicates with elected officials and community recycling coordinators about District programs and grant opportunities.

Challenges

- Residential recycling rates have flattened out in many communities since the initiation of Pay As You Throw programs.
- Focus on student education may not help to boost recycling rates significantly.
- Multi-family households do not have adequate education or access to recycling.
- There is a need to assist and educate the commercial, industrial and institutional sectors with recycling education opportunities offered by the District.
- Regular communications with recycling coordinators is needed to boost recycling opportunities throughout the residential and business community.

Opportunities

The District would like to re-energize the residential recycling programs. To accomplish this the District is considering the following:

- Establishing a methodology to measure participation in each community providing PAYT or curbside recycling. Sponsor funding through a grant or District operated program/activity.

- Establish a plan to identify residential recycling program participants that have significant amounts of contamination in their recycling containers. The District could hire college students as interns to assist in this plan with community recycling coordinators. The purpose would be to provide a gentle reminder of what is an acceptable recyclable and the materials that are not eligible for recycling that should remain in the trash cart. The District will try to involve waste management companies and haulers into the execution of this initiative since these parties should have a vested interest in the outcome, which is to obtain recyclables with a lower contamination level. The District should consider a corresponding advertising program with similar messaging.

- Narrow education and focus on Middle School grades 6th and 7th for presentations on recycling with consistent messaging. This could include assemblies and tours of the Collection Center, Landfill, and Recyclery. The District should consider developing and implementing a survey to the schools to ensure the education program is on target and the schools are willing to participate in the program.

- Bi-monthly or quarterly meetings with recycling coordinators from communities to provide District updates on programming and solicit their assistance in the measurement and contamination review. Meetings will also ask recycling coordinators to communicate a summary of the meeting with their Mayors or Township Trustees. Mayors and Trustees are welcome at the meetings with recycling coordinators.

- The District should sponsor an annual educational seminar for elected officials to see the Collection Center, Landfill, and Recyclery. The luncheon portion of the annual education seminar should include highlights of District activities and programming.

- District staff should identify 4-6 multi-family complexes that could participate in a recycling grant program offered by the District. After the identification process is complete, schedule one-on-one meetings with the complexes to discuss the District program and opportunity to educate residents regarding recycling.

- Reach out to community groups to present information on waste reduction and recycling as well as the availability of the Collection Center for HHW, electronics, and scrap tires.

SECTION H-14. Processing Capacity Analysis

This section outlines the current evaluation for processing facilities the District uses to meet the need for implementing initiatives to recover more material through existing or new services.

A. Processing Capacity

The District required processing for over 80,000 tons of residential/commercial recyclables and 104,000 tons of industrial recyclables. There are several facilities operating in the District that processed quantities of District-generated recyclables in 2016 including:

- Republic Waste Services Lorain County Recyclery
- Blue Star Metals: Did not report, but based on historic information, this scrap metal processor accepts a significant quantity of materials specifically ferrous and non-ferrous metals.
- Sugar Ridge Recycling, Elyria - ferrous and non-ferrous metals
- Kurtz Bros. Avon Lake Compost Facility
- Cloverleaf Composting Facility
- Barnes Nursery
- Oberlin Compost
- Avon Lake Central Fueling
- Three Z Inc. Composting
- Eaton Township Composting Center
- Carlisle Township Composting
- City of Lorain Composting Facility
- Lorain County Collection Center – collects special materials for processing
- Ross Environmental – Household Hazardous Waste

There are also processing facilities that manage Lorain County recyclables outside the District including:

- Rumpke Waste Columbus, OH
- Liberty Tire Company, OH
- Kurtz Bros. Independence Facility, OH
- #1 Landscape Composting – Medina, OH
- Green Wave Computer Recycling, LLC – Indianapolis
- ERG Environmental Services, LLC, Bowling Green, OH
- American Paint Recyclers, Middle Point, OH
- Environmental Specialists, Inc. Youngstown, OH
- Caraustar, Inc. Cleveland, OH
- Gateway Recycling, Inc. Cleveland, OH

- Cylinder Recyclers, Inc. Cleveland, OH
- Sunset Cylinder Exchange, St. Mary's, OH
- Curie Environmental Services, Albuquerque, NM

Table H-14.1. Reference Year (2016) Residential/Commercial Material Recycled

Material	Tons
Appliances/ "White Goods"	54
Household Hazardous Waste	280
Used Motor Oil	139
Electronics	385
Scrap Tires	2,676
Dry Cell Batteries	5
Lead-Acid Batteries	7
Food	1,392
Glass	5,209
Ferrous Metals	4,531
Non-Ferrous Metals	804
Corrugated Cardboard	16,734
All Other Paper	14,663
Plastics	2,584
Textiles	647
Wood	3,580
Commingled Recyclables (Mixed)	2,232
Yard Waste	24,745
Other (Aggregated)	7
Total	**80,673**

1. Organics Processing Capacity

The highest quantities of residential/commercial materials recycled include yard and food waste at 26,000 tons. The District's network of composting facilities has managed the generated yard waste tonnage. However, there are some concerns regarding some of the facilities that manage large volumes of organic material and whether the existing sites can continue to service the District if volumes increase. There are also concerns that there are not enough options for competing hauling companies to allow them to bid on yard waste services. There are no Class II compost facilities in District to take food waste organics.

In 2017, the District completed an analysis of a potential site owned by the District to be operated as an organics processing facility. The facility would

be able to serve political subdivisions that are not currently collecting yard waste material from their residents. The facility was also projected to manage food wastes from commercial facilities. This would expand the market in Lorain County as the facility would need to be classified as a Class II facility. The District has recently received a draft of the report and is analyzing the pro forma and the financial viability of the District owning and operating or owning and having a private sector operator for organics. The lack of a Class II facility for food waste will make it difficult to serve and collect this large volume material. One of the greatest challenges facing the future of food waste collection is making it more economical. If this can be accomplished, new opportunities for diverting food waste from the residential sector may arise. There will also be a need for local service for processing this material. The District needs to determine the following:

- Will a District facility be economically viable should the District become an early leader in food waste composting?
- Can the District provide another market place option for communities for yard waste composting? and
- Is there enough market demand for a District facility that it can serve as a regional solution for this large volume material?

2. Traditional Recyclables Processing Capacity

Traditional recyclables collected from curbside recycling programs and commercial facilities (including corrugated cardboard, paper, non-ferrous metal, plastics, glass, and commingled recyclables) totaled 42,000 tons in 2016. In 2013, Republic completed a comprehensive retrofit of the Republic Waste Recyclery. The facility can now process up to 150,000 tons of recycling materials annually. The facility is designed to process 35 tons per hour as compared to 15 tons per hour prior to the retrofit. This facility has provided service to communities in the Cleveland and Toledo markets. Having this facility located in the District should continue to be a benefit to the District providing ample processing capacity for recyclables.

3. Special Materials Processing Capacity

The District processes other materials such as scrap tires (approximately 2,600 tons) and household hazardous waste (280 tons) through specialized facilities. The District's Collection Center, which is open throughout the year, collects residential HHW, tires, and other recyclable materials. Materials are collected, segregated, packed, and shipped to facilities for recycling.

4. Scrap Tires

The District has been approached by businesses interested in processed scrap tires. The businesses are interested in taking crumb rubber material for

other applications. The District initially evaluated whether a scrap tire processing facility would be economically viable in the District. In order to accomplish supplying a business with scrap tire material, an investment and siting of a scrap tire processing operation would be necessary with assurances that a market for the processed materials would be continual and available. The District needs to determine whether a public-private partnership is appropriate.

B. Strengths, Challenges, Opportunities

Sufficient in-District processing capacity was accessible in the reference year for recyclable materials and yard waste. However, markets for other materials such as food waste and scrap tires may provide for new opportunities.

Strengths

- The District has ample in-District processing capacity for current and projected volumes of recyclables throughout the planning period.
- The 26,000 tons of yard and food waste has been managed with both in-District and out-of-District facilities.
- Specialty materials such as tires and HHW are managed at facilities inside and outside of the District.

Challenges

- As collected volumes of food waste grow, there are concerns that the lack of a Class II facility will limit diversion.
- In the past, concerns have been identified by public sector entities about the cost of recycling tipping fees. With more competition for increasing materials, pricing should be competitive.
- The costs for shipping specialty recyclable materials for processing must be monitored to ensure fair market pricing.
- The District needs to evaluate owning and operating specialty recycling facilities.

Opportunities

- The District will continue to evaluate whether the specialty recyclable materials markets are an opportunity to develop facilities to provide raw materials to manufacturers.

APPENDIX I

CONCLUSIONS, PRIORITIES, AND PROGRAM DESCRIPTIONS

APPENDIX I. Actions, Priorities, and Program Descriptions

A. Conclusions and Priorities from Appendix H

The District completed fourteen analyses which reviewed the District's existing recycling infrastructure and all of its programs and services in Appendix H. The analysis then identified strengths, challenges, and opportunities where applicable. Through this process, a total of 37 recommendations for improvements, initiatives, and/or strategies were proposed to be considered for implementation in the new planning period. The recommendations are listed in Section B of this appendix and ranked to be prioritized.

The analyses in Appendix H demonstrated the District's countywide infrastructure and unique recycling facilities available to residents. The recommendations in Appendix H were created to improve programs and address gaps to increase awareness and collaboration with the District's audiences.

Appendix I describes 37 programs and actions that the District may or will implement during the planning period. The program descriptions are contained in Section B below and are organized under the following categories:

1. Curbside & Drop-Off Recycling
2. Residential, Commercial/Institutional, Industrial Programs & Restricted/Hard-to-Recycle Materials
3. Education/Outreach
4. Grants/Incentives, Facilities, Enforcement/Clean-Up, & Other Programs

Many of the programs and actions to be implemented by the District comply with one or more of the following nine goals contained within the 2009 State Solid Waste Management Plan:

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 and at least 66 percent of the solid waste generated by the industrial 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 provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.
Goal #6	• The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.
Goal #7	• The SWMD will use U.S. EPA's Waste Reduction Model (WARM) (or an equivalent model) to evaluate the impact of recycling programs on reducing greenhouse gas emissions.
Goal #8	• The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.
Goal #9	• The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

B. Program Descriptions

This section outlines the suggested opportunities from Appendix H and the existing programs available to residents, communities, businesses, and institutions during the planning period, as well as new programs or changes that will be implemented. Further details on opportunity descriptions are included in Appendix H.

The District reviewed the list of potential opportunities and programs and prioritized the list focusing on the actions which were determined to be most important and those which would require the least amount of difficulty in implementing. The step-by-step process which the District used to prioritize the list was as follows:

- The ranking consisted of the District assigning a value of between 1 and 5 to each initiative with 5 being the highest priority and 1 being the lowest priority.
- The priority ranking defined whether the District felt an initiative or program would be implemented under the following criteria:
  - ✓ Ranking of 1 – No implementation
  - ✓ Ranking of 2 – No implementation
  - ✓ Ranking of 3 – District reserves the right to implement but does not guarantee implementation
  - ✓ Ranking of 4 – Implement
  - ✓ Ranking of 5 – Implement
- The District then prioritized the results from the above steps.
- The list of prioritized possible actions was then presented to the Policy Committee with discussion from District personnel and the District's consultant.
- The results of this prioritization process and the programs/initiatives developed or continued are detailed in Chapter V of this Plan Update.

1. Curbside and Drop-Off Recycling

The District listed opportunities for actions or programs identified through the evaluations conducted in Appendix H and are presented in **Table I-1** below. After ranking, the opportunities were prioritized for new programs.

Table I-1. Ranked Suggested Opportunities from Appendix H for the Residential Recycling Infrastructure Analysis

Opportunities from Section H-1: Residential Recycling Infrastructure Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
Curbside Recycling	Investigate What Makes Top Performing Communities Successful	3.3
	Conduct targeted education in lower performing communities	3.9
	Use focus groups or surveys in lower performing communities	2.4
	Provide Educational Toolkit to Communities to Decrease Contamination and assist with zero waste plans for communities	4.4
	Revise Allowable Expenses for Community Incentive Grant	3.7
Drop-Off Recycling Infrastructure	Investigate Feasibility of Opening an Additional Multi-Material Drop-Off in Southern Portion of Lorain County	2.1
	Identify Concentrations of MFH Units to Assess Where is the Greatest Need for Additional Infrastructure	4.0
	Conduct a Residential Survey	2.4
	Facilitate Joint Recycling Contracting for MFH	3.6
	Promote Paper Retriever and Other Drop-Off Locations	2.9

Table I-2. Summary of Actions and Programs for Residential Recycling Infrastructure for the Planning Period (2020-2034)

Status	Program / Action Name	Start Date	End Date	Goal(s)
Curbside Recycling				
Existing	Non-Subscription Curbside Recycling Programs	Existing	Ongoing	1,2
Existing	Curbside Recycling Technical Assistance and Contracting Services	Existing	Ongoing	2,4,6
Existing	City of Lorain Automated Curbside Collection	Existing	Ongoing	2
Existing	Consortium for Waste Services	Existing	Ongoing	4
Potential	Conduct Targeted Education in Lower Performing Communities	2020	2029	4
New	Provide Educational Toolkit to Communities to Decrease Contamination and assist with zero waste plans for communities.	2020	2029	3,4
Potential	Revise Allowable Expenses for Community Incentive Grant	2022	2023	2,4,6
Drop-Off Recycling				
Existing	Multi-Material Recycling Drop-Offs	Existing	Ongoing	1,2
Existing	Limited Material Recycling Drop-Offs	Existing	Ongoing	1,2
Existing	Initiative to improve convenience and access	Existing	Ongoing	1,2
Existing	Commercial Sector Paper Recycling	Existing	Ongoing	2,4
Existing	Paper Retriever - Phone books	Existing	Ongoing	1,2,4
New	Identify Concentrations of MFH Units to Assess Where is the Greatest Need for Additional Infrastructure	2020	2029	1,2
Potential	Facilitate Joint Recycling Contracting for MFH	2023	2024	1,2

a. New Programs: Residential Recycling Infrastructure

Potential: Conduct Targeted Education in Lower Performing Communities

The District would like to focus on increasing the recycling rate for curbside collection. By conducting a targeted education and outreach in the communities that are recovering less than the national average of 300-350 pounds per household per year, the District can focus and improve recycling rates more efficiently.

Provide Educational Toolkit to Communities to Decrease Contamination

The District can provide communities with customizable materials that can be posted on community webpages and/or social media platforms that educate residents on allowable and unacceptable materials for curbside recycling programs. This toolkit will help the District in their outreach priority to focus on contamination rates. The District can also assist communities with developing customized zero waste plans.

Potential: Revise Allowable Expenses for Community Incentive Grant

The District will revise the criteria of expenses which the Community Incentive grant awards funding. The purpose is to adjust funding expenses for programs to focus on the needs of the District to improve recycling tonnages.

Identify Concentrations of MFH Units to Assess Where is the Greatest Need for Additional Infrastructure

The District will work with communities and regional planning agencies to identify communities or areas with the greatest concentrations of MFH units. These areas can be investigated to identify if there is an opportunity to provide additional infrastructure that will measurably improve residential sector recycling rates.

Potential: Facilitate Joint Recycling Contracting for MFH

The District will facilitate cooperative contracting amongst multiple MFH buildings within a geographic region to increase economies of scale and route densities to decrease costs.

2. Residential, Commercial/Institutional, Industrial Programs & Restricted/Hard-to-Recycle Materials

The District listed opportunities for actions or programs identified through the evaluations conducted in Appendix H and are presented in **Table I-3** and **Table I-4** below. After ranking, the opportunities were prioritized for new programs.

Table I-3. Ranked Suggested Opportunities from Appendix H for the Business and Industrial Sector Analysis

SECTIONS H-2 and H-3. Business and Industrial Sector Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
District Business and Industry Recycling Assistance Programs	Strategic Approach to Target Businesses for Assistance	3.0
	Commercial Sector Consortiums	3.7
	Meet with Economic Development Directors in Communities	4.4
	Collaborate with Trade Associations and Similar Organizations	3.6
	Zero Waste Planning Services for Industry	3.6
	Promote Ohio Materials Marketplace	3.6

Table I-4. Ranked Suggested Opportunities from Appendix H for the Residential/Commercial Waste Composition Analysis

Opportunities from Section H-4. Residential/Commercial Waste Composition Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
Yard Waste Programs	Yard Waste Contracting Consortiums	4.3
Food Waste Composting Programs	Target High Volume Food Waste Generators	4.0
Food Waste Composting Programs	Facilitate Food Rescue Program	4.0
Yard Waste Programs	At-Home Compost Education and Compost Bin Sales for Residents	3.9
Fiber (Paper) Recycling Programs	Target Commercial Sector Fiber Generators	3.4

Table I-5. Summary of Actions and Programs for Residential, Commercial/Institutional, Industrial Programs & Restricted/Hard to Recycle Materials for the Planning Period (2020-2034)

Status	Program / Action Name	Start Date	End Date	Goal(s)
Business and Industrial Sector				
Existing	Waste Audits	Existing	Ongoing	3,4
Existing	Recognition Program	Existing	Ongoing	N/A
Existing	Business Recycling Roundtable	Existing	Ongoing	3,4
Existing	Specialized Bottle/Can Collection Program	Existing	Ongoing	2
Existing	Zero Waste Planning	Existing	Ongoing	3,4
Existing	Bar & Restaurant Glass Recycling	Existing	Ongoing	1,2,4

Status	Program / Action Name	Start Date	End Date	Goal(s)
Potential	Commercial Sector Consortiums	2020	2029	4
New	Meet with Economic Development Directors in Communities	2020	2029	4
Potential	Collaborate with Trade Associations and Similar Organizations	2020	2029	4
Potential	Zero Waste Planning Services for Industry	2020	2029	2
Potential	Promote Ohio Materials Marketplace	2020	2029	1,2
Restricted & Difficult-to-Manage Wastes, Special Collection Events				
Existing	Electronics Collection	Existing	Ongoing	1,2,5
Existing	OSU Extension: Composting and Manure Handling	Existing	Ongoing	2,3,4,5
Existing	OSU Extension - Composting	Existing	Ongoing	2,3,4,5
Existing	OSU Extension webpage	Existing	Ongoing	2,3,4,5
Existing	OSU Extension Yard Waste - Brochures, phone-line, radio	Existing	Ongoing	2,3,4,5
Existing	Used Anti-freeze Recycling	Existing	Ongoing	5
Existing	Lorain County HHW Collection Center	Existing	Ongoing	2,3,4,5
Existing	Fluorescent bulb and ballast recycling	Existing	Ongoing	2, 5
Existing	Printer Cartridge & Cell Phone Recycling	Existing	Ongoing	1,2,5
Existing	Microwave Collection	Existing	Ongoing	1,2,5
Existing	Scrap Tire Collection	Existing	Ongoing	1,2,5
Existing	Appliance Recycling	Existing	Ongoing	1,2,5
New	Yard Waste Contracting Consortiums	2022	2029	1,2,4,5
New	Target High Volume Food Waste Generators	2022	2029	1,2,5
New	Facilitate Food Rescue Program	2022	2029	1,2,5
Potential	At-Home Compost Education and Compost Bin Sales for Residents	2022	2029	1,2,5

a. New Programs: Residential, Commercial/Institutional, Industrial Programs & Restricted/Hard to Recycle Materials

Potential: Commercial Sector Consortiums

The District will evaluate establishing commercial sector recycling consortiums in different sectors of the county where commercial activity is dense, such as strip malls and outlet stores where recycling is non-existent.

Meet with Economic Development Directors in Communities

The District may learn more about commercial sector generators and their challenges and needs regarding recycling by connecting with economic development directors. The District could use the meetings to

educate economic development directors about the District's services. This may help promote the District's programs to their constituents. Developing a relationship with a network of economic development directors throughout Lorain County could help the District stay informed about major changes in the commercial/industrial landscape.

Potential: Collaborate with Trade Associations and Similar Organizations

The District can collaborate with local commercial and industrial trade associations and similar organizations to reach more generators, distribute information, conduct seminars, and obtain information about business closings, new businesses, or issues affecting recycling/waste management in Lorain County. Examples of organizations include the Lorain County Growth Partnership, Lorain County Port Authority, the Manufacturing Advocacy and Growth Network (MAGNET), the Northeast Ohio Areawide Coordinating Agency (NOACA), Team Lorain County, Ohio Grocers Association, Ohio Manufacturers Association, Ohio Landscapers Association, and Ohio Retail Merchants.

Potential: Zero Waste Planning Services for Industry

The District will strive to help industrial facilities consider the development of a zero-waste plan. This would include establishing an industrial green team and the development of recommendations for the industry's waste streams.

Potential: Promote Ohio Materials Marketplace

The District will direct businesses and industries to the Ohio Materials Marketplace. The Ohio Materials Marketplace aims 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 could generate significant cost savings, energy savings, and create new jobs and business opportunities.

Yard Waste Contracting Consortiums

An evaluation will be performed on whether there is interest in establishing municipal yard waste contracting consortiums to obtain longer contracts and stable pricing for communities. If communities

express interest, the District would facilitate the development of the consortium and handle the bid in the same way it developed its disposal and recycling consortiums. To determine the level of interest, the District could survey those communities that operate municipal leaf collection programs and rely on private sector facilities for processing to determine the following:

- Community interest in participating in a contracting consortium
- Bid specifications and parameters
- Potential locations for the delivery of the consortium's materials.

Target High Volume Food Waste Generators

Identification of high-volume food waste generators will assist to target for increased diversion by creating a list based on specific NAICS and/or SIC codes and number of employees. The District should contact the high-volume food waste generators identified to determine their interest in diverting food waste. A survey to collect data and information from the high-volume generators should be prepared in advance of contacting the generators. The District could then assist the companies with establishing a food waste diversion program.

Facilitate Food Rescue Program

The District will facilitate the collaboration of entities that generate food waste and those that rescue food waste (such as Oberlin Community Services). The District could host a workshop with community groups that provide food rescue programs. The goal of the workshop and any subsequent programming would be to connect groups that provide food rescue services with generators that need their services, as well as educate entities that are able to donate food about the legal protections that exist concerning food donation (such as 42 U.S. Code § 1791 - Bill Emerson Good Samaritan Food Donation Act).

At-Home Compost Education and Compost Bin Sales for Residents

The District will consider providing workshops for residents to compost at home and provide options to purchase home composting vessels at a reasonable or discounted rate. The Cuyahoga County Solid Waste Management District is the District's neighbor to the east. Cuyahoga County operates a similar program. The District could engage with Cuyahoga County to see if there are opportunities to piggyback on

purchasing residential composting vessels using the District's special pricing.

Potential: At-Home Compost Education and Compost Bin Sales for Residents

The District could consider providing workshops for residents to compost at home and provide options to purchase home composting vessels at a reasonable or discounted rate.

3. Education/Outreach

The District listed opportunities for actions or programs identified through the evaluations conducted in Appendix H and are presented in **Table I-6** below. After ranking, the opportunities were prioritized for new programs.

Table I-6. Ranked Suggested Opportunities from Appendix H for the Education and Outreach Analysis

Opportunities from Section H-13. Education and Outreach Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
Residents	Establishing a methodology to measure participation in each community providing PAYT or curbside recycling.	4.2
Residents	Establish a plan to identify residential recycling program participants that have significant amounts of contamination in their recycling containers.	4.2
Schools	Narrow education and focus on Middle School grades 6th and 7th for presentations on recycling with consistent messaging.	3.7
Communities and Elected Officials	Bi-monthly or quarterly meetings with recycling coordinators from communities to provide District updates on programming and solicit their assistance in the measurement and contamination review.	4.1
Communities and Elected Officials	The District should sponsor an annual educational seminar for elected officials to see the Collection Center, Landfill and Recyclery.	4.0
Commercial Businesses & Institutions	District staff should identify 4-6 multi-family complexes that could participate in a recycling grant program offered by the District.	3.7
Commercial Businesses & Institutions	Reach out to community groups to present information on waste reduction and recycling as well as the availability of the Collection Center for HHW, electronics and scrap tires.	3.6

Table I-7. Summary of Actions and Programs for Education/Outreach for the Planning Period (2020-2034)

Status	Program / Action Name	Start Date	End Date	Goal(s)
Education/Outreach				
Existing	Interactive Database of Recycling Locations	Existing	Ongoing	2
Existing	Social Media	Existing	Ongoing	2
Existing	Residential Recycling Education and Awareness Program	Existing	Ongoing	3,4
New	Establish Community Participation Methodology	2021	2022	3
New	Plan to Identify Residential Recycling Program Participants	2020	2021	3,4
Potential	Focus Education Programs with Consistent Messaging for Middle School Grades	2023	2029	3,4
New	Community Recycling Coordinator Meetings	2023	2029	4
New	Sponsor an Annual Educational Seminar	2022	2029	4
Potential	Identify Potential Multi-Family Housing Areas for Recycling Programs	2020	2029	3,4
Potential	Community Group Outreach	2023	2029	4

a. New Programs: Education/Outreach

Establish Community Participation Methodology

The District will establish a methodology to measure participation in each community providing PAYT or curbside recycling. Sponsor funding through a grant or District operated program/activity.

Plan to Identify Residential Recycling Program Participants

The District will establish a plan to identify residential recycling program participants that have significant amounts of contamination in their recycling containers. The District could hire college students as interns to assist in this plan with community recycling coordinators. The purpose would be to provide a gentle reminder of what is an acceptable recyclable and the materials that are not eligible for recycling that should remain in the trash cart. The District will try to involve waste management companies and haulers into the execution of this initiative since these parties should have a vested interest in the outcome, which is to obtain recyclables with a lower contamination level. The District

should consider a corresponding advertising program with similar messaging.

Potential: Focus Education Programs with Consistent Messaging for Middle School Grades

A narrow education and focus on Middle School grades 6th and 7th for presentations with consistent messaging will help improve school recycling rates. This could include assemblies and tours of the Collection Center, Landfill, and Recyclery. The District should consider developing and implementing a survey to the schools to ensure the education program is on target and the schools are willing to participate in the program.

Community Recycling Coordinator Meetings

Bi-monthly or quarterly meetings with recycling coordinators from communities to provide District updates on programming and solicit their assistance in the measurement and contamination review. Meetings will also ask recycling coordinators to communicate a summary of the meeting with their Mayors or Township Trustees. Mayors and Trustees are welcome at the meetings with recycling coordinators.

Sponsor an Annual Educational Seminar

The District will sponsor an annual educational seminar for elected officials to see the Collection Center, Landfill, and Recyclery. The luncheon portion of the annual education seminar should include highlights of District activities and programming.

Potential: Identify Potential Multi-Family Housing Areas for Recycling Programs

District staff can identify 4-6 multi-family complexes that could participate in a recycling grant program offered by the District. After the identification process is complete, schedule one-on-one meetings with the complexes to discuss the District program and opportunity to educate residents regarding recycling.

Potential: Community Group Outreach

Reach out to community groups to present information on waste reduction and recycling as well as the availability of the Collection Center for HHW, electronics, and scrap tires.

4. Grants/Incentives, Facilities, Enforcement/Clean-Up, & Other Programs

The District listed opportunities for actions or programs identified through the evaluations conducted in Appendix H and are presented in **Table I-8, Table I-9,** and **Table I-10.** below. After ranking, the opportunities were prioritized for new programs.

Table I-8. Ranked Suggested Opportunities from Appendix H for the Special Program Needs Analysis

Opportunities from Section H-8. Special Program Needs Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
The Host Community Agreement	Extending the host community agreement and ensuring current services are implemented.	4.0
The Host Community Agreement	Securing required report data and information from the hauler.	4.4
Sheriff's Department	Focus law enforcement on potential violators with flow control and open dumping.	4.3
Lorain County Health District	Ensure the Health District is identifying open dump and scrap tire dump facilities for clean-up.	3.9
Emergency Management Agency	Continue to update the Disaster Debris Plan and pricing for hauling, collection and disposal of debris from storm damage, flooding or other natural disasters.	4.6
Lorain County Health District & Sheriff's Department	Host semiannual meetings with Health and Sheriff departments to ensure scope of services are being implemented and address potential issues.	4.1

Table I-9. Ranked Suggested Opportunities from Appendix H for the Data Collection Analysis

Opportunities from Section H-12. Data Collection Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
Residential Sector	The District can approach the haulers in Lorain County to identify whether solid waste data is available on a community level.	4.7

Opportunities from Section H-12. Data Collection Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
Residential Sector	The District could require disposal data be provided by community for the Lorain County Consortium Contract.	4.7
Commercial/ Institutional Sector	Develop program for staff to reach out to a certain number of businesses each year through a phone call or face-to-face meeting.	4.2

Table I-10. Ranked Suggested Opportunities from Appendix H for the Processing Capacity Analysis

Opportunities from Section H-14. Processing Capacity Analysis		
Program Category	**Suggested Action or Program Name**	**Total Average**
Special Materials Processing Capacity	Evaluate specialty recyclable materials markets opportunities	3.9

Table I-11. Summary of Actions and Programs for Grants/Incentives, Facilities, Enforcement/Clean-Up, & Other Programs for the Planning Period (2020-2034)

Status	Program / Action Name	Start Date	End Date	Goal(s)
Grants				
Existing	Recycling Market Development Grant from Ohio EPA	Existing	Ongoing	7
Existing	Recycling Revolving Loan Program	Existing	Ongoing	7
Existing	District Market Development Grants	Existing	Ongoing	7
Existing	New Programs Funding	Existing	Ongoing	1-7
Existing	Lorain County Community Scholarship	Existing	Ongoing	N/A
Existing	Expanding Residential Recycling Programs	Existing	Ongoing	2
Existing	Multifamily Housing Recycling Grant	Existing	Ongoing	1,2,4
Existing	Yard Waste Incentive Grants	Existing	Ongoing	2,3,4,5
Enforcement & Clean-up				
Existing	Health Department Financial Assistance	Existing	Ongoing	N/A
Existing	Open Dump and Scrap Tire Clean up	Existing	Ongoing	5
Existing	Lorain County Pride Day - Volunteer Litter Collection	Existing	Ongoing	N/A
Existing	Clean-And-Beautiful (C.A.B.) Program	Existing	Ongoing	N/A
Existing	Environmental Crimes Unit	Existing	Ongoing	N/A
New	Law Enforcement Focus	2020	2029	N/A
Potential	Collaboration Focus with Health District for Clean-ups	2020	2029	N/A
New	Disaster Debris Plan Update	2020	2029	N/A
New	Health and Sheriff Department Meetings	2020	2029	N/A

Status	Program / Action Name	Start Date	End Date	Goal(s)
Other Programs				
Existing	County Engineer Road Funding	Existing	Ongoing	N/A
Existing	Legal Assistance	Existing	Ongoing	N/A
Existing	Disaster Debris Management Plan	Existing	Ongoing	N/A
Existing	Third Party Financial Audit	Existing	Ongoing	N/A
Existing	Host Community Agreement Fee Contract	Existing	Ongoing	N/A
Existing	Landfill Capacity Conservation Initiatives	Existing	Ongoing	4
Existing	Energy from Waste Feasibility Assessment	Existing	Ongoing	2
Existing	Organics Facility	Existing	Ongoing	1, 2, 5
Existing	Yard Waste Data Reporting	Existing	Ongoing	N/A
New	Host Community Agreement Extension	2020	2029	N/A
New	Host Community Agreement Hauler Data Requirements	2020	2029	2
New	Hauler Outreach for Community Data	2020	2029	2
New	Business Awareness Outreach	2020	2029	4
Potential	Evaluate specialty recyclable materials markets opportunities	2020	2029	2

a. New Programs: Grants/Incentives, Facilities, Enforcement/Clean-Up, & Other Programs

Law Enforcement Focus

Focus law enforcement on potential violators with flow control and open dumping.

Potential: Collaboration Focus with Health District for Clean-ups

Ensure the Health District is identifying open dump and scrap tire dump facilities for clean-up.

Disaster Debris Plan Update

Continue to update the Disaster Debris Plan and pricing for hauling, collection and disposal of debris from storm damage, flooding, or other natural disasters.

Health and Sheriff Department Meetings

Host semiannual meetings with Health and Sheriff departments to ensure scope of services are being implemented and address potential issues.

Host Community Agreement Extension

Extending the host community agreement and ensuring current services are implemented.

Host Community Agreement Hauler Data Requirements

The District will strive to secure required data and information reporting the hauler for the Host Community Agreement.

Hauler Outreach for Community Data

The District can approach the haulers in Lorain County to identify whether solid waste data is available on a community level. If data is available, the District will begin collecting the information.

Business Awareness Outreach

The District could develop a program whereby staff would contact a certain number of businesses each year through a phone call or face-to-face meeting. The District could target key generators that have not previously participated in the annual survey to identify whether they have a recycling program, introduce them to District programs and services, and request their participation in the survey.

Potential: Evaluate Specialty Recyclable Materials Markets Opportunities

Evaluate whether the specialty recyclable materials markets are an opportunity to develop facilities to provide raw materials to manufacturers.

Suggested Opportunities Not Applicable to the Following Sections
Section H-5. Economic Incentive Analysis
Section H-6. Restricted and Difficult to Manage Waste Analysis
Section H-7. Diversion Analysis
Section H-9: Financial Analysis
Section H-10. Regional Analysis
Section H-11. Population Analysis

APPENDIX J

REFERENCE YEAR OPPORTUNITY TO RECYCLE AND DEMONSTRATION OF ACHIEVING GOAL 1

APPENDIX J. Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

Lorain County SWMD (District) is committed to achieving Goal 1 of the 2009 State Plan. This section demonstrates the District's achievement of Goal 1 in the reference year and the programs that will help maintain the achievement of Goal 1 throughout the planning period.

A. Residential Sector Opportunity to Recycle

The following table presents the recycling opportunities in the reference year and years 5 and 10 of the planning period, as well as the population credit received for each opportunity. The drop-off locations show a credit of zero because the community where the drop-off is located has curbside recycling. Municipalities are not permitted to have population credits exceeding 100%.

Table J-1. Opportunity to Recycle

ID #	Lorain	2016		2024 (Year 5)		2029 (Year 10)	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit
Non-subscription curbside							
NS1	Amherst City	12,078	12,078	12,400	12,400	12,588	12,588
NS2	Amherst Township	5,729	5,729	5,882	5,882	5,971	5,971
NS3	Avon City	22,805	22,805	23,413	23,413	23,768	23,768
NS4	Avon Lake City	23,659	23,659	24,290	24,290	24,658	24,658
NS5	Brighton Township	904	904	928	928	942	942
NS6	Brownhelm Township	1,890	1,890	1,940	1,940	1,970	1,970
NS7	Camden Township	1,410	1,410	1,448	1,448	1,470	1,470
NS8	Carlisle Township	7,438	7,438	7,636	7,636	7,752	7,752
NS9	Columbia Township	7,277	7,277	7,471	7,471	7,584	7,584
NS10	Eaton Township	5,868	5,868	6,024	6,024	6,116	6,116
NS11	Elyria City	53,715	53,715	55,147	55,147	55,983	55,983
NS12	Elyria Township	3,204	3,204	3,289	3,289	3,339	3,339
NS13	Grafton Township	2,838	2,838	2,914	2,914	2,958	2,958
NS14	Grafton Village	6,223	6,223	6,389	6,389	6,486	6,486
NS15	Henrietta Township	1,852	1,852	1,901	1,901	1,930	1,930
NS16	Huntington Township	1,336	1,336	1,372	1,372	1,392	1,392
NS17	Kipton Village	242	242	248	248	252	252
NS18	LaGrange Township	4,034	4,034	4,142	4,142	4,204	4,204
NS19	LaGrange Village	2,146	2,146	2,203	2,203	2,237	2,237
NS20	Lorain City	63,730	63,730	65,429	65,429	66,421	66,421
NS21	New Russia Township	1,949	1,949	2,001	2,001	2,031	2,031
NS22	North Ridgeville City	32,983	32,983	33,862	33,862	34,376	34,376
NS23	Oberlin City	8,331	8,331	8,553	8,553	8,683	8,683

ID #	Lorain	2016		2024 (Year 5)		2029 (Year 10)	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit
NS24	Penfield Township	1,799	1,799	1,847	1,847	1,875	1,875
NS25	Pittsfield Township	1,618	1,618	1,661	1,661	1,686	1,686
NS26	Rochester Township	613	613	629	629	639	639
NS27	Rochester Village	181	181	186	186	189	189
NS28	Sheffield Lake City	9,004	9,004	9,244	9,244	9,384	9,384
NS29	Sheffield Township	3,672	3,672	3,770	3,770	3,827	3,827
NS30	Sheffield Village	4,089	4,089	4,198	4,198	4,262	4,262
NS31	South Amherst	1,693	1,693	1,738	1,738	1,764	1,764
NS32	Vermillion City	10,409	10,409	10,686	10,686	10,849	10,849
NS33	Wellington Township	1,402	1,402	1,439	1,439	1,461	1,461
NS34	Wellington Village	4,866	4,866	4,996	4,996	5,071	5,071
Subscription curbside							
None	None	0	0	0	0	0	0
Full-time, urban drop-off							
FTU1	Eaton Township	5,868	0	6,024	0	6,279	0
Part-time, urban drop-off							
PTU1	Lorain County Collection Center (Elyria)	53,715	0	55,147	0	57,475	0
Full-time, rural drop-off							
None	None	0	0	0	0	0	0
Part-time, rural drop-off							
PTR1	Brighton Township	904	0	928	0	967	0
PTR2	Camden Township (Kipton Village)	242	0	248	0	259	0
PTR3	Huntington Township	1,336	0	1,372	0	1,430	0
PTR4	Penfield Township	1,799	0	1,847	0	1,925	0
Mixed municipal waste material recovery facility							
None	None	0	0	0	0	0	0
Total County Population		310,987		319,276		324,118	
Total Population Credit		310,987		319,276		324,118	
Percent of Population		100%		100%		100%	

Sources of Information: Ohio Development Services Agency, 2016 Population Estimates by County, City, Village, and Township, May 2016.

All curbside programs operating during the reference year (2016) are expected to continue.

The District will continue to meet Goal 1 for each year of the planning period. All curbside programs and drop-offs operating during the reference year are expected to continue. All of the District's drop-off recycling sites meet the criteria to be

eligible for access credit toward achieving Goal 1. Some sites in the table are listed with a population credit of zero. These sites are located in cities, villages, or townships that provide non-subscription curbside recycling access. Communities with non-subscription curbside recycling programs have a population credit equal to 100% of the total population; therefore, additional population credit for drop-offs cannot be counted toward achieving Goal 1 because the access credit would exceed the total population of the political subdivision.

Summary of Recycling Infrastructure

All political subdivisions have non-subscription curbside recycling. This allows the District to reach 100% access for the residents. There are six drop-off sites within the District which allow for additional recycling options. These drop-offs help multi-family housing have access to recycling too. Due to the non-subscription credits given to the programs, the drop-offs will not receive any access credit.

Tables J-2 and **J-3** are not applicable to the District and have been omitted.

B. Commercial Sector Opportunity to Recycle

Table J-4. Infrastructure Demonstration for the Commercial Sector

Service Provider	Type of Recycling Service Provided	Cc	Mp	Sc	Pl	W
Lorain						
Republic Services	Hauler	✓	✓	✓	✓	
Rumpke Waste & Recycling	Hauler	✓	✓	✓	✓	
Waste Management	Hauler	✓	✓	✓	✓	
FerroTrade	Broker, Buy-Back			✓		
Cimino Pallet	Broker					✓
MD Packaging	Broker				✓	
Green Innovations	Broker	✓	✓		✓	
BlueStar	Broker, Buy-Back			✓		
Sam's Pallet	Broker					✓

CC = corrugated cardboard, MP = mixed paper, SM = scrap metals, PL = plastics, W = wood pallets and packaging

Table J-4, "Infrastructure Demonstration for the Commercial Sector," presents drop-offs, buy backs, scrap yards, haulers, pallet refurbishers, and material recovery facilities that provide recycling opportunities to the commercial/institutional sector. The total number of recycling opportunities in Lorain County's jurisdiction for five materials designated for the commercial sector to demonstrate compliance with Goal 1 are as follows:

- Corrugated cardboard: 4
- Mixed paper: 4
- Scrap metals: 5
- Plastics: 5
- Wood pallets and packaging: 2

C. Demonstration of Meeting Other Requirements for Achieving Goal 1

1. Residential/Commercial Waste Reduction and Recycling Rate

In the reference year, Lorain's R/C sector achieved a 24.8% waste reduction and recycling rate, which falls slightly short of the 25% requirement to achieve Goal 1. The waste reduction and recycling rate for the R/C sector is projected to meet or exceed the 25% requirement throughout the planning period based on anticipated volumes of recycling from scrap yards, processors, MRFs, retailers that report to Ohio EPA, scrap tire recyclers, Lorain's HHW program, Lorain's Recycling Drop-Off Program, curbside recycling programs, and organics diversion facilities.

2. Industrial Waste Reduction and Recycling Rate

In the reference year, Lorain's industrial sector achieved a 62.51% waste reduction and recycling rate, which is below the 66% requirement to achieve Goal 1. The waste reduction and recycling rate for the industrial sector is not projected to exceed the 66% requirement throughout the planning period based on anticipated volumes of recycling from scrap yards, processors, and MRFs.

3. Encouraging Participation

The District will encourage residents and commercial generators to participate in available recycling infrastructure using a variety of outreach, education, and incentive programs, including the following:

- **District Web Site**
  The District maintains several pages of information within its general website for the Lorain County government. The website is regularly updated and includes the District's contact information, background on solid waste districts in Ohio, social media connections, upcoming District events, drop-off recycling locations for traditional and special materials, District news, dates of policy committee meetings, educational services and materials, recycling tips, annual reports, publications, information for reporting environmental crimes, and more. The District's main page can be accessed at: www.loraincounty.us/solidwaste.

- **Annual Report**
  An Annual Report booklet was created to share information on the District's past year and promote the programs the District hosts. These are specifically designed to provide the general public with an overview of the District's activities and programs, its finances, its organization, and the general state of recycling in Lorain County. Photographs and graphics are used throughout to make the report more informative and more readable.

- **Community Outreach Coordinator**
  The Community Outreach Coordinator performs presentations, hosts Collection Center tours, and participates in community events. Presentations focused on the importance of the 3 R's (Reduce, Reuse and Recycle), including specifically which items to recycle in Lorain County, litter prevention, waste reduction, landfills, and disposing of hazardous materials properly.

- **Calendar Contest**
  The District holds an annual calendar contest for Lorain County students grades K-12. Students were given the option to create a recycling or litter prevention-themed picture for their entry. Twelve winners were selected to have their pictures used in the calendar. The drawings were made into calendars that were distributed at fairs, festivals, and other District events.

- **The Lorain County Collection Center**
  This facility is available for all District residents. In addition to HHW, the Collection Center also accepts residential recyclables, scrap tires, rechargeable batteries, ballasts, scrap metal, books, paper, cardboard, fluorescent bulbs, and electronics.

- **Volunteer Litter Collection (Lorain County Pride Day)**
  The District hosted and promoted the Annual Lorain County Pride Day, a county-wide litter collection and beautification event. Each participating community was involved in the recruitment and scheduling of volunteers for the day's activities.

- **C.A.B. (Clean and Beautiful)**
  The District staff collaborated to create a design for an enclosed landscape trailer to be used for litter cleanups and beautification activities. The trailer was branded "C.A.B." and stocked with equipment and supplies. Community groups or organizations are able to borrow the trailer to complete clean-ups, community gardens, or other beautification projects at no cost.

Appendices I and L include detailed information about each program.

APPENDIX K

WASTE REDUCTION AND RECYCLING RATES AND DEMONSTRATION OF ACHIEVING GOAL 2

APPENDIX K. Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2

Even though the District has chosen to demonstrate compliance with Goal 1 of the *State Plan,* the District will strive to achieve Goal 2 as well, which states that the District will recycle or reduce at least 25% of the solid waste generated by the residential/commercial sector, and at least 66% of the solid waste generated by the industrial sector. As discussed in Appendix A, the District has chosen to set and will strive to achieve an internal residential/commercial sector recycling goal of 35%.

Table K-1 below shows the waste reduction and recycling (WRR) rates for the residential/commercial sector in the reference year and projected for the planning period. The District exceeds the state's WRR goal for the residential/commercial sector for each year of the planning period, but does not currently achieve the District's internal goal of 35%. The 35% goal is one the District may need to work toward for multiple planning periods.

Table K-1. Annual Rate of Waste Reduction: Residential/Commercial Solid Waste

	Year	Population	Recycled	Disposed	Total Generated	WRR Rate	Per Capita WRR Rate (PPD)
	2016	***310,987***	***75,751***	***229,739***	***305,490***	***24.80%***	***1.33***
	2017	311,990	83,205	232,785	315,990	26.33%	1.46
	2018	312,994	79,393	235,869	315,263	25.18%	1.39
	2019	313,997	80,453	238,991	319,444	25.19%	1.40
	2020	314,852	81,760	242,038	323,798	25.25%	1.42
	2021	315,958	82,925	245,318	328,243	25.26%	1.44
	2022	317,064	84,093	248,638	332,731	25.27%	1.45
	2023	318,170	85,263	252,000	337,263	25.28%	1.47
	2024	319,276	86,435	255,405	341,841	25.29%	1.48
	2025	320,382	87,385	256,290	343,675	25.43%	1.49
	2026	321,316	87,385	257,037	344,423	25.37%	1.49
	2027	322,250	87,385	257,784	345,170	25.32%	1.49
	2028	323,184	87,385	258,531	345,917	25.26%	1.48
	2029	324,118	87,385	259,279	346,664	25.21%	1.48

First Year of Planning Period → x

Sources of Information: Data for this table is taken from the following portions of the solid waste management plan:

- Waste reduced and recycled: Appendix E, Table E-4 (for reference year) and Table E-5 (for planning period)
- Waste Disposed: Appendix D, Table D-3 (for reference year) and Table D-5 (for planning period)
- Waste Generated: Appendix G, Table G-1 (for reference year) and Table G-2 (for planning period)
- Population: Appendix C, Table C-1 (for reference year) and Table C-2 (for planning period)

Sample Calculations:

2016 Waste Reduction & Recycling Rate = (2016 Waste Reduced & Recycled ÷ 2016 Waste Generated) x 100

24.80% = (75,751 tons ÷ 310,987 tons) x 100
2016 Per Capita Waste Reduction and Recycling Rate = ((2016 tons recycled x 2,000) ÷ 365) ÷ population

1.33 PPD = ((75,751 tons x 2,000) ÷ 365 days/year) ÷ 310,987 residents

Table K-1 demonstrates that the District exceeds the requirements of Goal 2 to reduce and recycle at least 25% of the solid waste generated by the residential/commercial during the reference year and anticipates exceeding the requirements of Goal 2 for the entirety of the planning period.

Table K-2 shows that the District does not exceed the requirements of Goal 2 to reduce and recycle at least 66% of the solid waste generated by the industrial during the reference year.

Table K-2. Annual Rate of Waste Reduction: Industrial Solid Waste

First Year of Planning Period → x	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
	2016	***104,112***	***62,428***	***166,540***	***62.51%***
	2017	113,700	64,301	178,000	63.88%
	2018	100,805	66,230	167,035	60.35%
	2019	102,418	68,217	170,634	60.02%
	2020	104,056	70,263	174,320	59.69%
	2021	105,721	72,371	178,092	59.36%
	2022	107,413	74,542	181,955	59.03%
	2023	109,131	76,779	185,910	58.70%
	2024	110,878	76,779	187,656	59.09%
	2025	112,652	76,779	189,430	59.47%
	2026	112,652	76,779	189,430	59.47%
	2027	112,652	76,779	189,430	59.47%
	2028	112,652	76,779	189,430	59.47%
	2029	112,652	76,779	189,430	59.47%

Sources of Information: Data for this table is taken from the following portions of the solid waste management plan:

- Waste reduced and recycled: Appendix F, Table F-4 (for reference year) and Table F-5 (for planning period)
- Waste Disposed: Appendix D, Table D-3 (for reference year) and Table D-5 (for planning period)
- Waste Generated: Appendix G, Table G-1 (for reference year) and Table G-2 (for planning period)

Sample Calculations:

2016 Waste Reduction & Recycling Rate = (2016 Waste Reduced & Recycled ÷ 2016 Waste Generated) x 100

62.51% = (104,112 tons ÷ 166,540 tons) x 100

To continually increase the WRR rate for the industrial sector for each year of the planning period, the District will implement the following programs and activities to strive for an increasing annual WRR rate for the industrial sector:

- Waste Audits
- Zero Waste Planning

The combined WRR rate for residential/commercial and industrial sectors is shown in **Table K-3**. Overall, the WRR rate is projected to fluctuate between 38.03% and 40.88% percent from 2016 to the end of the planning period.

Table K-3. Annual Rate of Waste Reduction: Total Solid Waste

First Year of Planning Period → x	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
	2016	***179,863***	***292,167***	***472,030***	***38.10%***
	2017	196,905	297,086	493,991	39.86%
	2018	180,198	302,099	482,297	37.36%
	2019	182,870	307,208	490,079	37.31%
	2020	185,816	312,302	498,118	37.30%
	2021	188,646	317,689	506,335	37.26%
	2022	191,505	323,180	514,686	37.21%
	2023	194,394	328,779	523,173	37.16%
	2024	197,313	332,184	529,497	37.26%
	2025	200,037	333,069	533,106	37.52%
	2026	200,037	333,816	533,853	37.47%
	2027	200,037	334,563	534,600	37.42%
	2028	200,037	335,310	535,347	37.37%
	2029	200,037	336,057	536,094	37.31%

Sources of Information:

Tables K-1 and K-2

Sample Calculations:

2016 Waste Generated = 2016 Waste reduced and recycled + 2016 waste disposed

472,030 tons = 179,863 tons + 292,167 tons

2016 Waste Reduction & Recycling Rate = (2016 Waste Reduced & Recycled ÷ 2016 Waste Generated) x 100

38.10% = (179,863 tons ÷ 472,030 tons) x 100

Although the District is committed to achieving Goal 1, the District will strive to maintain its achievement of Goal 2. The specific programs and activities that will help in achieving the targeted WRR rate are discussed in Appendix I.

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

This section discusses State Plan Goals 3 and 4 and the District's strategies to satisfy the requirements of meeting each goal. The following bullet points summarize each goal, as presented in Ohio EPA's Plan Format v4.0:

Goal 3: Waste Reduction and Recycling Rates	The SWMD shall provide the following required programs: • *A website* • *A comprehensive resource List* • *An inventory of available infrastructure* • *A speaker or presenter*
Goal 4: Outreach and Education - Outreach Plan and General Requirements	The SWMD 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.

A. Minimum Required Education Programs

In accordance with Goal 3 of the *2009 State Plan*, the District is required to provide four minimum education programs including: (1) a website, (2) a comprehensive resource list, (3) an inventory of available infrastructure, and (4) a speaker or presenter. The District met these requirements in the reference year.

1. Website

The District maintained several pages of information within its general website for the Lorain County government. The District's main page can be accessed at www.loraincounty.us/solidwaste.

The website is regularly updated and includes the District's contact information, background on solid waste districts in Ohio, social media connections, upcoming District events, drop-off recycling locations for traditional and special materials, District news, dates of policy committee meetings, educational services and materials, recycling tips, annual reports, publications, information for reporting environmental crimes, and more.

Name	Start Date	End Date	Goal
Website	Ongoing	Ongoing	3, 4

2. *Comprehensive Resource List*

The District's website serves as a resource guide for the County. Under www.loraincounty.us/solidwaste, there are sections which go to information for the Collection Center, Appliance & Curbside Recycling Information, and Tire Disposal. These sections provide locations and guidelines for proper disposal and recycling of materials.

Name	Start Date	End Date	Goal
Resource Guide (on website)	Ongoing	Ongoing	3

3. *Inventory of Available Infrastructure*

The District keeps an up-to-date Plan Update readily available on the District's website (www.loraincounty.us/solidwaste). The Plan Update contains the following information for available infrastructure:

Solid Waste Management and Disposal Infrastructure, including:

- Landfill facilities
- Transfer facilities
- Scrap tire facilities
- Incinerators/waste-to-energy facilities

Waste Reduction and Recycling infrastructure, including:

- Curbside recycling services
- PAYT trash collection services
- Drop-off recycling locations (privately and publicly owned/operated)
- Composting facilities
- Yard waste collection programs
- Recycling centers
- Materials recovery facilities & other facilities for processing recyclable materials

Name	Start Date	End Date	Goal
Inventory of Available Infrastructure (on website)	Ongoing	Ongoing	1, 3

4. *Speaker/Presenter*

The District has a Community Outreach Coordinator (Coordinator). The Coordinator is an employee of the Solid Waste District. The duties of the Coordinator are to provide presentations to residents, schools, businesses,

communities, industries, and other groups in the District. During 2016, the Coordinator performed the following activities:

- 46 presentations reaching 4,347 students.
- Two tours of the Collection Center were given to 25 individuals.
- Held a pledge drive throughout Lorain County Schools for America Recycles Day with 89 teachers/classrooms participating, including 1,547 students and teachers signing pledges that they will do their part to recycle more in the upcoming year.
- The District continued to hold its annual Calendar Contest.
- The pride day t-shirt contest was held in 2016.

Name	Start Date	End Date	Goal
Speaker/Presenter (Community Outreach Coordinator)	Ongoing	Ongoing	3, 4

B. Outreach & Education – Outreach Plan and General Education Requirements

The District has existing programs which address the five required target audiences (Table L-1 below). The following section is organized by the target audience.

Table L-1. Target Audiences Addressed by Existing Programs

Existing Programs	Target Audience				
	Residents	Schools	Industries	Institutions & Commercial Businesses	Communities & Elected Officials
Brochures	✓			✓	✓
Telephone Information Line	✓	✓	✓	✓	✓
Contests		✓			
School Presentations		✓			
Adult Presentations	✓		✓	✓	✓
Collection Center Tours	✓	✓			
Events	✓			✓	✓
Lending Library	✓	✓			
District Website	✓	✓	✓	✓	✓
District Annual Report	✓				
Total Program per Group	8	8	4	6	6

1. Audience: Residents

a. Overview

The District provides a website for residents to find appropriate information on the many program opportunities for residents (see Appendix H). The District also has targeted radio and paper advertisements on District programs and activities for Lorain County residents.

The District publishes a District Annual Report (DAR) every year and distributes to interested residents. The DAR includes data from each community on recycling and descriptions of District programs and activities.

The District uses its tools for reaching out to residents to link the infrastructure available. A focus on communities that are recovering less than the national average of 300-350 pounds per household per year will increase efficiency for targeted education when addressing curbside programs.

Name	Start Date	End Date	Goal
Plan to Identify Residential Recycling Program Participants	2020	2021	3, 4
Establish Community Participation Methodology	2021	2022	3

b. Outreach Methodologies

Audience Needs

Residents tend to benefit more from in-person interaction. This gives a face to the District for the residents. The District attends large gathering events in Lorain County to meet and pass out educational materials to residents.

One of the best ways to reach residents as an audience is to have a presence on social media and advertisements for collection events that gear content toward household recyclable materials. The District uses Facebook to help promote recycling infrastructure and collection events to its residents.

Behavior Change Focus

The District will establish a plan to identify residential recycling program participants that have significant amounts of contamination in their recycling containers. The District could hire college students

as interns to assist in this plan with community recycling coordinators. The purpose would be to provide a gentle reminder of what is an acceptable recyclable and the materials that are not eligible for recycling that should remain in the trash cart. The District may consider a corresponding advertising program with similar messaging. Further detail is provided in Section C of this appendix for District's Outreach Priority.

Ohio EPA identified to the District that the City of Toledo is in its second year of conducting a contamination reduction project that involved seasonal city staff investigating recycling carts and leaving "oops" tags on contaminated carts. Prior to starting this project, the City evaluated the residential neighborhoods to identify those with the highest contamination rates. The District will contact representatives from Toledo to learn how the city approached the project and obtain results and suggestions for how to make Lorain County's efforts successful.

The Repeat Message

All posters, flyers, and other promotional material will have the same logo and branding to represent the Solid Waste District.

Measuring Results

The District is able to obtain recycling tonnage for each community for the curbside programs. Many communities have non-subscription recycling. The District would like to establish a methodology to measure participation in each community providing PAYT or curbside recycling. This may involve counting household set-outs and pass-bys on routes or a sample survey in the communities.

Measuring Effectiveness

The District can track the recycling tonnages per community over time. These tonnages can be compared to the community's population. If a community undertakes a major drop (15% or more) in recycling rates, the District will investigate the reason and can focus an education program on the available infrastructure.

2. Audience: Schools

a. Overview

The District provides educational opportunities for students throughout the school year (see Appendix H). In 2016, the District

conducted 146 presentations in Lorain County schools to over 4,000 students.

The District held a pledge drive throughout Lorain County Schools for America Recycles Day with 89 teachers/classrooms participating, including 1,547 students and teachers signing pledges that they will do their part to recycle more in the upcoming year.

Every class who participated in the pledge drive was entered into a contest for a pizza party. The District's Community Outreach Coordinator delivered pizzas to the two winning classes from the 2016 pledge drive contest. The winners were Donna Back's 2nd grade class at Prospect Elementary in Elyria and Kathryn Dillen's 6th grade class at Keystone Middle School in LaGrange. The pizza parties were sponsored by Friends Office Supply.

The District continued to hold its annual Calendar Contest. Participation in the contest was excellent. The District received 1,033 student entries from 30 different schools within Lorain County. Thirteen winners were selected. Each winner received a $25 gift card which was donated by GT Environmental, a certificate of appreciation and a copy of their artwork. Each winning student also received calendars to pass out to their family. All of the winners were invited to attend the Lorain County Board of Commissioner's meeting on May 25, 2016 to receive recognition and their certificate of appreciation.

The pride day t-shirt contest was held in 2016. There were 559 entries in this contest which asked students to design a t-shirt for Lorain County Pride Day volunteers to wear during the Pride Day clean-up and beautification events held in May.

Name	Start Date	End Date	Goal
Focus Education Programs with Consistent Messaging for Middle School Grades	2023	2029	3, 4
Measurement of school education programs	2020	2029	4

b. Outreach Methodologies

Audience Needs

The school audience needs interactive activities and visual aids. The presentations for this audience are focused on obtaining the attention and participation for the activities.

Behavior Change Focus

The District has great school engagement activities such as the pledge drive, Calendar Contest, and pride day t-shirt contest. These programs can be further improved by having a component attached to them that links the message of recycling to the activity. For example, the Calendar Contest would require an element which teaches the person looking at the entry about which items are allowed to be recycled at school or where recycling containers are located. This would help the student be educated on more than just that they should recycle but the where and/or how to recycle in their school or community.

The Repeat Message

The District may narrow education and focus on Middle School grades 6th and 7th for presentations on recycling with consistent messaging. This could include assemblies and tours of the Collection Center, Landfill, and Recyclery. The messaging will link recycling infrastructure in the schools along with curbside and drop-off programs. The District should consider developing and implementing a survey to the schools to ensure the education program is on target and the schools are willing to participate in the program.

Measuring Results

The District measures the school education programs by counting the number of presentations and students attended. The participation of the contest is counted as well. Presentations done at schools could be marked as a “repeat patron” as presentations given each year or a “new patron” for schools which a presentation was done during the first at the school district.

Measuring Effectiveness

The District can use the data collected from the school programs to see participation trends amongst presentations and contest participation. By adding an infrastructure element to the contest, the District can calculate a percentage of the entries which meet the criteria.

The District will strive to increase the schools base for presentations. Expanding the number of different school districts visited will increase the District’s visibility and student, faculty, and staff’s education for the District’s activities and infrastructure available.

3. Audience: Institutions & Commercial Businesses

a. Overview

The District provides educational and program opportunities to the business and institutional sector such as waste assessments and audits (free), zero waste planning, and the commercial paper recycling program. These programs allow for the District to assist institutions & commercial businesses with access to infrastructure opportunities the business can take advantage of.

Name	Start Date	End Date	Goal
Identify Potential Multi-Family Housing Areas for Recycling Programs	2020	2029	3, 4
Waste Audits	2020	2029	3, 4
Branded Message for Businesses	2023	2029	4
Community Group Outreach	2023	2029	4

b. Outreach Methodologies

Audience Needs

The audience for Institutions & Commercial Businesses may not have a full picture of the programs available to the Lorain County members, but the annual recycling survey allows the District to reach out and have their presence known. The following questions are asked on the survey to let the participant know about programs and if they would like to receive further information:

- Are you interested in receiving our quarterly newsletter?
- Does your company do any recycling for the public?
- Are you interested in information on our Bulb and Ballast Recycling Program?
- Are you interested in information on our Office Paper Recycling Program?
- Are you interested in information on our Printer Cartridge and Cellular Phone Recycling Program?
- Are you interested in any of our other recycling programs?
- Is your company interested in having a comprehensive solid waste and recycling assessment completed free of charge to reduce your disposal costs?

After the questions are a link to the website for further information. This is a great educational piece for an information plug to those who participated in the recycling survey.

The waste assessments/audits allow the District to connect to the commercial community and offer assistance with recycling and waste reduction program. In the long run, having the connection be the start of an audit to obtaining or improving the infrastructure for waste reduction helps improve costs for the business and recycling efforts in the workplace.

The District staff should identify 4-6 multi-family complexes that could participate in a recycling grant program offered by the District. After the identification process is complete, the District can schedule one-on-one meetings with the complexes to discuss the District program and opportunity to educate residents regarding recycling. Creating a promotional flyer and/or poster for opportunities to recycle in these communities educate and give directions of how and what to recycle.

Reaching out to community groups to present information on waste reduction and recycling, as well as the availability of the Collection Center for HHW, electronics, and scrap tires would provide education for the infrastructure and presentations the District has to offer. The presentation can include pledges to recycle in the residents' communities.

Behavior Change Focus

To enact a behavioral change in the institutions & commercial businesses, an increase in the audits and participation in recycling surveying is needed. To get to this point, the District will strive to increase audit participation by reaching out to businesses and offer assistance. To improve this rate, the District can increase visibility of District's programs and infrastructure for the institutional and commercial sector at public events by providing a handout for employees or workers that attend these events. Handing out a flyer with information can provide a connection from the District to a business employee to help pass information up the chain.

The Repeat Message

The District will create a branded message for businesses to focus on what opportunities the District can assist with and infrastructure available.

Measuring Results

The District can keep track of the number of business which inquire about the audits and those who decide to have one performed.

Afterwards, the District can ask the business to submit recycling data and can track the tonnages for the following years.

Measuring Effectiveness

The District can track waste audits performed and the outcome tonnages to measure the effectiveness of a waste audit performed. Having performance data will allow the District to critique their waste audit program to further improve the process. The District will aim to conduct a minimum of one small-scale audit annually or one complex audit bi-annually. Small scale versus complex are differentiated by how much time and resources are needed to complete an audit. Examples of small-scale audits might be single building non-profits that only require one facility visit. The report can be completed within a brief period of time (less than three months). Examples of complex audits include facilities that have multiple buildings, specialized waste streams, significant volumes of waste, or require multiple site visits. These studies take longer than three months to complete.

4. Audience: Industries

a. Overview

The District works with industries to perform waste assessments and zero waste planning, and the District surveys industries annually with an opportunity to request technical assistance. The District helps industries with waste management assistance and possible infrastructure available in the region to recycle materials.

The audience for Institutions & Commercial Businesses may not have a full picture of the programs available to the Lorain County members, but the annual recycling survey allows the District to reach out and have their presence known. The following questions are asked on the survey to let the participant know about programs and if they would like to receive further information:

- Are you interested in receiving our quarterly newsletter?
- Does your company do any recycling for the public?
- Are you interested in information on our Bulb and Ballast Recycling Program?
- Are you interested in information on our Office Paper Recycling Program?
- Are you interested in information on our Printer Cartridge and Cellular Phone Recycling Program?
- Are you interested in any of our other recycling programs?

- Is your company interested in having a comprehensive solid waste and recycling assessment completed free of charge to reduce your disposal costs?

After the questions are a link to the website for further information. This is a great educational piece for an information plug to those who participated in the recycling survey.

Name	Start Date	End Date	Goal
Waste Audits	2020	2029	3, 4
Branded message for businesses	2023	2029	4
Industrial sector handout for public events for infrastructure opportunities.	2020	2029	3, 4

b. Outreach Methodologies

Audience Needs

The audience for industries participates in the annual recycling survey which allows the District to reach out and give more information about its programs. The following questions are asked on the survey to let the participant know about programs and if they would like to receive further information:

- Are you interested in receiving our quarterly newsletter?
- Does your company do any recycling for the public?
- Are you interested in information on our Bulb and Ballast Recycling Program?
- Are you interested in information on our Office Paper Recycling Program?
- Are you interested in information on our Printer Cartridge and Cellular Phone Recycling Program?
- Are you interested in any of our other recycling programs?
- Is your company interested in having a comprehensive solid waste and recycling assessment completed free of charge to reduce your disposal costs?

After the questions are a link to the website for further information. This is a great educational piece for an information plug to those who participated in the recycling survey.

Behavior Change Focus

To enact a behavioral change in the industrial businesses, an increase in the audits and participation in recycling surveying is

needed. To get to this point, the District will strive to increase audit participation by reaching out to businesses and offering assistance. To improve this rate, the District can increase waste audit visibility at public events with audit statistics and how to obtain recycling infrastructure handout for entrepreneurs that attend these events. Handing out a flyer with information can put a connection from the District to a business employee help pass information up the chain.

The Repeat Message

The District will create a branded message for businesses to focus on what opportunities the District can assist with and infrastructure available.

Measuring Results

The District can keep track of the number of business which inquire about the audits and those who decide to have one performed. Afterwards, the District can ask the business to submit recycling data and can track the tonnages for the following years.

Measuring Effectiveness

The District can track waste audits performed and the outcome tonnages to measure the effectiveness of a waste audit performed. Having performance data will allow the District to critique their waste audit program to further improve the process. The District will aim to conduct a minimum of one small-scale audit annually or one complex audit bi-annually. Small scale versus complex are differentiated by how much time and resources are needed to complete an audit. Examples of small scale audits might be single building non-profits that only require one facility visit. The report can be completed within a brief period of time (less than three months). Examples of complex audits include facilities that have multiple buildings, specialized waste streams, significant volumes of waste, or require multiple site visits. These studies take longer than three months to complete.

5. Audience – Communities & Elected Officials

a. Overview

The District has a good relationship with many communities and elected officials. The District works to keep good rapport and improve the recycling programs and infrastructure in Lorain County's communities. The District participates in the following activities:

- Meetings and information on District programs to recycling coordinators
- Presentations to Lorain County Alliance on District consortiums
- Meetings with township trustees on solid waste issues
- Meetings with individual communities on grant opportunities
- Clean and Beautiful Trailer

Name	Start Date	End Date	Goal
Communities & Elected Officials Outreach	2020	Ongoing	3, 4
Invitation to elected officials for events in their community	2021	2029	4
Sponsor an Annual Educational Seminar	2022	2029	4
Community Recycling Coordinator Meetings	2023	2029	4

b. Outreach Methodologies

Audience Needs

Communities and elected officials would benefit from witnessing the works of the District programs. Having face-to-face interactions and invitations to events would increase rapport with the District and result in greater communication. Officials are often busy and may benefit from an email update such as one from the District on changes or improvements with infrastructure in their communities.

Behavior Change Focus

The District may benefit from giving communities and elected officials a list of some events or programs which are being hosted by the District. An example is if a school presentation is going to be performed in the official's area, the District could invite them to participate and attend the presentation. The invite would give a call to action and the presentation would be a great way to see the participation from the schools or organizations in their area. Another example is to invite the officials to collection days, Collection Center tours, or consortium bidding meetings to remind them of the infrastructure and opportunities provided by the District.

The District should sponsor an annual educational seminar for elected officials to see the Collection Center, Landfill, and Recyclery. The luncheon portion of the annual education seminar should include highlights of District activities and programming.

Bi-monthly or quarterly meetings with recycling coordinators from communities to provide District updates on programming and solicit their assistance in the measurement and contamination review. Meetings will also ask recycling coordinators to communicate a summary of the meeting with their Mayors or Township Trustees. Mayors and Trustees are welcome at the meetings with recycling coordinators.

The Repeat Message

The District can have a mini-update email sent for events to communities & elected officials with a consistent message to keep officials up-to-date and in-the-know. This will allow more communication opportunities with the District as well.

Measuring Results

The District can keep track of the officials invited and ones which attend a meeting or presentation. This would allow the District to follow the participation.

Measuring Effectiveness

Determining the participation for the officials would allow the District to target future events to help get more officials involved with their communities and the opportunities they can help improve.

C. Outreach Priority

The District has identified lowering contamination rates as an outreach priority. This would focus on residential curbside recycling programs. Contamination increases costs for the District and the time on routes for the collection of materials. By focusing on the contamination amount and frequency of curbside programs, the District will increase education outreach and the District's presence to help communities reduce contamination.

From the audience section for residents above, the District will establish a plan to identify residential recycling program participants that have significant amounts of contamination in their recycling containers. The District could hire college students as interns to assist in this plan with community recycling coordinators. The purpose would be to provide a gentle reminder of what is an acceptable recyclable and the materials that are not eligible for recycling that should remain in the trash cart. The District should consider a corresponding advertising program with similar messaging.

The District can provide communities with customizable materials that can be posted on community webpages and/or social media platforms that educate

residents on allowable and unacceptable materials for curbside recycling programs.

Behavioral change tools are an important part of this outreach priority. This will include using tools such as a main article in District publications for acceptable and unacceptable materials and targeted radio/print campaigns.

Goal of the Outreach Priority

- Decrease contamination rate of residential recycling curbside programs to below 10%.
- Increase public education of curbside program acceptable materials.

Target Audience(s)

- Establishment of the program: District Staff & Communities
- Implementation of the program: Curbside Serviced Residents

Milestones

- Consistent signage for contamination education on all drop-off sites.
- Contamination site rate reduced 25% by 2024
- Contamination site rate reduced 50% by 2028
- Decreasing volume of contaminated materials each year.

Who Implements the Strategy

- The District provides promotion and education related to the curbside program and assists political subdivisions or organizations that host collection sites.
- The private haulers will have a role in reporting contamination rates and which communities are higher. This will assist in ranking a community as a higher priority to focus on their contamination levels.

Measurement of Success

- Quantify the amount of material in tons.
- Number of high/frequently contaminated communities within District.
- Tracked contamination rates over time in tons or occurrences (monthly or quarterly).

Name	Start Date	End Date	Goal
Outreach Priority: Community Curbside Recycling Contamination	2020	2029	3, 4

APPENDIX M

WASTE MANAGEMENT CAPACITY ANALYSIS

APPENDIX M. Waste Management Capacity Analysis

A. Access to Publicly-Available Landfill Facilities

The Lorain County Solid Waste Management District has one in-District landfill that provides 75% of solid waste disposal capacity needed each year. In the reference year (2016), the landfill disposed at least 89 percent of the total waste sent for disposal. At the end of 2016, the landfill was estimated to have less than 11 years of remaining permitted capacity (see **Table M-1**).

As of June 12, 2018, Republic Services' permit to install a vertical expansion was approved by Ohio EPA. The vertical expansion will increase the permitted airspace by 9,513,530 cubic yards to a total of 61,148,650 cubic yards. The life of the facility is calculated to be 11.1 years at the authorized maximum daily waste receipt (AMDWR) of 6,500 tons and 18.6 years at the anticipated average daily waste receipt of 4,000 tons.

The District does not foresee any issues related to the operator obtaining approval for expansion permits in the future and anticipates that this facility will remain active throughout the entire planning period. During the reference year, District-generated waste was also directly hauled to eleven out-of-District landfills. These facilities had an average remaining capacity of more than 41 years. Eight of the eleven facilities had enough currently permitted capacity to last through the end of the District's planning period. As a result, the District has concluded that adequate landfill capacity is available to serve the needs of the District for the entire planning period.

Table M-1. Remaining Operating Life of Publicly-Available Landfills

Facility	County	Years of Remaining Capacity
In-District		
Lorain County Landfill LLC	Lorain	10.5*
Out-of-District		
Crawford County Sanitary Landfill	Crawford	10.8
Erie County Sanitary Landfill	Erie	26.7
Cherokee Run Landfill	Logan	24.1
Carbon Limestone Landfill LLC	Mahoning	59.1
Noble Rd Landfill	Richland	8.5
Evergreen Recycling & Disposal	Wood	6.6
Port Clinton Landfill, Inc	Ottawa	65.1
Kimble Sanitary Landfill	Tuscarawas	32.05
Countywide Recycling & Disposal Facility	Stark	77.2
American Landfill, Inc.	Stark	85.6
Pine Grove Regional Facility	Fairfield	63

Facility	County	Years of Remaining Capacity
N/A		
Out-of-State		
N/A		

Source(s) of Information: Ohio EPA Facility Data, 2016.
N/A = Not available
*As of 2016. In 2018, a PTI a vertical expansion was approved.

B. Access to Captive Landfill Facilities

No captive landfills exist within the District; therefore, **Table M-2** has been omitted.

C. Incinerators and Energy Recovery Facilities

The District sent less than 10 percent of waste to incinerators. Therefore, **Table M-3**, "Incinerators and Energy Recovery Facilities Used by the District in the Reference Year," has been omitted.

APPENDIX N

EVALUATING GREENHOUSE GAS EMISSIONS

APPENDIX N. Evaluating Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions associated with solid waste management activities were estimated for the District using U.S. Environmental Protection Agency's Waste Reduction Model (WARM). The WARM was applied to reference year data and data projected for the sixth year of the planning period, or year 2025. Both residential/commercial and industrial waste has been included in this analysis, and sources of waste or recyclables have been combined as necessary to create waste category totals corresponding to input entries available in the WARM. For instance, the "Mixed Recyclables" material category represents the sum of commingled and "Other" recyclable materials that were notated on the reference year's Annual District Report.

Table N-1 shows the material categories as well as the amounts recycled, landfilled, and composted which were entered into the model. This first analysis compares reference year data to projected data for year six of the planning period (2025). The top half of **Table N-1** provides results from the WARM model analysis of actual tonnage and $MTCO_2E$ generation in 2016. The bottom half of the table represents the projected tonnage and $MTCO_2E$ generation for year 2025.

Table N-1. Tons of Solid Waste Applied to WARM

2016 WARM Model

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (391,942.67)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Glass	307.98	-	-	NA	NA	(85.16)
Corrugated Containers	25,128.06	-	-	NA	NA	(78,416.29)
Yard Trimmings	NA	-	-	24,745.30	-	(3,620.53)
Branches	NA	-	-	7,814.74	-	(1,143.39)
Mixed Paper (general)	15,305.89	-	-	NA	NA	(54,042.00)
Mixed Metals	77,461.52	-	-	NA	NA	(336,215.85)
Mixed Plastics	2,941.90	-	-	NA	NA	(3,009.08)
Mixed Recyclables	4,639.26	-	-	NA	NA	(13,105.77)
Mixed Organics	NA	-	-	1,392.25	-	(225.21)
Mixed MSW	NA	292,167.00	-	NA	NA	101,414.86
Carpet	646.63	-	-	NA	NA	(1,524.77)
Personal Computers	384.58	-	-	NA	NA	(963.03)
Tires	2,675.57	-	-	NA	NA	(1,006.44)

2025 WARM Model

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (488,534.35)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Glass	376.93	-	-	NA	NA	(104.23)
Corrugated Containers	30,754.00	-	-	NA	NA	(95,972.97)
Yard Trimmings	NA	-	-	30,285.51	-	(4,431.13)
Branches	NA	-	-	9,564.38	-	(1,399.38)
Mixed Paper (general)	18,733.00	-	-	NA	NA	(66,142.43)
Mixed Metals	94,804.00	-	-	NA	NA	(411,489.57)
Mixed Plastics	3,601.00	-	-	NA	NA	(3,683.23)
Mixed Recyclables	5,678.00	-	-	NA	NA	(16,040.17)
Food Waste	NA	-	-	1,704.00	-	(299.92)
Mixed MSW	NA	332,184.00	-	NA	NA	115,305.27
Carpet	791.00	-	-	NA	NA	(1,865.20)
Personal Computers	471.00	-	-	NA	NA	(1,179.43)
Tires	3,275.00	-	-	NA	NA	(1,231.93)

The two scenarios in **Table N-1** above are combined into **Table N-2** below to show that the difference in GHG emissions savings between 2016 and 2025 by recycling is 96,592 $MTCO_2E$.

Table N-2. Net GHG Reductions for 2025: Alternative vs. Baseline Scenarios

Waste Category	Difference Between Scenarios in $MTCO_2E$ (2025-2016)
Glass	(19.07)
Corrugated Containers	(17,556.68)
Yard Trimmings	(810.60)
Branches	(255.99)
Mixed Paper (general)	(12,100.43)
Mixed Metals	(75,273.72)
Mixed Plastics	(674.15)
Mixed Recyclables	(2,934.41)
Food Waste	(74.72)
MSW	13,890.41
Carpet	(340.43)
Personal Computers	(216.40)
Tires	(225.48)
Net Totals	(96,591.68)

The top half of **Table N-3** shown below provides the results from the WARM analysis, assuming that all waste generated in the reference year was disposed in landfills. The model estimates a net production of 103,023.75 metric tons of carbon dioxide equivalents

($MTCO_2E$) using this assumption which is characterized as the baseline scenario. The second half of **Table N-2** represents the actual amounts recycled, composted, and landfilled in 2016 and is termed the alternative scenario. The alternative scenario results in a net savings of 391,942.67 $MTCO_2E$.

Table N-3. Greenhouse Gas Emissions Printout for 2016

GHG Emissions from Baseline Waste Management ($MTCO_2E$): 103,023.75

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Glass	-	307.98	-	NA	NA	6.24
Corrugated Containers	-	25,128.06	-	NA	NA	5,902.84
Yard Trimmings	NA	24,745.30	-	-	-	(4,449.50)
Branches	NA	7,814.74	-	-	-	(3,969.57)
Mixed Paper (general)	-	15,305.89	-	NA	NA	1,936.30
Mixed Metals	-	77,461.52	-	NA	NA	1,568.95
Mixed Plastics	-	2,941.90	-	NA	NA	59.59
Mixed Recyclables	-	4,639.26	-	NA	NA	195.03
Mixed Organics	NA	1,392.25	-	-	-	283.94
Mixed MSW	NA	292,167.00	-	NA	NA	101,414.86
Carpet	-	646.63	-	NA	NA	13.10
Personal Computers	-	384.58	-	NA	NA	7.79
Tires	-	2,675.57	-	NA	NA	54.19

GHG Emissions from Baseline Waste Management ($MTCO_2E$): (391,942.67)

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total $MTCO_2E$
Glass	307.98	-	-	NA	NA	(85.16)
Corrugated Containers	25,128.06	-	-	NA	NA	(78,416.29)
Yard Trimmings	NA	-	-	24,745.30	-	(3,620.53)
Branches	NA	-	-	7,814.74	-	(1,143.39)
Mixed Paper (general)	15,305.89	-	-	NA	NA	(54,042.00)
Mixed Metals	77,461.52	-	-	NA	NA	(336,215.85)
Mixed Plastics	2,941.90	-	-	NA	NA	(3,009.08)
Mixed Recyclables	4,639.26	-	-	NA	NA	(13,105.77)
Mixed Organics	NA	-	-	1,392.25	-	(225.21)
Mixed MSW	NA	292,167.00	-	NA	NA	101,414.86
Carpet	646.63	-	-	NA	NA	(1,524.77)
Personal Computers	384.58	-	-	NA	NA	(963.03)
Tires	2,675.57	-	-	NA	NA	(1,006.44)

Combining the results from the two scenarios in **Table N-3** shows the GHG emissions saved within each material category, which is achieved by recycling and composting instead of landfilling all materials in the waste stream (see **Table N-4**). The total estimated GHG emissions savings are 288,918.92 $MTCO_2E$.

Table N-4. Net GHG Reductions for 2016: Alternative vs. Baseline Scenarios

Waste Category	Difference Between Scenarios in $MTCO_2E$ (Alternative-Baseline)
Glass	(78.93)
Corrugated Containers	(72,513.45)
Yard Trimmings	(8,070.03)
Branches	(5,112.96)
Mixed Paper (general)	(52,105.71)
Mixed Metals	(334,646.91)
Mixed Plastics	(2,949.50)
Mixed Recyclables	(12,910.74)
Food Waste	58.74
Carpet	202,829.72
MSW	(1,511.68)
Personal Computers	(955.24)
Tires	(952.25)
Net Totals	(288,918.92)

Note: "MTCO2E" means metric tons of carbon dioxide equivalent.

APPENDIX O

FINANCIAL DATA

APPENDIX O. Financial Data

This Appendix summarizes the District's funding mechanisms, projected revenues, and expenses for the planning period of 2018-2032. The District has 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 Plan Update demonstrate that the District has the financial funding throughout the planning period to implement the planned programs and initiatives.

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 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.

A. Funding Mechanisms and Revenue Generated

1. Disposal Fees

The District has a flat $2.00 per ton disposal fee for in-District, out-of-District, and out-of-state waste. In 2016, the District's Quarterly Fee Reports indicate that $2.7 million in revenue was received from disposal fees.

Actual disposal fee revenue is included in **Table O-1** for 2012 to 2017. Disposal fee revenue for 2018 was taken from the District's approved budget.

Revenue from in-District disposal fees was projected for 2019 by averaging the actual revenue from 2014 to 2017. From 2020 to 2025, in-District revenue was projected to change at half the annual rate of change for tonnage disposed by the residential/commercial and industrial sectors (see **Table D-6**), then remain flat for the remainder of the planning period.

Revenue from out-of-District disposal fees was projected for 2019 by averaging the actual revenue from 2014 to 2017. From 2020 to 2025, out-of-District revenue was projected to change at the average annual rate of

change from 2013 to 2017 (excluding 2015, which was an outlier). Beginning in 2026, tonnage is projected to remain flat for the remainder of the planning period.

Disposal fees from out-of-state waste were not projected. No out-of-state tonnage was projected. The Lorain County Landfill typically does not accept waste generated outside Ohio.

The majority (approximately 75%) of disposal fee revenue is collected from tonnage generated out-of-District.

Table O-1. Disposal Fee Schedule and Revenue

Year	Disposal Fee Schedule ($/ton)			Revenue			Total Disposal Fee Revenue
	In-District	Out-of-District	Out-of-State	In-District	Out-of-District	Out-of-State	
2012	$2	$2	$2	$486,225	$2,226,749	$0	$2,712,974
2013	$2	$2	$2	$477,277	$1,324,453	$0	$1,801,730
2014	$2	$2	$2	$448,774	$1,330,028	$0	$1,778,802
2015	$2	$2	$2	$537,386	$1,541,317	$0	$2,078,702
2016	***$2***	***$2***	***$2***	***$523,620***	***$1,555,559***	***$0***	***$2,079,180***
2017	$2	$2	$2	$572,620	$1,623,196	$0	$2,195,817
2018	$2	$2	$2	$604,870	$1,748,289	$0	$2,353,159
2019	$2	$2	$2	$520,600	$1,512,525	$0	$2,033,125
2020	$2	$2	$2	$524,992	$1,541,228	$0	$2,066,220
2021	$2	$2	$2	$529,432	$1,570,476	$0	$2,099,908
2022	$2	$2	$2	$533,821	$1,600,278	$0	$2,134,099
2023	$2	$2	$2	$538,425	$1,630,646	$0	$2,169,071
2024	$2	$2	$2	$543,079	$1,661,591	$0	$2,204,670
2025	$2	$2	$2	$543,079	$1,693,123	$0	$2,236,201
2026	$2	$2	$2	$543,079	$1,693,123	$0	$2,236,201
2027	$2	$2	$2	$543,079	$1,693,123	$0	$2,236,201
2028	$2	$2	$2	$543,079	$1,693,123	$0	$2,236,201
2029	$2	$2	$2	$543,079	$1,693,123	$0	$2,236,201

2. Generation Fees

The District does not receive revenue from generation fees; therefore, **Table O-2** has been omitted.

3. Designation Fees

The District does not receive revenue from designation fees; therefore, **Table O-3** has been omitted.

4. Loans

The District does not have current loans and does not anticipate securing loans during the planning period.

Table O-4. Loans

Year Loan Obtained	Outstanding Balance	Lending Institution	Loan Term (years)	Annual Debt Service
None.				

5. Other Sources of Revenue

a. Contract Fees

Republic Waste Services entered into a Host Community Agreement with the District. The Agreement requires Republic to pay Lorain County $0.60 per ton for each ton of waste disposed at the Lorain County Landfill that is generated outside of the District. It also requires Republic to bring all the waste controlled by Republic in Cuyahoga County to the Lorain County Landfill in New Russia Township. The District receives the following benefits:

- hauling and container costs for Pride Day
- free waste collection services at County buildings
- reservation of capacity for District waste at the landfill
- guarantee that all Cuyahoga County waste controlled by Republic will be brought to the Lorain County Landfill.

Contract fee projections in **Table O-5** beginning in 2018 are calculated by dividing the out-of-District disposal fee revenue (**Table O-1**) by the $2 per ton fee and multiplying the derived total tons by the $0.60 per ton Host Community Agreement fee. As of 2018, the District renewed the Host Community Agreement until 2019 and has options to extend the agreement on an annual basis through 2021. The District will need to renegotiate an agreement with Republic after the current contract expires.

b. Grants

The District received a variety of grants from Ohio EPA from 2012-2015. Ohio EPA's grants are competitive and not guaranteed; therefore, the District is not projecting grant revenue during the planning period.

c. Recycling Revenue

The District received revenue from the sale of materials delivered by residents to the Collection Center from 2012 to 2015. After 2015, revenue from the sale of recyclables was captured in a general fund versus the District's account. No further revenue is projected from this source.

d. Fee Penalties

A one-time fee penalty was assessed to a hauler. The issue has since been remedied, and no further revenue from this source is projected.

e. Reimbursements

Typically, the reimbursements are from communities that do not use their entire Community Incentive Grant. This amount is unpredictable; therefore, only actual values are reported in **Table O-5**. No future values have been projected.

f. Other

The other revenue category includes mainly waiver fees and a negligible amount from donations. Waiver fees are collected on each ton of solid waste that is delivered to an undesignated disposal facility. Any person, legislative authority of a municipal corporation, or township may apply for a waiver from the designation requirements established in this Plan Update. Waiver agreements between the Board and the person who applied for the waiver will contain the terms and conditions upon which the waiver was granted and the payment by the grantee of the waiver fee, if any, assessed on each ton of solid waste covered by the waiver.

Waiver fee revenue for 2019 through 2029 was calculated using the average waiver fee revenue from 2015 to 2018. Waiver fees reported in **Table O-5** reflect actual totals for 2012-2017; 2018 figures are from the District's approved budget.

Total revenue from other sources amounted to $650,193 during the 2016 reference year. During the first year of the planning period (2020), total revenue from other sources is expected to be $523,542. At the end of the planning period in 2029, total other revenue is projected to be $569,110.

Table O-5. Other Revenue and Other Revenue Sources

	Year	Contract Fees	Grants	Recycling Revenue	Fee Penalties	Re-imburse-ments	Other	Total Other Revenue
	2012	$219,872	$240,500	$3,719	$0	$483	$15,168	$479,743
	2013	$397,336	$235,250	$3,528	$0	$3,532	$25,845	$665,490
	2014	$399,008	$201,150	$11,130	$0	$29,801	$49,276	$690,366
	2015	$462,396	$181,616	$12,223	$10,000	$0	$67,516	$733,751
	2016	***$466,667***	***$121,521***	***$0***	***$0***	***$0***	***$62,004***	***$650,193***
	2017	$486,959	$231,269	$0	$0	$5,013	$59,714	$782,955
	2018	$524,487	$0	$0	$0	$6,000	$55,460	$585,947
	2019	$453,758	$0	$0	$0	$0	$61,174	$514,931
x	2020	$462,368	$0	$0	$0	$0	$61,174	$523,542
	2021	$471,143	$0	$0	$0	$0	$61,174	$532,316
	2022	$480,083	$0	$0	$0	$0	$61,174	$541,257
	2023	$489,194	$0	$0	$0	$0	$61,174	$550,367
First Year of Planning Period →	2024	$498,477	$0	$0	$0	$0	$61,174	$559,651
	2025	$507,937	$0	$0	$0	$0	$61,174	$569,110
	2026	$507,937	$0	$0	$0	$0	$61,174	$569,110
	2027	$507,937	$0	$0	$0	$0	$61,174	$569,110
	2028	$507,937	$0	$0	$0	$0	$61,174	$569,110
	2029	$507,937	$0	$0	$0	$0	$61,174	$569,110

Source(s) of Information: Quarterly Fee Reports, District Records

Sample Calculations:

2016 Other revenue = Contact fees + grants + recycling revenue+ fee penalties + reimbursements + other

$650,193 = $466,667 + $121,521 + $0 + $0 + $0 + $62,004

6. *Summary of District Revenues*

The total revenue, comprised of disposal fees and other revenue, was $3,192,717 during the reference year. Revenue in the first year of the planning period (2020) is projected to be $2,589,762. The following table presents a summary of the District's actual and projected total revenue from 2012 to 2029.

Table O-6. Total Revenue

	Year	Disposal Fees	Other Revenue	Total Revenue
	2012	$2,712,974	$479,743	$3,192,717
	2013	$1,801,730	$665,490	$2,467,220
	2014	$1,778,802	$690,366	$2,469,168
	2015	$2,078,702	$733,751	$2,812,453
	2016	***$2,079,180***	***$650,193***	**$2,729,372**
	2017	$2,195,817	$782,955	$2,978,771
	2018	$2,353,159	$585,947	$2,939,106
	2019	$2,033,125	$514,931	$2,548,056
	2020	$2,066,220	$523,542	$2,589,762
	2021	$2,099,908	$532,316	$2,632,224
	2022	$2,134,099	$541,257	$2,675,356
	2023	$2,169,071	$550,367	$2,719,439
	2024	$2,204,670	$559,651	$2,764,320
	2025	$2,236,201	$569,110	$2,805,312
	2026	$2,236,201	$569,110	$2,805,312
	2027	$2,236,201	$569,110	$2,805,312
	2028	$2,236,201	$569,110	$2,805,312
	2029	$2,236,201	$569,110	$2,805,312

First Year of Planning Period → x

Source(s) of Information: Quarterly Fee Reports

Sample Calculations (2016): Total Revenue = Disposal Fees + Other Revenues

$2,729,372 = $2,079,180 + $650,193

B. Cost of Implementing Plan

1. Expenses

The projected budget, shown in **Table O-7**, was developed based on programmatic needs identified in Appendices H, I, and L.

Table O-7. Expenses

Line #	Category/Program	2012	2013	2014	2015	2016	2017
1	***1. Plan Monitoring/Prep.***	*$82,666*	*$98,373*	*$112,814*	*$105,204*	*$86,022*	*$92,485*
1.a	a. Plan Preparation	*$0*	$0	$112,814	$59,219	$0	$15,500
1.b	b. Plan Monitoring	*$0*	$0	$0	$15,152	$86,022	$76,985
1.c	c. Other	*$82,666*	$98,373	$0	$30,833	$0	$0
2	***2. Plan Implementation***	*$2,655,200*	*$2,147,599*	*$1,842,380*	*$1,894,405*	*$2,106,263*	*$2,270,714*
2.a	a. District Administration	*$741,907*	*$817,891*	*$778,537*	*$763,975*	*$826,539*	*$792,791*
2.a.1	Personnel	$572,082	$594,556	$545,305	$526,215	$596,299	$605,426
2.a.2	Office Overhead	$169,825	$190,511	$224,499	$237,760	$219,777	$187,365
2.a.3	Other	$0	$32,824	$8,733	$0	$10,463	$0
2.b	b. Facility Operation	*$345,313*	*$241,767*	*$234,161*	*$224,444*	*$301,304*	*$228,832*
2.b.1	MRF/Recycling Center	$345,313	$241,767	$228,874	$224,444	$3,878	$0
2.b.3	Transfer		$0	$5,287	$0	$0	$0
2.b.4	Special Waste		$0	$0	$0	$297,426	$228,832
2.d	d. Recycling Collection	*$55,000*	*$6,007*	*$0*	*$321,344*	*$362,225*	*$548,286*
2.d.1	Curbside	$35,000	$0	$0	$225,862	$0	$0
2.d.2	Drop-off	$20,000	$0	$0	$95,482	$0	$0
2.d.3	Combined Curbside/Drop-off		$0	$0	$0	$361,620	$548,286
2.d.4	Multi-family		$0	$0	$0	$0	$0
2.d.5	Business/Institutional		$0	$0	$0	$0	$0
2.d.6	Other		$6,007	$0	$0	$605	$0
2.e	e. Special Collections	*$212,744*	*$257,474*	*$462,848*	*$372,319*	*$430,354*	*$429,522*
2.e.1	Tire Collection	$52,041	$41,259	$44,954	$56,663	$40,452	$70,542
2.e.2	HHW Collection	$115,060	$141,169	$151,523	$138,951	$119,950	$358,980
2.e.3	Electronics Collection	$43,568	$51,209	$39,126	$6,750	$11,871	$0
2.e.5	Other Collection Drives	$2,075	$23,837	$227,245	$169,955	$258,081	$0
2.f	f. Yard Waste/Other Organics		$0	$0	$9,942	$0	$0
2.g	g. Education/Awareness	*$53,318*	*$73,621*	*$63,539*	*$88,888*	*$59,045*	*$57,941*
2.g.1	Education Staff	$35,918	$39,835	$9,728	$10,512	$12,691	$24,730
2.g.2	Advertisement/Promotion		$0	$0	$0	$46,354	$33,211
2.g.3	Other	$17,400	$33,786	$53,811	$78,376	$0	$0
2.h	h. Recycling Market Development	*$206,294*	*$723,320*	*$264,745*	*$81,332*	*$126,796*	*$144,935*
2.h.1	General Market Development Activities	$206,294	$723,320	$264,745	$20,000	$17,081	$9,523
2.h.2	ODNR pass-through grant	$0	$0	$0	$61,332	$109,715	$135,412
2.j	j. Feasibility Studies	$0	$0	$0	$0	$0	$0
2.k	k. Waste Assessments/Audits	$0	$0	$0	$0	$0	$68,407
2.m	m. Litter Collection/Education	$14,026	$26,891	$0	$32,161	$0	$0
2.n	n. Emergency Debris Management	$0	$0	$38,550	$0	$0	$0
2.p	p. Other	$1,026,597	$630	$0	$0	$0	$0
3	***3. Health Dept. Enforcement***	$195,000	$155,000	$178,650	$68,700	$72,400	$0
	Lorain County General Health District (as of 2017; prior to 2017, included health departments for Lorain County, City of Elyria, and City of Lorain)	$195,000	$155,000	$178,650	$68,700	$72,400	$0
4	***4. County Assistance***	$54,167	$50,000	$50,000	$54,325	$50,000	$50,000
4.a	a. Maintaining Roads	$54,167	$50,000	$50,000	$50,000	$50,000	$50,000
4.b	b. Maintaining Public Facilities	$0			$4,325	$0	$0
7	***7. Open Dump, Litter Law Enforcement***	$167,346	$173,975	$133,860	$242,459	$261,925	$312,653
7.a	a. Heath Departments	$0	$15,000	$0	$110,000	$108,700	$185,000
7.b	b. Local Law Enforcement	$167,346	$158,975	$129,025	$132,459	$153,225	$127,653
7.c	c. Other	$0	$0	$4,835	$0	$0	$0
	Total Expenses	$3,154,378	$2,624,948	$2,317,704	$2,365,093	$2,576,610	$2,725,852

Table O-7. Expenses (continued)

Line #	Category/Program	2018	2019	2020	2021	2022	2023
1	***1. Plan Monitoring/Prep.***	*$185,000*	*$210,000*	*$191,800*	*$213,636*	*$215,509*	*$257,419*
1.a	a. Plan Preparation	$24,500	$0	$0	$0	$20,000	$40,000
1.b	b. Plan Monitoring	$55,500	$90,000	$91,800	$93,636	$95,509	$97,419
1.c	c. Other	$105,000	$120,000	$100,000	$120,000	$100,000	$120,000
2	***2. Plan Implementation***	*$2,127,955*	*$2,146,163*	*$2,398,404*	*$2,425,915*	*$2,378,703*	*$2,396,771*
2.a	a. District Administration	*$835,212*	*$799,450*	*$806,307*	*$848,227*	*$820,211*	*$827,259*
2.a.1	Personnel	$571,193	$576,905	$582,674	$588,501	$594,386	$600,330
2.a.2	Office Overhead	$225,280	$217,545	$218,633	$219,726	$220,825	$221,929
2.a.3	Other	$38,739	$5,000	$5,000	$40,000	$5,000	$5,000
2.b	b. Facility Operation	*$282,637*	*$288,290*	*$294,056*	*$299,937*	*$305,935*	*$312,054*
2.b.1	MRF/Recycling Center	$0	$0	$0	$0	$0	$0
2.b.3	Transfer	$0	$0	$0	$0	$0	$0
2.b.4	Special Waste	$282,637	$288,290	$294,056	$299,937	$305,935	$312,054
2.d	d. Recycling Collection	*$385,000*	*$400,000*	*$515,000*	*$515,000*	*$485,000*	*$485,000*
2.d.1	Curbside	$0	$0	$0	$0	$0	$0
2.d.2	Drop-off	$0	$0	$0	$0	$0	$0
2.d.3	Combined Curbside/Drop-off	$275,000	$400,000	$455,000	$455,000	$455,000	$455,000
2.d.4	Multi-family	$110,000	$0	$0	$0	$0	$0
2.d.5	Business/Institutional	$0	$0	$30,000	$30,000	$30,000	$30,000
2.d.6	Other	$0	$0	$30,000	$30,000	$0	$0
2.e	e. Special Collections	*$163,255*	*$213,174*	*$217,438*	*$221,787*	*$226,222*	*$230,747*
2.e.1	Tire Collection	$26,744	$27,279	$27,824	$28,381	$28,949	$29,528
2.e.2	HHW Collection	$88,386	$136,808	$139,544	$142,335	$145,182	$148,085
2.e.3	Electronics Collection	$0	$0	$0	$0	$0	$0
2.e.5	Other Collection Drives	$48,125	$49,088	$50,069	$51,071	$52,092	$53,134
2.f	f. Yard Waste/Other Organics	$150,000	$0	$25,000	$0	$0	$0
2.g	g. Education/Awareness	*$92,601*	*$97,748*	*$193,103*	*$193,465*	*$193,834*	*$194,211*
2.g.1	Education Staff	$17,400	$17,748	$18,103	$18,465	$18,834	$19,211
2.g.2	Advertisement/Promotion	$70,201	$75,000	$75,000	$75,000	$75,000	$75,000
2.g.3	Other	$5,000	$5,000	$100,000	$100,000	$100,000	$100,000
2.h	h. Recycling Market Development	*$50,000*	*$50,000*	*$50,000*	*$50,000*	*$50,000*	*$50,000*
2.h.1	General Market Development Activities	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
2.h.2	ODNR pass-through grant	$0	$0	$0	$0	$0	$0
2.j	j. Feasibility Studies	$30,000	$0	$0	$0	$0	$0
2.k	k. Waste Assessments/Audits	$7,500	$15,000	$15,000	$15,000	$15,000	$15,000
2.m	m. Litter Collection/Education	$6,750	$7,500	$7,500	$7,500	$7,500	$7,500
2.n	n. Emergency Debris Management	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
2.p	p. Other	$100,000	$250,000	$250,000	$250,000	$250,000	$250,000
3	***3. Health Dept. Enforcement***	$170,000	$170,000	$170,000	$170,000	$170,000	$170,000
	Lorain County General Health District (as of 2017; prior to 2017, included health departments for Lorain County, City of Elyria, and City of Lorain)	$170,000	$170,000	$170,000	$170,000	$170,000	$170,000
4	***4. County Assistance***	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
4.a	a. Maintaining Roads	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
4.b	b. Maintaining Public Facilities	$0	$0	$0	$0	$0	$0
7	***7. Open Dump, Litter Law Enforcement***	$131,107	$133,729	$136,404	$139,132	$141,914	$144,753
7.a	a. Heath Departments	$0	$0	$0	$0	$0	$0
7.b	b. Local Law Enforcement	$131,107	$133,729	$136,404	$139,132	$141,914	$144,753
7.c	c. Other	$0	$0	$0	$0	$0	$0
	Total Expenses	$2,664,062	$2,709,892	$2,946,607	$2,998,683	$2,956,126	$3,018,942

Table O-7. Expenses (continued)

Line #	Category/Program	2024	2025	2026	2027	2028	2029
1	***1. Plan Monitoring/Prep.***	*$199,367*	*$221,355*	*$203,382*	*$245,849*	*$248,358*	*$229,709*
1.a	a. Plan Preparation	$0	$0	$0	$20,400	$40,800	$0
1.b	b. Plan Monitoring	$99,367	$101,355	$103,382	$105,449	$107,558	$109,709
1.c	c. Other	$100,000	$120,000	$100,000	$120,000	$100,000	$120,000
2	***2. Plan Implementation***	*$2,285,124*	*$2,268,767*	*$2,282,890*	*$2,337,234*	*$2,311,802*	*$2,326,600*
2.a	a. District Administration	*$869,372*	*$841,550*	*$847,674*	*$893,859*	*$860,106*	*$866,416*
2.a.1	Personnel	$606,333	$612,396	$618,520	$624,705	$630,952	$637,262
2.a.2	Office Overhead	$223,039	$224,154	$224,154	$224,154	$224,154	$224,154
2.a.3	Other	$40,000	$5,000	$5,000	$45,000	$5,000	$5,000
2.b	b. Facility Operation	*$318,295*	*$324,661*	*$331,154*	*$337,777*	*$344,533*	*$351,424*
2.b.1	MRF/Recycling Center	$0	$0	$0	$0	$0	$0
2.b.3	Transfer	$0	$0	$0	$0	$0	$0
2.b.4	Special Waste	$318,295	$324,661	$331,154	$337,777	$344,533	$351,424
2.d	d. Recycling Collection	*$485,000*	*$485,000*	*$485,000*	*$485,000*	*$485,000*	*$485,000*
2.d.1	Curbside	$0	$0	$0	$0	$0	$0
2.d.2	Drop-off	$0	$0	$0	$0	$0	$0
2.d.3	Combined Curbside/Drop-off	$455,000	$455,000	$455,000	$455,000	$455,000	$455,000
2.d.4	Multi-family	$0	$0	$0	$0	$0	$0
2.d.5	Business/Institutional	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
2.d.6	Other	$0	$0	$0	$0	$0	$0
2.e	e. Special Collections	*$235,362*	*$240,069*	*$241,175*	*$242,302*	*$243,453*	*$244,626*
2.e.1	Tire Collection	$30,118	$30,720	$30,720	$30,720	$30,720	$30,720
2.e.2	HHW Collection	$151,047	$154,068	$154,068	$154,068	$154,068	$154,068
2.e.3	Electronics Collection	$0	$0	$0	$0	$0	$0
2.e.5	Other Collection Drives	$54,197	$55,280	$56,386	$57,514	$58,664	$59,837
2.f	f. Yard Waste/Other Organics	$0	$0	$0	$0	$0	$0
2.g	g. Education/Awareness	*$194,595*	*$194,987*	*$195,387*	*$195,795*	*$196,211*	*$196,635*
2.g.1	Education Staff	$19,595	$19,987	$20,387	$20,795	$21,211	$21,635
2.g.2	Advertisement/Promotion	$75,000	$75,000	$75,000	$75,000	$75,000	$75,000
2.g.3	Other	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
2.h	h. Recycling Market Development	*$50,000*	*$50,000*	*$50,000*	*$50,000*	*$50,000*	*$50,000*
2.h.1	General Market Development Activities	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
2.h.2	ODNR pass-through grant	$0	$0	$0	$0	$0	$0
2.j	j. Feasibility Studies	$0	$0	$0	$0	$0	$0
2.k	k. Waste Assessments/Audits	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000
2.m	m. Litter Collection/Education	$7,500	$7,500	$7,500	$7,500	$7,500	$7,500
2.n	n. Emergency Debris Management	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
2.p	p. Other	$85,000	$85,000	$85,000	$85,000	$85,000	$85,000
3	***3. Health Dept. Enforcement***	$170,000	$170,000	$170,000	$170,000	$170,000	$170,000
	Lorain County General Health District (as of 2017; prior to 2017, included health departments for Lorain County, City of Elyria, and City of Lorain)	$170,000	$170,000	$170,000	$170,000	$170,000	$170,000
4	***4. County Assistance***	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
4.a	a. Maintaining Roads	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000
4.b	b. Maintaining Public Facilities	$0	$0	$0	$0	$0	$0
7	***7. Open Dump, Litter Law Enforcement***	$147,648	$150,601	$150,601	$150,601	$150,601	$150,601
7.a	a. Heath Departments	$0	$0	$0	$0	$0	$0
7.b	b. Local Law Enforcement	$147,648	$150,601	$150,601	$150,601	$150,601	$150,601
7.c	c. Other	$0	$0	$0	$0	$0	$0
	Total Expenses	$2,852,139	$2,860,723	$2,856,872	$2,953,684	$2,930,762	$2,926,910

2. Explanation of Expenses

Table O-7 includes actual expenses from 2012 to 2017, anticipated expenses from the District's approved budgets for 2018, and projected expenditures from 2019 to 2029. Line items explained below are numbered according to the corresponding line item number in the District's Quarterly Fee Reports. Line items that did not have any expenditures projected throughout the planning period were omitted from the discussion below. Projections were developed using the following assumptions or criteria:

1. Plan Preparation and Monitoring

- **1.a Plan Preparation** – Budget includes estimated expenses related to retaining a consultant for assistance with plan preparation for each 5-year update that will occur during the planning period. Planning assistance is projected to increase 2% from the 2022 Plan cycle to the 2027 Plan cycle.

- **1.b Plan Monitoring** – Budget includes estimated expenses related to retaining a consultant for assistance with plan monitoring and annual reporting. Annual expenditures are projected to increase 2% annually based on the Social Security Administration's annual Cost of Living Adjustment (COLA) increase for 2016 (2%).

- **1.c Other** – A flat annual budget is allocated to legal professional services; in addition, a flat annual budget of $20,000 is allocated in odd-numbered years for completing a third-party financial audit.

2. Plan Implementation

2.a District Administration

- **2.a.1 Personnel** – Budget includes expenditures for District and Collection Center employee salaries, OPERS, workers' compensation, Medicare, life insurance, unemployment insurance, and health insurance. Expenditures are projected to increase 1% annually based on historic trends and District practices.

- **2.a.2 Office Overhead** – Budget includes expenditures for a variety of administrative costs, including but not limited to supplies, county gas, postage, computer system equipment and software, equipment, equipment leases, furniture/fixtures, copier contract, utilities, dues, rent for

administration building, record center fees, in-kind county office expenses, insurance expenses, travel, staff training, and other miscellaneous expenses. The average expenses in this category from 2015-2018 were calculated to project the budget for 2019. Based on historic trends, expenditures were projected to increase at 0.5% annually from 2020 to 2025, then remain flat for the remainder of the planning period.

- **2.a.3 Other** – A flat annual budget of $5,000 is allocated for vehicle maintenance; every 3 years, additional funding is allocated to purchase a new vehicle.

2.b Facility Operation

- **2.b.1 MRF/Recycling Center** – Partially through 2016, expenditures from this category were reported under 2.b.4 Special Waste. No further values were projected for this line item.

- **2.b.4 Special Waste** – This budget includes building maintenance, repairs, rent, and internet service for the Collection Center. Expenditures are projected to increase 2.0% annually based on the 2017 Cost of Living Adjustment (COLA).

2.d Recycling Collection

- **2.d.3 Combined Curbside/Drop-off** – Beginning in 2016, all budgets for the Community Incentive Grant will be categorized as "Combined Curbside/Drop-off" expenditures. In previous Quarterly Fee Reports, these expenditures were listed under different categories, so expenditure reporting will be more consistent moving forward. As previously mentioned, this table captures actual expenditures up through 2017. As with most grant programs, grant cycles, and grant reimbursement period, the total grants awarded do not always match the dollars expended during a calendar year. Grant funding levels were $375,000, $300,000, and $275,000 in 2015, 2016, and 2017 respectively. Budget forecasts beginning in 2018 are set at the total anticipated annual amount communities may apply to be awarded. Grant amounts are determined based on a formula involving District revenue. If District revenue is higher than anticipated, it is possible that grant levels may be increased pending approval from the County Commissioners. In addition, in 2017, $300,000 was paid to the City of Lorain to convert to a PAYT

program. This was a financial agreement made in previous solid waste plans.

- **2.d.4 Multi-family** – Budget includes anticipated totals for the Multi-Family Housing Unit Recycling Grant. The District has not had success with this program to date, so a one-time amount is allocated to this program, which can be rolled forward to the next year if it is not used in 2018.

- **2.d.5 Business/Institutional** – Budget includes a flat annual amount to address new initiatives related to targeting high-volume food waste generators to develop customized waste reduction strategies and organize food rescue workshops.

- **2.d.6 Other** – Budget includes a flat annual amount for 2020-2021 to address recycling contamination.

2.e Special Collections

- **2.e.1 Tire Collection** – Beginning in 2018, this budget only includes the District's contributions to this program. The program in historic years has included funding obtained from Ohio EPA grants. Because the District is not projecting grants as a source of revenue, it is excluding potential expenditures from grants from the budget. Annual expenditures are projected to increase 2% annually based on the Social Security Administration's annual Cost of Living Adjustment (COLA) increase for 2016 (2%).

- **2.e.2 HHW Collection** – Budget varied significantly from 2016 to 2018 due to administrative and operational changes at the Collection Center. In 2019, the budget was based off the average annual operating costs from 2014 to 2016, which the District feels were typical operating years. The budget includes costs to manage HHW materials collected at the Collection Center, including a contract with a third party to transport and process the materials. After 2019, annual expenditures are projected to increase 2% annually based on the Social Security Administration's annual Cost of Living Adjustment (COLA) increase for 2016 (2%).

- **2.e.3 Electronics Collection** – The District used to pay a vendor to accept electronics. In 2017, the District began using an electronics vendor that does not charge the District to manage electronics and provides the District with a share of

the profit from the sale of the recycled materials. Therefore, no budget is allocated to this program beginning in 2017.

- **2.e.5 Other Collection Drives** – Due to changes in District administration, there are some instances where expenditures have not been reported in consistent categories. Because Table O-7 in this appendix contains historic financial data based on the Quarterly Fee Reports, some categories show unexplained fluctuations or information that conflicts with other financial reports produced by the Collection Center. For example, in 2016 in Table O-7 and the Quarterly Fee Reports, the budget for "Other Collection Drives" is $258,081 and the budget for "HHW Collection" is $119,950. Based on reports from the Collection Center, HHW costs were reported to be $219,442 in 2016, so it is evident that while the total expenditures for 2016 is correct, the category totals may be misrepresented.

  Moving forward, the District has developed an improved system for completing Quarterly Fee Reports, which are now checked by a consultant as well as a District employee to ensure that categories and amounts are correct.

  Actual reported totals on the Quarterly Fee Reports were used in Table O-7 through 2017. For the purposes of this plan, beginning in 2018, the budget for "Other Collection Drives" will include costs to manage fluorescent bulbs and ballasts collected at the Collection Center, including a contract with a third party to transport and process the materials. The 2018 amount was based on terms from an approved contract. Annual expenditures are projected to increase 2% annually based on the Social Security Administration's annual Cost of Living Adjustment (COLA) increase for 2016 (2%).

2.f Yard Waste/Other Organics

- Funding allocated in 2018 was earmarked for completing a study to evaluate the feasibility of building and operating an organics processing facility in Lorain County. The amount allocated was based on a proposal received by a private contractor. The full amount was not spent because after the initial phases of the study were completed, it was identified that adequate tonnage could not be secured in order to make the facility financially sustainable. Funding allocated in 2020 is to evaluate whether there is interest in establishing a yard

waste/organics collection consortium or District organics facility.

2.g Education/Awareness

- **2.g.1 Education Staff** – The budget includes funding to supplement the salary of the Agricultural Agent from the OSU Extension Office. The Agricultural Agent provides organics and composting education to residents. Annual expenditures are projected to increase 2% annually based on the Social Security Administration's annual Cost of Living Adjustment (COLA) increase for 2016 (2%).

- **2.g.2 Advertisement/Promotion** – A flat annual budget is allocated for promoting special recycling events

- **2.g.3 Other** – Includes funding for the Lorain County Recycling Scholarship for 2018 and 2019. From 2020 to the end of the planning period, the budget includes funding for providing an educational toolkit for communities to decrease contamination. The budget also includes funding to assist with zero waste plans, initiatives, and programs for communities. The Zero Waste planning process can include professional services costs such as consulting and attorney fees, as well as expenditures related to equipment or infrastructure in order to implement the zero waste plans.

  While the District does not specify how the budget will be broken down amongst these activities, it expects that there will be an initial outlay of costs to develop the educational toolkit, then minimal costs for updating and making it available thereafter.

  If the District does not use all of the allocated resources for this program annually, the remaining budget will go into the unencumbered fund balance. The District is going through administrative changes and cannot anticipate whether a new Director may have interest in projects/infrastructure that could require a significant capital investment. Rather than find an alternative use for unused funds, the District feels more comfortable with having the funding be unencumbered until the next 3-year Plan Update.

2.h Recycling Market Development

- **2.h.1 General Market Development Activities** – A flat annual budget is allocated for District Market Development Grants (Commissioner Grants).

- **2.h.2 ODNR Pass-Through Grant** – The District is not projecting any expenditures from grant related revenue since grants are competitive and not guaranteed.

2.j Feasibility Study

- The budget includes funding to complete an Energy from Waste Feasibility Assessment.

2.k Waste Assessments/Audits

- In 2017, waste assessment/audit budget was allocated to completing work related to organics and tire management in the county. Waste audits and assessments can be for county purposes, or they can be done in partnership with a community or a non-profit organization, such as Mercy Health hospital or Goodwill, which the District has financed in the past. The budget for 2018 was based on the District's approved budget. Moving forward, the District is allocating a flat annual amount for completing a small-scale audit/assessment annually or a more involved study bi-annually. This amount is based on the District's knowledge of how much these projects have cost in the past to complete. The District's ability to use this funding is completely reliant on identifying appropriate candidates and having the candidates agree to participate in an assessment/audit. If non-profits or businesses are not interested or do not agree to participate in the District's program, unspent funding will be carried over to the next year.

2.m Litter Collection/Education

- A flat annual amount is allocated for the Clean and Beautiful (CAB) program and Pride Day.

2.n Emergency Debris Management

- A flat budget is allocated annually for Emergency Debris Management.

2.p Other

- A flat amount of $250,000 is allocated annually from 2019 to 2023. During this time period, $215,000 is reserved for New Program Funding which may include the development of an organics processing facility (Class IV minimum) and $35,000 is allocated for Zero Waste Planning for businesses or organizations. It is expected that if an organics processing facility is constructed, it should be completely financed by 2023, therefore funding decreases after 2023 to $85,000 annually. Beginning in 2024, each year will have a budget of $50,000 for New Program Funding and $35,000 for Zero Waste Planning. If funding for this line item is not used, it can be rolled over for a period of three years. If it is not spent within three years of the budget allocation, the funding will revert to the District's fund balance.

3. Health Department Enforcement

- As discussed previously in this appendix, expenditure categories were not consistently reported in Quarterly Fee Reports prior to 2018. In 2017, all funding provided to health departments in Lorain County, regardless of the purpose, was reported in budget line item *7.a Health Departments*. Moving forward, a flat amount of $170,000 is allocated annually for the Lorain County General Health District from 2018 to 2025.

4. County Assistance

4.a Maintaining Roads

- A flat amount of $50,000 is allocated annually for the County Engineer.

7. Open Dump, Litter Law Enforcement

7.a Health Departments

- Prior to 2017, the District provided funding to multiple health departments. After 2017, the districts merged. All health department funding is now reported under *3. Health Department Enforcement*.

7.b Local Law Enforcement

- The budget includes funding for the Sheriff's Department Environmental Crimes Unit. This budget is projected to increase at 2% annually through 2025 based on historic program budget increases, then remain flat.

The District started the 2016 reference year with a carry-over balance of approximately $2.9 million. Based on revenue and expenditure projections discussed throughout this appendix, the District is expected to begin the planning period in 2020 with a carry-over balance of $3.5 million and end the planning period with a carry-over balance of $1.6 million. Adequate funding is projected to be available to finance the implementation of this plan update. **Table O-8** presents a summary of the District's budget including revenue, expenditures, and fund balance.

Table O-8. Budget Summary

	Year	Revenue	Expenses	Annual Surplus/Deficit	Balance
	2011			Ending Balance	$2,508,585
	2012	$3,192,717	$3,154,378	$38,338	$2,546,923
	2013	$2,467,220	$2,624,948	-$157,727	$2,389,196
	2014	$2,469,168	$2,317,704	$151,465	$2,540,661
	2015	$2,812,453	$2,365,093	$447,360	$2,988,020
	2016	$2,729,372	***$2,576,610***	**$152,762**	**$3,140,783**
	2017	$2,978,771	$2,725,852	$252,919	$3,393,702
	2018	$2,939,106	$2,664,062	$275,044	$3,668,746
	2019	$2,548,056	$2,709,892	-$161,835	$3,506,911
	2020	$2,589,762	$2,946,607	-$356,845	$3,150,066
	2021	$2,632,224	$2,998,683	-$366,459	$2,783,606
	2022	$2,675,356	$2,956,126	-$280,770	$2,502,836
	2023	$2,719,439	$3,018,942	-$299,503	$2,203,333
	2024	$2,764,320	$2,852,139	-$87,819	$2,115,515
	2025	$2,805,312	$2,860,723	-$55,411	$2,060,103
	2026	$2,805,312	$2,856,872	-$51,561	$2,008,543
	2027	$2,805,312	$2,953,684	-$148,372	$1,860,170
	2028	$2,805,312	$2,930,762	-$125,450	$1,734,720
	2029	$2,805,312	$2,926,910	-$121,599	$1,613,122
First Year of Planning Period → x					

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.

[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.)

2. 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 V.

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 District and County Commissioners 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.

B. 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		
In-District				
Lorain County Landfill	Lorain	OH	Landfill	2009
Out-of-District				
None.				
Out-of-State				
None.				

C. Waiver Process for the Use of Undesignated Facilities

Any person may apply for a waiver from the designation requirements established in this Plan Update. The Waiver Process clarifies who may request a waiver and the information to be provided. The application for the waiver must explain the basis for the Board to grant the waiver request. Any person or the legislative authority of a municipal corporation or township may request a waiver authorizing the delivery of solid waste generated within the District to an undesignated solid waste facility. The waiver request shall include the following:

1. The name, address, telephone number, and email address of the person requesting the waiver.

2. The source and name of the generator of the solid waste included in the waiver request.

3. The name, address, telephone number, and email address of the undesignated solid waste facility where solid waste generated within the District will be delivered if the waiver is approved by the Board.

4. The estimated annual tonnage of the solid waste that will be delivered to the undesignated solid waste facility covered by the waiver request.

5. An explanation describing how approval of the waiver request is not inconsistent with the projections contained in the District's initial or amended Plan under divisions (A)(6) and (7) of section 3734.53 of the Revised Code.

6. An explanation describing how the approval of the waiver request will not adversely affect implementation and financing of the District's initial or amended Plan pursuant to the implementation schedule contained in the District's initial or amended Plan under division (A)(12)(a) of section 3734.53 of the Revised Code.

Any waiver granted by the Board of Commissioners shall be included in a waiver agreement by and between the Board of Commissioners and the person granted the waiver. The waiver agreement shall contain the terms and conditions upon which the waiver was granted and the payment by the grantee of the waiver fee, if any, assessed on each ton of solid waste covered by the waiver.

D. Documents

Appendix V contains the resolution to designate the Lorain County Landfill to receive solid waste generated within the District.

APPENDIX Q

DISTRICT RULES

APPENDIX Q. District Rules

A. Existing Rules

The following rules were adopted during implementation of the previously ratified solid waste management district plan. These rules will remain in place following the approval of this Plan update. The Board reserves the right to modify any of these rules at any time and nothing contained in these proposed rules limits the authority of the Board to promulgate further rules in accordance with Section 343.01(G) of the Ohio Revised Code in order to fully implement this Plan.

The purpose of the rules and regulations is to give the District a basis for future solid waste management planning and to provide direction in achieving the recycling and waste minimization goals.

1. Rule Lorain SWMD-01 – Definitions for Applicants for Solid Waste Facility Permits, Registrations or Licenses

The following definitions are applicable to all District rules.

a. **Applicant** shall mean a person, municipal corporation, township or other political subdivision proposing to construct or modify a Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility within the District.

b. **Board of Commissioners** means the Board of County Commissioners of Lorain County, Ohio.

c. **Designated Facility** or **Designation** means a Solid Waste disposal, transfer, recycling or resource recovery facility which the Board of Commissioners has authorized to receive solid waste generated within the District pursuant to R.C. 343.01(I)(2) and the District's solid waste management plan.

d. **District** means the Lorain County Solid Waste Management District.

e. **General Plans and Specifications** shall mean that information required to be submitted to the Board for review for the construction or modification of any proposed Solid Waste Facility and includes, but is not limited to, a site plan for the proposed facility, architectural drawings or artists' renderings of the proposed facility, the projected size and capacity of the proposed facility and all other information identified in this Siting Strategy.

f. **Incinerator** means any equipment, machine, device, article, contrivance, structure or part of a structure used to burn solid or infectious wastes to ash.

g. **Material Recovery Facility** means a facility used to separate, sort, or process Solid Waste in order to segregate materials with value for recycling.

h. **Modify** shall mean a significant change in the operation of an existing in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation, or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

i. **Recycle** or **Recycling** means the activity of collecting, sorting, cleansing, processing and reconstituting Solid Waste and returning reconstituted materials to commerce as valuable commodities for use or exchange.

j. **Recycled Materials** means articles of Solid Waste that have been Recycled.

k. **Siting Strategy** shall mean the process by which the Board of Commissioners shall review proposals for the construction or modification of any Solid Waste Facility and determine whether such proposal complies with the *Plan Update*.

l. **Solid Waste** means such unwanted residual solid or semisolid material as results from industrial, commercial, agricultural, and community operations, excluding earth or material from construction, mining, or demolition operations, or other waste materials of the type that normally would be included in demolition debris, nontoxic fly ash and bottom ash, including at least ash that results from the combustion of coal and ash that results from the combustion of coal in combination with scrap tires where scrap tires comprise not more than fifty percent of heat input in any month, spent nontoxic foundry sand, and slag and other substances that are not harmful or inimical to public health, and includes, but is not limited to, garbage, scrap tires, combustible and noncombustible material, street dirt, and debris. **Solid Waste** does not include any material that is an infectious waste or a hazardous waste.

m. **Solid Waste Energy Recovery Facility** means any site, location tract of land, installation or building where mixed solid waste or select

solid waste streams, including scrap tires, is used as or intends to be used as fuel to produce energy, heat, or steam.

n. **Solid Waste Facilities** shall mean all solid waste collection, storage, disposal (landfill), transfer, recycling, processing, and resource recovery facilities.

o. **Solid Waste Transporter (SWT)** shall be defined as a person or company who engages in the enterprise of collection and transportation of solid waste, source separated recyclables, source separated yard waste or organic waste, by truck, or other hauling vehicle that uses the public roadways for the loading and unloading of solid waste, recyclables, yard waste and who possesses all required licenses and registrations from local, state, and federal governmental entities and authorities as appropriate and relevant including all requirements under these regulations.

p. **Source-separated Recyclable Materials** means Solid Waste which the generator or producer intends to be Recycled and has separated from other Solid Waste at the point of generation or the point of collection.

q. **Waiver Agreement** means the standard form of agreement, approved by the Board of Commissioners, that is entered into between the District and a party that requests a waiver under R.C. 343-01(I)(2) and the District's solid waste management plan, to authorize delivery of Solid Waste generated within the District to a facility not designated by the Board of Commissioners.

r. **Yard Waste** means yard waste that has been separated at the point of generation or at the point of collection from other Solid Wastes.

Any applicant as defined above for a permit-to-install, registration or license for a solid waste facility, incinerator or energy recovery facility under Ohio solid waste law or regulations shall comply with the Siting Strategy presented in the solid waste management *Plan Update*. In this Plan Update, the siting strategy is located in *Appendix S*.

2. Rule Lorain SWMD-02-Solid Waste Facility Review

Any person owning or operating a solid waste or recycling facility within the District shall do the following:

a. Submit three copies of any Permit-to-Install (PTI) application required by the Ohio EPA to the District for review and approval.

b. Submit three copies of all plans and specifications for expansion, modification or new solid waste or recycling facility to the District for review and approval.

c. Comply with the requirements of the *Plan Update Appendix S* Siting Strategy for Facilities.

3. Rule Lorain SWMD-03- Reporting Collection of Recyclable Materials and Solid Waste Facility Annual Report Data Submittal

a. Any person that collects Solid Waste generated within the District, or provides Solid Waste transfer, processing, resource recovery, Recycling or Material Recovery Facility services within the District, shall report the quantity, volume or amount of Source-separated Recyclable Materials collected, and the amount of Recyclable Materials recovered, to the District's Re-TRAC Connect Survey System using the form prescribed by the District and the reporting periods prescribed by the District. The District shall provide copies of its prescribed reporting form, and instructions for completing and submitting the reporting form on the District's website at and/or by regular mail upon request.

b. By April 1 of each year, any person owning or operating a solid waste facility shall submit information and data summarizing solid waste disposal; residential, commercial, and industrial recycling; and solid waste transfers for the preceding calendar year. Such information shall be submitted in a format to be provided by the District, or if approved by the District, the same format and forms submitted to the Ohio EPA.

4. Rule Lorain SWMD-04 – Waiver Process for the Use of Undesignated Facilities

Any person may apply for a waiver from the requirements of Designation by submitting an application for a Waiver Agreement in compliance with the application process specified in *Appendix P* of the District's solid waste management plan. Waivers that are granted shall use the standard form of Waiver Agreement approved by the Board of Commissioners. A party that enters into a Waiver Agreement with the District shall comply with all of the terms and conditions of the Waiver Agreement.

The Waiver Process clarifies who may request a waiver and the information to be provided. The application for the waiver must explain the basis for the Board to grant the waiver request. Any person or the legislative authority of a municipal corporation or township may request a waiver authorizing the

delivery of solid waste generated within the District to an undesignated solid waste facility. The waiver request shall include the following:

a. The name, address, telephone number and email address of the person requesting the waiver.

b. The source and name of the generator of the solid waste included in the waiver request.

c. The name, address, telephone number and email address of the undesignated solid waste facility where solid waste generated within the District will be delivered if the waiver is approved by the Board.

d. The estimated annual tonnage of the solid waste that will be delivered to the undesignated solid waste facility covered by the waiver request.

e. An explanation describing how approval of the waiver request is not inconsistent with the projections contained in the District's initial or amended Plan under divisions (A)(6) and (7) of section 3734.53 of the Revised Code.

f. An explanation describing how the approval of the waiver request will not adversely affect implementation and financing of the District's initial or amended Plan pursuant to the implementation schedule contained in the District's initial or amended Plan under division (A)(12)(a) of section 3734.53 of the Revised Code.

Any waiver granted by the Board shall be included in a waiver agreement by and between the Board and the person granted the waiver. The waiver agreement shall contain the terms and conditions upon which the waiver was granted and the payment by the grantee of the waiver fee, if any, assessed on each ton of solid waste covered by the waiver.

5. Rule Lorain SWMD-05 – Fee Payment Forms

A solid waste facility, incinerator or energy recovery facility, as defined in Rule Lorain-01 or the District Siting Strategy in the solid waste management plan, that is required to make a fee payment to the solid waste district as required by Ohio Revised Code or contractual requirements must complete in full the district fee form. The fee form must be completed per the instructions on the form. A fee form that is not completed per the instructions will be considered deficient and the owner/operator of the solid waste facility, incinerator or energy recovery facility will receive a written request from the District to revise the submitted Fee Payment Form with the missing requested information. The owner/operator will have 14 business

days from receipt of the letter to complete the form and return it in compliance with the request.

6. Rule Lorain SWMD-06 – Designated Solid Waste Facility

No person, municipal corporation, township, or other political subdivision shall deliver, or cause the delivery of, any Solid Waste generated within the Lorain County Solid Waste Management District to any Solid Waste transfer, disposal, recycling, or resource recovery facility other than a facility designated by the Board of Commissioners pursuant to the District's solid waste management plan, unless such Solid Waste is: (a) expressly exempted from the requirements of Designation under Ohio law or District Rules; or (b) delivered directly to a properly licensed and permitted solid waste facility located outside the State of Ohio; or (c) delivered in compliance with the terms and conditions of a Waiver Agreement entered into with the District authorizing delivery to a facility that is not designated by the Board of Commissioners. The only facility currently designated by the Board of Commissioners to receive Solid Waste generated within the district is the Lorain County Landfill, located at 43502 Oberlin-Elyria Road, Oberlin, Ohio 44074.

7. Rule Lorain SWMD-07 – Solid Waste Exempt from Designation

The following Solid Waste is exempt from the requirements of designation and may be delivered to a properly licensed and permitted facility that is not designated by the Board of Commissioners:

a. Solid Waste generated by and collected at industrial facilities located within the District that are classified in SIC code 20 and 22-39 or North American Industrial Classification System (NAICS) manufacturing codes 31, 32 and 33.

b. Source-separated Recyclable Materials that are delivered to a community drop-off, resource recovery facility, Material Recovery Facility, transfer facility for collection and delivery to a legitimate Recycling facility, or a broker, processor or manufacturer that uses post-consumer products as a raw material.

c. Source-separated Yard Waste is to be delivered to any registered, licensed, permitted yard waste management composting facility.

8. Rule Lorain SWMD-08 – Registration of Solid Waste Transporters

All Solid Waste Transporters, as defined in Rule Lorain County SWMD-01 definitions doing business within the borders of the Lorain County Solid Waste Management District must register with the Lorain County Sheriff's

Department and obtain a registration sticker. Registration must be completed in person at the Lorain County Sherriff's Department on forms provided by the Sheriff's Department and must be completed in full.

All Solid Waste Transporters operating within the borders of the Lorain County Solid Waste Management District at the time this Rule is adopted must register with the Lorain County Sheriff's Department within three (3) months of the effective date of this Rule.

Following the effective date of this Rule, prior to commencement of operations within the borders of the Lorain County Solid Waste Management District, any new Solid Waste Transporter must register with the Lorain County Sheriff's Department.

All Solid Waste Transporters must annually update registration information during the month of December and obtain an annual registration sticker from the Lorain County Sheriff prior to January 1.

Any Solid Waste Transporter that fails to comply with the registration requirements in this Rule shall be fined $5,000. Each day of violation constitutes a separate offense.

9. Rule Lorain SWMD-09 – Commingled Loads Hauled by Registered Solid Waste Transporters

Registered solid waste transporters shall not combine waste or recyclables generated within the jurisdiction of the Lorain County Solid Waste District with any other solid waste districts solid waste as defined by the ORC 343.

B. 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 the rule-making powers authorized by Ohio Revised Code 343.01, Divisions (G)(1), (G)(2), (G)(3) and (G)(4) including the following:

<u>ORC 343.01(G)(1)</u>

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.

C. 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.

D. Proposed Rules

The District made minor adjustments to existing rules for this *Plan Update*. The changes will become effective upon ratification of the *Plan Update*. The following Rules are proposed and will become effective upon ratification of this solid waste management plan.

1. Rule Lorain SWMD-01 – Definitions for Applicants for Solid Waste Facility Permits, Registrations or Licenses

Person shall mean a natural person, partnership, association, public or private corporation, limited liability company, municipal corporation, township, government unit or other political subdivision or agency thereof, or any other entity.

2. Rule Lorain SWMD-10 – Enforcement of District Rules

The violation or threatened violation by any person of any rule promulgated by the Board of Commissioners of Lorain County, as the statutory Board of Directors of the Lorain County Solid Waste Management District, shall be referred to the Lorain County Prosecuting Attorney, who shall take such action as he or she deems appropriate pursuant to ORC Section 343.03 and 343.99 of the Ohio Revised Code, or as otherwise deemed appropriate under the laws of the State of Ohio or any applicable political subdivision.

E. Rule Approval Process

The Board of Commissioners shall consider the following process when adopting solid waste management rules.

1. Public Notice of the solid waste management rules in a daily newspaper operating in the District.

2. 30-day public comment period.

3. Public Hearing on the proposed rules (Commissioners meetings will suffice as a public hearing.

4. Make any appropriate changes to the proposed rules as a result of C1, C2, and C3.

Following steps (C) 1-4, the Board shall adopt the rules of the solid waste management district.

For the proposed changes in this *Plan Update*, the public notice, comment period and public hearing required for the ratification of this Plan along with the Board of Commissioners approval, will be sufficient for rule adoption.

APPENDIX R

BLANK SURVEY FORMS AND RELATED INFORMATION

Dear <NAME>,

THE LORAIN COUNTY SOLID WASTE MANAGEMENT DISTRICT NEEDS YOUR HELP.

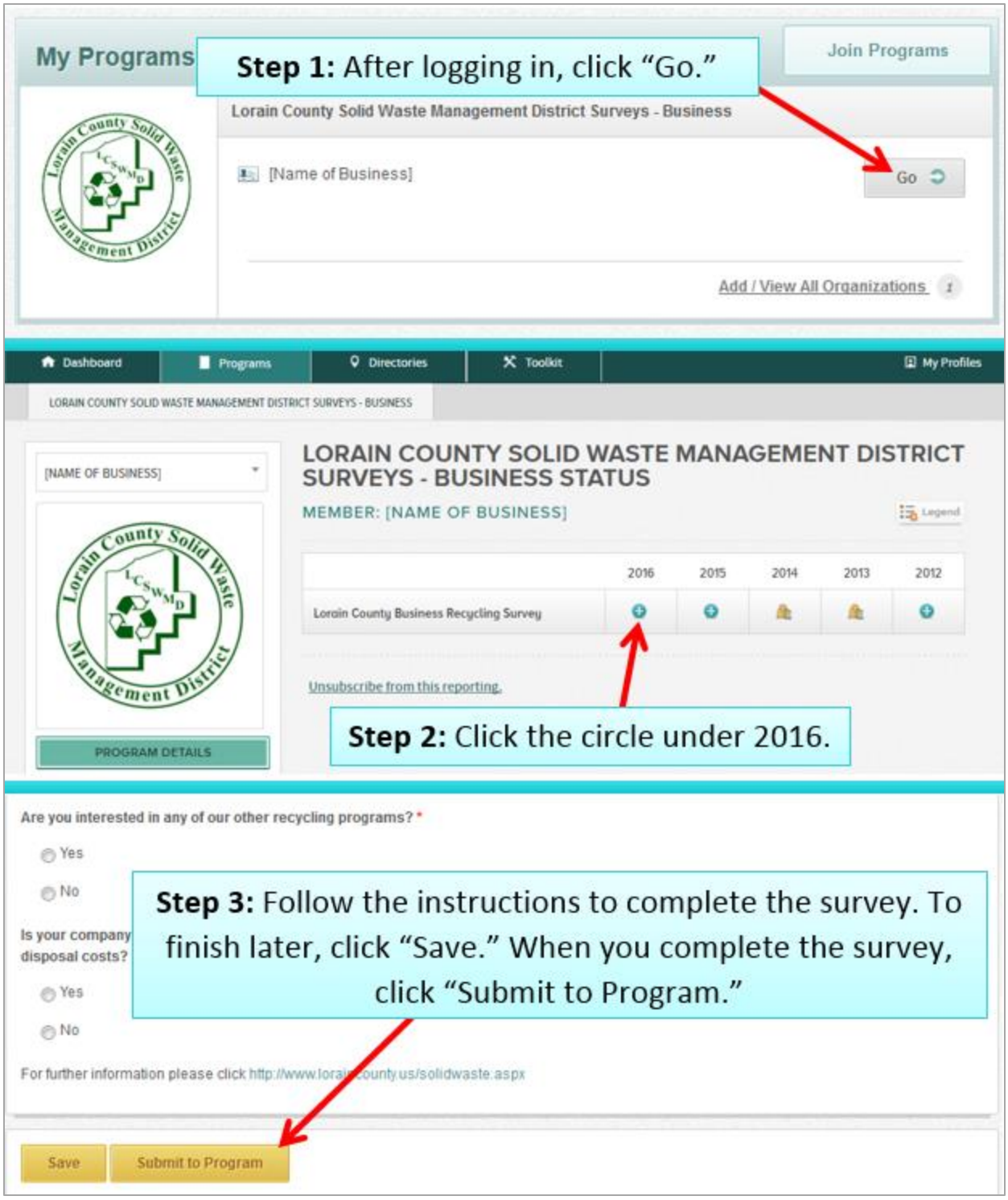
To help us track local recycling efforts, and to fulfill our state obligations, the Lorain County Solid Waste Management District asks for your participation in a brief survey regarding the total pounds/tons recycled by your workplace in 2016. The data you provide will be combined with other businesses' data, so your individual company's or organization's information will not be identified.

Please submit calendar year 2016 recycling information for **<BUSINESS NAME>** by **Friday, April 7, 2017.** Completing this survey should only take a few minutes. Only materials generated within Lorain County, Ohio should be reported.

Completing the survey is quick and easy! An account has been created for you. To complete the survey, use the following log-in information:

Website: https://connect.re-trac.com/login
Username: <USER EMAIL ADDRESS>
Password: <USER PASSWORD>

The survey can be completed in 3 simple steps:



If you have any questions, please contact the District's consultant Molly Kathleen of GT Environmental at 614-794-3570 ext. 11 or mkathleen@gtenvironmental.com.

*****IMPORTANT: If you are not the correct contact person, please respond with the name and email address of the alternate who will complete this annual**

request on behalf of your company. If your establishment does not recycle, please respond "No Recycling." If you submit a response electronically and receive a duplicate survey request in the mail, please disregard the second request.

Thank you for your help!

This message was sent to you on behalf of Keith A. Bailey, Director of the Lorain County Solid Waste Management District.

Program: Lorain County Solid Waste Management District Surveys - Business

CONTACT PROGRAM MANAGER

ALDI INC, HINCKLEY DIVISION

← WORKSPACE

LORAIN COUNTY BUSINESS RECYCLING SURVEY

Annual | 2017

Instructions

Please complete the following survey to the best of your ability using 2017 tonnage information.

This survey is only in regard to solid waste materials (including recycling) generated by residential, commercial or industrial entities located in Lorain County. **DO NOT** include tonnage data from entities located outside Lorain County.

Please **DO NOT** include tonnage data from entities located outside Lorain's jurisdiction. Please **DO NOT** include any C&DD tonnage, which also includes concrete, asphalt, wood and scrap metals used in construction activities and in renovation of residential buildings, as well as gutters, siding, wiring, storm doors, plumbing, etc.

Confidentiality: The Lorain County Solid Waste District will use the information in this survey for summary purposes only to identify types of wastes that may be further reduced or recycled.

If you have any questions regarding the completion of this survey, please contact: Tiffany Barker tbarker@loraincounty.us

Part 1: General Information

Company: *

Number of Employees: *

Address: *

City: *

Zip: *

Contact Person: *

Title: *

Phone: *

Extension:

Email: *

Please Select SIC Code Category: *

- Commercial
- Industrial

Part 2: Recycling Information

Please report the amount of materials **recycled in 2017 from Lorain County in Table 1. The data requested in the recycled columns in very important.** This information is used to calculate the District's progress in meeting state and local recycling goals. The information recorded in this survey will be used for summary purposes only; no company's survey response will be reported individually.

Please **DO NOT** include metals from auto bodies, train boxcars, or construction and demolition debris (C&DD) in the ferrous and/or non-ferrous categories. Please **DO NOT** include any C&DD tonnage, which also includes concrete, asphalt, wood, and scrap metals used in construction activities and in renovation of residential buildings, as well as gutters, siding, wiring, storm doors, plumbing, etc.

Enter the data and select **tons or pounds**. Then provide the name of the recycler/processor that received your business's recycling.

Leave the row blank if you have nothing to report for a given waste type.

Materials

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Appliances/White Goods		Tons ▼		
Food		Tons ▼		
Glass		Tons ▼		
Household Hazardous Waste		Tons ▼		
Ferrous Metals (Steel)		Tons ▼		
Non-Ferrous Metal (Aluminum, Brass, Copper)		Tons ▼		
Corrugated Cardboard		Tons ▼		
Total Tons				

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Paper (Office Paper, Newspaper, Magazines,etc)		Tons		
#1 and/or #2 Plastics		Tons		
Other Plastics (#3-7)		Tons		
Textiles		Tons		
Yard Waste		Tons		
Mixed Recyclables		Tons		
Electronics		Tons		
Ash (recycled ash only)		Tons		
Non-Excluded Foundry Sand		Tons		
Fluorescent bulbs/ballasts		Tons		
Ink Cartridges/Toners		Tons		
Total Tons				

Batteries

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Lead-Acid Batteries		Tons ▼		
Dry-Cell Batteries		Tons ▼		
Total Batteries				

Rubber and Tires

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Scrap Tires		Tons ▼		
Light Car/Truck Tires		Tons ▼		
Tractor Tires		Tons ▼		
Semi Tires		Tons ▼		
Total Rubber and Tires				

Oil

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Used Oil		Tons ▼		
Total Used Oil				

Wood

MATERIALS	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Wood		Tons ▼		
Wood Pallets		Tons ▼		
Total Wood				

Other Miscellaneous Materials

MATERIALS	SPECIFY	AMOUNT RECYCLED	UNITS	TONS	RECYCLING PROCESSOR
Other 1			Tons ▼		
Other 2			Tons ▼		
Other 3			Tons ▼		
Other 4			Tons ▼		
Total Other Miscellaneous					

Additional Information

Are you interested in receiving our quarterly newsletter? *

- Yes
- No

Does your company do any recycling for the public? *

- Yes

- No

Are you interested in information on our Bulb and Ballast Recycling Program? *

- Yes
- No

Are you interested in information on our Office Paper Recycling Program? *

- Yes
- No

Are you interested in information on our Printer Cartridge and Cellular Phone Recycling Program? *

- Yes
- No

Are you interested in any of our other recycling programs? *

- Yes
- No

Is your company interested in having a comprehensive solid waste and recycling assessment completed free of charge to reduce your disposal costs? *

- Yes
- No

For further information please click http://www.loraincounty.us/solidwaste.aspx

SAVE DRAFT MARK COMPLETE

PROGRAM: LORAIN COUNTY SOLID WASTE MANAGEMENT DISTRICT SURVEYS - COMMUNITY

Brighton Township

RECYCLING TONNAGE REPORT

Annual | 2017

New Response for: Brighton Township

Survey Data

Time Period of Reported Tonnage

Please select the start date that you are entering tonnage data for:

Please select the end date that you are entering tonnage data for:

Materials

MATERIALS	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Total Materials				

MATERIALS	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Appliances/White Goods		Tons ▼		
Food		Tons ▼		
Glass		Tons ▼		
Household Hazardous Waste		Tons ▼		
Ferrous Metals (Steel)		Tons ▼		
Non-Ferrous Metal (Aluminum, Brass, Copper)		Tons ▼		
Corrugated Cardboard		Tons ▼		
Paper (Office Paper, Newspaper, Magazines,etc)		Tons ▼		
#1 and/or #2 Plastics		Tons ▼		
Other Plastics (#3-7)		Tons ▼		
Textiles		Tons ▼		
Used Motor Oil		Tons ▼		
Wood		Tons ▼		
Total Materials				

MATERIALS	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Commingled Recyclables		Tons ▼		
Electronics		Tons ▼		
Ash (recycled ash only)		Tons ▼		
Non-Excluded Foundry Sand		Tons ▼		
Fluorescent bulbs/ballasts		Tons ▼		
Ink Cartridges/Toners		Tons ▼		
Total Materials				

Yard Waste

MATERIALS	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Yard Waste		Tons ▼		
Leaves		Tons ▼		
Grass Clippings		Tons ▼		
Total Yard Waste				

Tires

MATERIALS	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Car/Truck Tires		Tons ▼		
Semi Tires		Tons ▼		
Tractor Tires		Tons ▼		
Scrap Tires		Tons ▼		
Total Tires				

Batteries

MATERIALS	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Lead Acid Batteries		Tons ▼		
Dry-Cell Batteries		Tons ▼		
Total Batteries				

Other Materials Recycled

MATERIALS	PLEASE SPECIFY:	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Other 1			Tons ▼		
Total Other					

MATERIALS	PLEASE SPECIFY:	AMOUNT RECYCLED	UNIT	TONS	RECYCLING PROCESSOR
Other 2			Tons		
Other 3			Tons		
Other 4			Tons		
Other 5			Tons		
Total Other					

Total Materials Recycled(Tons)

AUDIT

Status

Draft

Auditor Notes

To view all auditor notes, expand the Response History section of the survey

Status:

New: The user has not entered any data into the survey. The survey is accessible and can be edited by the user.

Draft: The user has saved a draft but has not marked it complete. The response is accessible and can be edited by the user.

Completed: The response has been marked complete by the user. The response is locked and cannot be edited by the user.

Verified: The program manager has verified the response(s). The response is locked and cannot be edited by the user.

SAVE

Dear Ohio Business:

The Lorain County Solid Waste Management District and the Ohio Environmental Protection Agency invite you to participate in a statewide recycling survey. The Ohio Council of Retail Merchants, The Ohio Manufacturers' Association, and Ohio Chamber of Commerce support this survey initiative for the valuable data it yields about Ohio's recycling programs.

The purpose of this survey is to collect data on the amounts and types of materials commercial and industrial businesses recycled in Ohio in 2016. The Lorain County Solid Waste Management District is required to document its recycling efforts in an annual report to Ohio EPA. The District uses the data it receives through surveys to complete that report. By submitting data, your business can help the Lorain County Solid Waste Management District meet its reporting requirements. Your data will also help the District track its progress towards meeting local and state recycling goals.

Why is your business being surveyed?

Your business is in the Lorain County Solid Waste Management District. The District facilitates recycling and reduction efforts for commercial and industrial businesses, institutions, residents, and schools. To identify the programs that make the most sense and determine whether programs are achieving intended results, the Lorain County Solid Waste Management District needs to know what and how much material was recycled.

Your completed survey will help the Lorain County Solid Waste Management District better understand recycling in the business community in Lorain County. Submitting a completed survey also allows your business to connect directly with the District which may be able to assist your company with its recycling needs.

How do I participate in the survey?

Please complete the enclosed survey. When you are done, you can either mail or email the completed survey to the Lorain County Solid Waste Management District's consultant, GT Environmental, Inc. Instructions for completing and returning the survey are provided on the survey form.

What happens to my data?

The Lorain County Solid Waste Management District or its consultant will combine your data with data it receives from other businesses and submit the combined data in its annual report to Ohio EPA. Ohio EPA will use the data to calculate recycling rates for District. The District's 2015 data is posted on Ohio EPA's webpage (http://epa.ohio.gov/dmwm/Home/OhioRecyclesSurvey.aspx) along with the survey forms. To see that data, find the Lorain County tab and click on "View Previous Year's Survey Results." Ohio EPA will also combine the data reported by all solid waste management districts to calculate a recycling rate for Ohio.

Who do I contact for more information?

Please contact Molly Kathleen, the Lorain County Solid Waste Management District's consultant with any questions regarding the survey. Molly can be reached at (614) 794-3570, ext. 11 or mkathleen@gtenvironmental.com. For questions about Ohio EPA's survey webpage, please contact Ernie Stall. You can reach Ernie at ernest.stall@epa.ohio.gov or (614) 728-5356.

Please complete and return the survey to the Lorain County Solid Waste Management District's consultant by 4/10/2017.

Thank you for your time and participation.

Sincerely,

Keith A. Bailey

Keith Bailey
District Director

Dear Industrial Facility,

Thank you for completing this survey. The information you provide for your company is crucial to monitoring the Lorain County Solid Waste Management District's progress towards achieving Ohio's recycling goals. Your information will be combined with information submitted by other businesses and used to calculate the amount of material industrial businesses recycled in the Lorain County Solid Waste Management District and Ohio, in 2016. Your company's survey response **will not** be reported individually; all data will be summarized by each North American Industry Classification System (NAICS) category.

For assistance completing this form or any questions related to the survey, please contact Molly Kathleen, the Lorain County Solid Waste Management District's consultant, at mkathleen@gtenvironmental.com or (614) 794-3570 ext. 11.

Please complete and submit this survey no later than 3/27/2017.

Options for Returning the Completed Survey

- Email directly to Molly Kathleen at mkathleen@gtenvironmental.com, Subject Line: 2016 Commercial Survey
- Fax to (614) 899-9255
- Mail to Molly Kathleen, 635 Park Meadow Rd., Ste 112, Westerville, OH 43081

Instructions for Table A:

Please provide all information requested in ***Table A*** below. Even if your business does not currently recycle or is unable to report quantities of materials recycled, please complete ***Table A***. Doing so will allow the Lorain County Solid Waste Management District to contact you in the future to discuss your recycling needs.

Table A: Company Information		
Name:	County:	
Address:	City:	Zip:
Contact Person:	Title:	
Email:	Telephone Number (include area code): ( ) —	
Primary NAICS:	Secondary NAICS:	Number of full-time employees:
Would you like to be contacted by your local solid waste management district for recycling assistance? ☐ Yes ☐ No		

Instructions for completing Table B:

Table B provides a list of common materials that are recycled by industrial facilities in Ohio. Please indicate the unit of each quantity of material that is reported (pounds, tons or cubic yards). Provide any comments related to each material as necessary. Please do not report any liquid waste, hazardous waste or construction & demolition debris.

The list in ***Table B*** is not all-inclusive. If your facility recycles a material that is not listed in ***Table B***, please enter the name and quantity of that material on a line labeled **"Other."** Some materials may not apply to your operation; simply enter "0" for those materials. Some of the materials are listed in broad categories. For example, "Plastics" include plastics #1-7, plastic films, etc.

If you do not currently track this information internally, your solid waste hauler or recycling processor may be able to provide it upon request. The Lorain County Solid Waste Management District may also be able to provide you with assistance.

Table B: Quantities of Recycled Materials			
Recyclable Material Category	**Amount Recycled in 2016**	**Units**	**Name of hauler or processor that takes the material/other comments**
Food		☐ lbs. ☐ tons ☐ yd^3	
Glass		☐ lbs. ☐ tons ☐ yd^3	
Ferrous Metals		☐ lbs. ☐ tons ☐ yd^3	
Non-Ferrous Metals		☐ lbs. ☐ tons ☐ yd^3	
Corrugated Cardboard		☐ lbs. ☐ tons ☐ yd^3	
All Other Paper		☐ lbs. ☐ tons ☐ yd^3	
Plastics		☐ lbs. ☐ tons ☐ yd^3	
Textiles		☐ lbs. ☐ tons ☐ yd^3	
Wood		☐ lbs. ☐ tons ☐ yd^3	
Rubber		☐ lbs. ☐ tons ☐ yd^3	
Commingled Recyclables		☐ lbs. ☐ tons ☐ yd^3	
Ash (recycled ash only)		☐ lbs. ☐ tons ☐ yd^3	
Non-Excluded Foundry		☐ lbs. ☐ tons ☐ yd^3	
Flue Gas Desulfurization		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	

Table C: Please provide any additional information, comments, suggestions, questions etc.

Thank you again for taking the time to complete this survey. Please contact Molly Kathleen with any questions.

Molly Kathleen, Consultant for the Lorain County Solid Waste Management District
Phone: (614) 794-3570, ext. 11
Email: mkathleen@gtenvironmental.com

Dear Commercial Business,

Thank you for completing this survey. The information you provide for your company is crucial to monitoring the Lorain County Solid Waste Management District's progress towards achieving Ohio's recycling goals. Your information will be combined with information submitted by other businesses and used to calculate the amount of material commercial businesses recycled in the Lorain County Solid Waste Management District and Ohio in 2016. Your company's survey response **will not** be reported individually; all data will be summarized by the North American Industry Classification System (NAICS) category.

For assistance completing this form or any questions related to the survey, please contact Molly Kathleen, the Lorain County Solid Waste Management District's consultant, at mkathleen@gtenvironmental.com or (614) 794-3570 ext. 11.

Please complete and submit this survey no later than 3/27/2017.

Options for Returning the Completed Survey

- Email directly to Molly Kathleen at mkathleen@gtenvironmental.com, Subject Line: 2016 Commercial Survey
- Fax to (614) 899-9255
- Mail to Molly Kathleen, 635 Park Meadow Rd., Ste 112, Westerville, OH 43081

Instructions for Table A:

Please provide all information requested in ***Table A*** below. Even if your business does not currently recycle or is unable to report quantities of materials recycled, please complete ***Table A***. Doing so will allow the Lorain County Solid Waste Management District to contact you in the future to discuss your recycling needs.

Table A: Company Information			
Name:		County:	Store I.D.
Address:		City:	Zip:
Contact Person:		Title:	
Email:		Telephone Number (include area code): ( ) —	
Primary NAICS:	Secondary NAICS:	Number of full-time employees:	
Would you like to be contacted by your local solid waste management district for recycling assistance? ☐ Yes ☐ No			

Instructions for completing Table B:

Table B provides a list of common materials that are recycled by commercial businesses in Ohio. Please indicate the unit of each quantity of material that is reported (pounds, tons or cubic yards). Provide any comments related to each material as necessary. Please do not report any liquid waste, hazardous waste or construction & demolition debris.

The list in ***Table B*** is not all-inclusive. If your business recycles a material that is not listed in ***Table B***, please enter the name and quantity of that material on a line labeled **"Other."** Some materials may not apply to your operation. Some of the listed materials are broad categories. For example, "Plastics" includes plastics #1-7, plastic films etc.

If you do not currently track this information internally, your solid waste hauler or recycling processor may be able to provide it upon request. The Lorain County Solid Waste Management District may also be able to provide you with assistance.

Table B: Quantities of Recycled Materials			
Recyclable Material Category	**Amount Recycled in 2016**	**Units**	**Name of hauler or processor that takes the material/ other Comments**
Lead-Acid Batteries		☐ lbs. ☐ tons ☐ yd^3	
Food		☐ lbs. ☐ tons ☐ yd^3	
Glass		☐ lbs. ☐ tons ☐ yd^3	
Ferrous Metals		☐ lbs. ☐ tons ☐ yd^3	
Non-Ferrous Metals		☐ lbs. ☐ tons ☐ yd^3	
Corrugated Cardboard		☐ lbs. ☐ tons ☐ yd^3	
All Other Paper		☐ lbs. ☐ tons ☐ yd^3	
Plastics		☐ lbs. ☐ tons ☐ yd^3	
Textiles		☐ lbs. ☐ tons ☐ yd^3	
Wood		☐ lbs. ☐ tons ☐ yd^3	
Rubber		☐ lbs. ☐ tons ☐ yd^3	
Commingled Recyclables		☐ lbs. ☐ tons ☐ yd^3	
Yard Waste		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	

Table C: Please provide any additional information, comments, suggestions, questions etc.

Thank you again for taking the time to complete this survey. Please contact Molly Kathleen with any questions.

Molly Kathleen, consultant for the Lorain County Solid Waste Management District
Phone: (614) 794-3570, ext. 11
Email: mkathleen@gtenvironmental.com

APPENDIX S

SITING STRATEGY

APPENDIX S. Siting Strategy

The District's Siting Strategy includes the following:

Submission and Review of Plans and Specifications and Application of Siting Strategy to Proposed Solid Waste Facilities, Maximum Feasible Utilization, and Exemption of Existing in-District Solid Waste Facilities.

A. Definitions

For the purposes of this appendix, the following definitions shall apply:

a. **Solid Waste Facilities** shall mean all solid waste collection, storage, disposal, transfer, recycling, processing, and resource recovery facilities.

b. **Incinerator** means any equipment, machine, device, article, contrivance, structure, or part of a structure used to burn solid or infectious wastes to ash.

c. **Solid Waste Energy Recovery Facility** means any site, location tract of land, installation, or building where mixed solid waste or select solid waste streams, including scrap tires, is used as or intends to be used as fuel to produce energy, heat, or steam.

d. **Siting Strategy** shall mean the process by which the Board of Commissioners shall review proposals for the construction or modification of any Solid Waste Facility and determine whether such proposal complies with the Plan Update.

e. **General Plans and Specifications** shall mean that information required to be submitted to the Board for review for the construction or modification of any proposed Solid Waste Facility and includes, but is not limited to, a site plan for the proposed facility, architectural drawings or artist renderings of the proposed facility, the projected size and capacity of the proposed facility, and all other information identified in this Siting Strategy.

f. **Applicant** shall mean a person, municipal corporation, township, or other political subdivision proposing to construct or modify a Solid Waste Facility, Incinerator, or Solid Waste Energy Recovery Facility within the District.

g. **Modify** shall mean a significant change in the operation of an existing in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation, or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

B. Purpose and Objective

The District's Siting Strategy for Solid Waste Facilities ensures that proposals to construct a new Solid Waste Facility, Incinerator, or Solid Waste Energy Recovery Facility within the District or modify an existing Solid Waste Facility, Incinerator, or Solid Waste Energy Recovery Facility within the District are in compliance with the *Plan Update*. The Board shall not approve the General Plans and Specifications for any proposed Solid Waste Facility, Incinerator, or Solid Waste Energy Recovery Facility or the modification of any existing in-District Solid Waste Facility, Incinerator, or Solid Waste Energy Recovery Facility where the construction and operation of the proposed facility, as determined by the Board, will: (1) have significant adverse impacts upon the Board's ability to finance and implement the *Plan Update*; (2) interfere with the Board's obligation to provide for the maximum feasible utilization of existing in-District Solid Waste Facilities; (3) materially and adversely affect the quality of life of residents within 500 feet of the proposed facility; or (4) have material adverse impacts upon the local community, including commercial businesses and other public facilities (schools, hospitals, libraries, places of worship, etc.) within 500 feet of the proposed facility and the adequacy of existing infrastructure to serve the proposed facility.

Except as otherwise provided herein, all proposed Solid Waste Facilities, Incinerators or Solid Waste Energy Recovery Facilities whether to be sited by or on behalf of the District, or by or on behalf of any person, municipal corporation, township, or other political subdivision, shall be subject to this Siting Strategy and shall comply with the requirement to submit General Plans and Specifications to the District.

C. Siting Procedure Limited Exemption

Notwithstanding the foregoing requirement, existing in-District Solid Waste Facilities specifically identified in this Siting Strategy are not subject to this Siting Strategy unless the owner or operator of any such in-District Solid Waste Facility proposes a modification to the operation of the in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

D. Requirements

The District requires that General Plans and Specifications for all proposals to construct any new Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility within the District or modify any existing in-District Solid Waste Facility be submitted for a determination by the Board of whether such General Plans and Specifications and the proposals comply with the *Plan Update*. The District may adopt a rule upon final approval of this *Plan Update* as follows:

"No person, municipal corporation, township or other political subdivision, shall construct or modify any solid waste transfer facility, disposal facility, recycling facility, material recovery facility, incinerator or solid waste energy recovery facility until the General Plans and Specifications for the proposed improvement have been submitted to and approved by the Board as complying with the *Plan Update*."

E. Procedure Implementing Siting Strategy

Unless otherwise provided herein, or an exemption or waiver from this requirement has been granted by the Board, the following procedure and process shall be followed in the event the construction of a new Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility or the modification of an existing in-District Solid Waste Facility is proposed within the District:

STEP 1: Submittal of Plans and Specifications

Any person, municipal corporation, township or other political subdivision proposing to construct a new Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility or modify an existing in-District Solid Waste Facility shall:

a. Provide General Plans and Specifications of the proposed facility to the Board. Such General Plans and Specifications shall include, but may not be limited to, the following documents and information:

    i. a site plan for the proposed facility;

    ii. architectural drawings or artists renderings of the proposed facility;

    iii. availability of necessary utilities;

    iv. projected size, daily and annual processing capacity in tons, and air space capacity using the proposed maximum daily waste receipt limit;

    v. hours of operation;

    vi. anticipated source of solid waste or recyclable materials to be received at the proposed Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility. If recycling activities will be conducted at the proposed facility, a detailed description of the recycling activity including materials to be recycled, technology to be utilized to accomplish the separation and processing of the recyclable materials, the anticipated percentage of waste reduction anticipated from the operation of the facility and the identification of the market for the sale of the recyclable materials recovered at the facility must be submitted;

vii. types and anticipated number of vehicles utilizing the proposed Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility on an hourly and daily basis;

viii. routes to be used by vehicles utilizing the facility and methods of ingress and egress to the facility; and

ix. any other information necessary for the Board to evaluate whether the proposed Solid Waste Facility, Incinerator or Solid Waste Energy Recovery Facility complies with each of the criteria listed below.

b. Adequately demonstrate to the Board that the construction or modification and subsequent operation of the proposed Solid Waste Facility will:

i. be consistent with the goals, objectives, projections and strategies contained in the *Plan Update*;

ii. not adversely affect financing for the implementation of the *Plan Update*;

iii. not adversely affect the Board's obligation to provide for the maximum feasible utilization of existing in-District solid waste facilities;

iv. be installed, operated and maintained to be harmonious and appropriate in appearance and use with the existing or intended character of the area;

v. be adequately served by essential public facilities and services;

vi. not create excessive additional requirements at public cost for public facilities or services;

vii. not be detrimental to the economic welfare of the community;

viii. not involve the excessive production of traffic, noise, smoke, fumes or odors;

ix. have vehicular approaches to the property that are designed not to create an interference with traffic;

x. not result in the destruction, loss or damage of a natural, scenic, or historic feature of major importance; and

xi. not adversely affect property values within the surrounding community.

c. The Applicant shall submit any additional information the Board requests to establish, to the reasonable satisfaction of the Board, that the construction or modification and subsequent operation of the proposed Solid Waste Facility or proposed modification of an existing in-District Solid Waste Facility will comply with the *Plan Update*.

STEP 2: Board Review

The Board shall conduct a review of the information submitted for the proposed Solid Waste Facility to determine whether the Applicant has adequately demonstrated that the proposed Solid Waste Facility will be constructed or modified and subsequently operated in compliance with the *Plan Update* and demonstrated that the impacts listed in Step 1 do not adversely affect the District, its residents and businesses. The Board may expend District funds to employ a consultant or consultants familiar with Solid Waste Facility construction and operation, land use planning and solid waste planning to assist the Board in implementing this Siting Strategy and in its determination of whether a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the *Plan Update*.

Within sixty days of receiving the General Plans and Specifications from an applicant, the Board shall make a determination as to whether the General Plans and Specifications submitted by the applicant contain sufficient information for the Board to complete its review of the proposal. In the event the Board determines that more information is necessary to complete its review of the proposal, the Board shall notify the Applicant of such request in writing.

Within ninety days of determining that the Applicant has submitted a complete set of General Plans and Specifications, the Board shall determine whether the proposal complies with the *Plan Update* and the criteria identified in Step 1 herein. The Board shall notify the Applicant of its decision in writing. While the Board has broad discretion regarding the approval of General Plans and Specifications for a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility, it is the intent of this Siting Strategy that the Board shall not approve General Plans and Specifications for a proposed Solid Waste Facility unless the Board determines that the proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the *Plan Update* and the criteria identified in Step 1 herein.

STEP 3: Development Agreement

In the event the Board determines that the proposed construction or modification and subsequent operation of a Solid Waste Facility complies with the *Plan Update*, the person, municipal corporation, township or other political subdivision proposing to construct or modify the Solid Waste Facility shall enter into a development agreement with the District which memorializes the obligations that are the basis

of the Board's conclusion that the General Plans and Specifications demonstrate that the proposed facility or its modification complies with the *Plan Update*. The party proposing to construct a Solid Waste Facility shall have an ongoing obligation to comply with the *Plan Update* and the development agreement.

F. Waiver

The Board reserves the right to waive application of the requirement for the submission and Board approval of General Plans and Specifications, and any portion or all of the Siting Strategy or otherwise grant exceptions to the rules of the District, or unilaterally modify or amend the Siting Strategy if the Board concludes such waiver, modification or amendment is in the best interest of the District, its residents and businesses and will assist the Board in the successful implementation of the *Plan Update* and further District goals with respect to solid waste and waste reduction activities.

A determination by the Board to construct or modify any District-owned Solid Waste Facility shall be deemed to be in compliance with the *Plan Update* and the other requirements of these rules.

Waiver for Legitimate Recycling Facilities

The Board has a strong commitment to encouraging the development of recycling and waste reduction activities that are consistent with the waste reduction, reuse and recycling goals as may be required by the Ohio Revised Code, the Ohio Administrative Code, the State Solid Waste Management Plan and the *Plan Update*. Upon adequate demonstration to the Board of the likelihood of attainment of certain waste reduction goals, the Board may waive application of the Siting Strategy for any facility determined by the Board as likely to qualify as a "legitimate recycling facility" as defined in Section 3745-27-01(C)(2) of the Ohio Administrative Code.

In the event an Applicant desires a waiver from the application of the Siting Strategy for a legitimate recycling facility, the Applicant shall submit sufficient information to the Board regarding the proposed facility, the waste reduction method to be implemented, technology to be used in the operation of the facility, the source and type of waste to be received at the facility, the materials to be removed from the waste stream and the anticipated amount of waste reduction.

The Board shall review the proposal following the procedures and process in Step 2 of this Siting Strategy and determine whether the waste reduction standards required by OAC Section 3745-27-01(C)(2) are likely to be satisfied at the proposed facility. In the event the Board determines that such facility is likely to qualify as a legitimate recycling facility, the Board may grant a waiver of the application of the Siting Strategy to the proposed facility.

Such waiver may be made contingent upon the execution of a development agreement by which the proposed facility will be obligated to meet the proposed waste reduction standards on a continuing basis and such other obligations regarding operation of the facility as the Board shall require, including such recordkeeping and reporting requirements as may be necessary to establish compliance with the waste reduction goals. Failure to comply with the terms of any such agreement may result in the revocation of Board approval for operation of any such facility. As part of any such development agreement, the Board may require such bond or other assurances in such amounts as the Board determines, in its discretion, shall be necessary to assure that funds are available for the removal of the facility or conversion of the facility to a legal use in the event of non-compliance with waste reduction standards or other obligations as set forth in the development agreement.

Instructions: When a resolution/ordinance is received, locate the political subdivision's row. Click the cell in either the approved or disapproved column, press the equal sign on your keyword, click the political subdivision's population, then hit "Enter" on your keyboard. Percentages will automatically calculate.

Lorain County Solid Waste District Plan Ratification Population Table	Pop	Approved the Plan	Disapproved the Plan
County Commissioners		**Approved**	
Amherst city	12,197	12,197	
Avon city	22,171	22,171	
Avon Lake city	23,159	23,159	
Elyria city	54,333	54,333	
Grafton village	6,049	6,049	
Kipton village	245	245	
LaGrange village	2,120	2,120	
Lorain city**	64,155	64,155	
North Ridgeville city	31,487	31,487	
Oberlin city	8,449	8,449	
Rochester village	183	183	
Sheffield Lake city	9,130	9,130	
Sheffield village	4,045	4,045	
South Amherst village	1,683		
Vermilion city*	10,476	10,476	
Wellington village	4,854		
Townships			
Amherst township	5,703	5,703	
Brighton township	914	914	
Brownhelm township	1,810	1,810	
Camden township	1,426	1,426	
Carlisle township	7,507	7,507	
Columbia township	7,144	7,144	
Eaton township	5,817	5,817	
Elyria township	3,256	3,256	
Grafton township	2,851	2,851	
Henrietta township	1,866	1,866	
Huntington township	1,343	1,343	
LaGrange township	4,078	4,078	
New Russia township	1,945	1,945	
Penfield township	1,805	1,805	
Pittsfield township	1,604		
Rochester township	628	628	
Sheffield township	3,728	3,728	

Wellington township	1,408	1,408	
Total Adjusted Population	**309,566**	**301,428**	**0**
60% Approval Total Needed	**185,740**		
Total Population Approved	**301,428**		
Percent Approved	**97.4%**		

**Adjusted population includes residents of Vermilion city in Erie County.*

***Largest municipality - Required for ratification.*

APPENDIX T

MISCELLANEOUS PLAN DOCUMENTS

CERTIFICATION STATEMENT FOR THE DRAFT PLAN

We as representatives of the Solid Waste Management Policy Committee (SWMPC) of the Lorain 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 Lorain 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 ten 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 4.0.

Representing the County Commissioners	Date Signed
	9-11-18
Representing CEO of Largest City	Date Signed
	9-11-18
Representing County Health Department	Date Signed
David C. Uig	9-11-18
Representing Townships	Date Signed
	9/11/18
Representing Commercial/Industrial Generators	Date Signed
	9/11/18
Representing the General Interest of Citizens	Date Signed
	9/11/2018
Representing the Public	Date Signed

Resolution Adopting the Solid Waste Management Plan

Resolution # 2019-01

A RESOLUTION DECLARING THAT THE AMENDED SOLID WASTE MANAGEMENT PLAN FOR THE LORAIN COUNTY SOLID WASTE MANAGEMENT DISTRICT (DISTRICT) HAS BEEN ADOPTED.

Whereas, the District has completed the draft amended solid waste management Plan and submitted it to the Ohio Environmental Protection Agency for review and comment on September 18, 2018 and the Ohio Environmental Protection Agency provided comments in a non-binding advisory opinion on November 2, 2018.

Whereas, the Policy Committee has reviewed the non-binding advisory opinion received from the Ohio Environmental Protection Agency and taken their comments into consideration and incorporated changes into the amended Plan as appropriate;

Whereas the District has conducted a 30-day comment period (March 1 – March 30) and a public hearing held on Tuesday, April 9, 2019 to provide the public an opportunity to have input in this Plan;

NOW, THEREFORE, BE IT RESOLVED that the Lorain County Solid Waste Management District:

1. Adopts the amended Plan for the Lorain County Solid Waste Management District.

2. Certifies that, to the best of our knowledge and belief, the statements, demonstrations and all accompanying materials that comprise the District's Plan, 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 ten-year period covered by the Plan, are accurate and are in compliance with the requirements of the District Solid Waste Management Plan Format, version 4.0.

This resolution shall be in effect immediately upon its adoption.

Voting for the Resolution:

David C. Unig

Heather Adelman

Barbara J Kastick

Voting Against the Resolution:

Total Votes for the resolution: _____

Total Votes against the resolution: ____

PUBLIC NOTICE
LORAIN COUNTY
SOLID WASTE MANAGEMENT DISTRICT

Public Comment Period for Draft Solid Waste Management Plan Update

The Lorain County Solid Waste Management District will hold a public hearing to obtain oral comments regarding the draft Solid Waste Management Plan Update on Tuesday, April 9, 2019, at 9:00 AM at the Lorain County Administration Building on the fourth floor in the Commissioners' Hearing Room located at 226 Middle Ave., Elyria, Ohio 44035.

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, and an analysis of the progress made toward achieving state solid waste reduction goals.

The Plan Update includes six chapters that are prepared specifically for the public's review. They include:

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

This draft is an update to a previously approved solid waste plan. This Plan Update details the following: Recycling Infrastructure Inventory, Population Data, Disposal Data, Residential/Commercial/Industrial Recycling Data, Waste Generation Data, a Strategic Evaluation of Old and New Proposed District Programs, Methodology to Select Program Priorities, Achievement of State Recycling Goals, Education and Outreach Programs, Greenhouse Gas Emissions Calculations, Financial Data, Designation of Facilities, and a Siting Strategy.

The draft Plan Update includes a demonstration of access to landfill capacity and determines there are more than 25 years of landfill capacity available at the Lorain County Landfill located in the District.

Under this Plan, the Board of Commissioners is authorized to designate facilities in accordance with Section 343.014 and 343.015 of the Ohio Revised Code. The Lorain County Landfill is the only facility currently designated. Additional facilities can be utilized if the Policy Committee approves a waiver for the facility.

The draft Plan Update complies with State Plan Goal #1: Providing infrastructure for recycling to over 90% of the population. The District is committed to maintaining its achievement of Goal 1.

The District primarily funds plan programs and current operations through a disposal fee and contract fees. A disposal fee of $2.00 per ton is charged on in-district, out-of-district, and out-of-state solid waste disposed in Lorain County. The District also currently receives $0.60 per ton from Republic Waste Services for each ton of waste disposed at the Lorain County Landfill that is generated outside the District. Currently, the District is not considering changes to the main funding mechanisms.

The District will accept written comments as required by Ohio Revised Code Section 3734.55 on the draft Plan Update from March 1, 2019 until March 30, 2019. Written comments should be sent to Ms. Beverly Gardner, Lorain County Solid Waste Management District, 226 Middle Ave., 5th Floor, Elyria, OH 44035.

The draft Plan Update is available for review at the following locations:

- District Office: 226 Middle Ave., 5th Floor, Elyria, OH 44035, during normal business hours
- District website at: www.loraincounty.us/solidwaste.aspx

Please call (440) 328-2248 with any questions about the Plan Update.

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LORAIN COUNTY
SOLID WASTE MANAGEMENT DISTRICT

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Public Hearing Notice

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The District will accept written comments as required by Ohio Revised Code Section 3734.55 on the draft Plan Update from March 1, 2019 until March 30, 2019. Written comments should be sent to Ms. Beverly Gardner, Lorain County Solid Waste Management District, 226 Middle Ave., 5th Floor, Elyria, OH 44035.

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- District website at: www.loraincounty.us/solidwaste.aspx

Please call (440) 328-2248 with any questions about the Plan Update.

Resolution Certifying Ratification of the Solid Waste Management Plan

Resolution No. 002

A resolution declaring that the amended solid waste management plan for the Lorain County Solid Waste Management District has been ratified in accordance with Section 3734.55 of the Ohio Revised Code.

Whereas, the Lorain County Solid Waste Management District held a public hearing on April 9, 2019, and the Policy Committee adopted the amended solid waste management plan on April 9, 2019 following the hearing.

Whereas, the Lorain County Solid Waste 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 Lorain County Solid Waste Management District and from legislative jurisdictions representing at least 60 percent of the population within the District.

NOW THEREFORE BE IT RESOLVED that the Solid Waste Management District Policy Committee of the Lorain County Solid Waste Management District declares the amended Solid Waste Management Plan to be ratified in accordance with Section 3734.55 of the Ohio Revised Code, and shall cause the amended solid waste management plan to be submitted to the Director of the Ohio Environmental Protection Agency for review.

This resolution shall be in effect immediately upon its adoption.

Voting for the resolution:	Voting against the resolution:
David C. Ung	
Heather Adelman	
Barbara J Kastola	

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 Aug. 13, 2019 and recorded in the Journal of said Policy Committee.

Date: 8-13-19

David C. Ung
Policy Committee Chairman

APPENDIX U

RATIFICATION RESULTS

Table U-1
Ratification Results

Lorain County Solid Waste District Plan Ratification Population Table	Population	Approved the Plan	Disapproved the Plan
County Commissioners		**Approved**	
Cities and Villages			
Amherst city	12,197	12,197	
Avon city	22,171	22,171	
Avon Lake city	23,159	23,159	
Elyria city	54,333	54,333	
Grafton village	6,049	6,049	
Kipton village	245	245	
LaGrange village	2,120	2,120	
Lorain city**	64,155	64,155	
North Ridgeville city	31,487	31,487	
Oberlin city	8,449	8,449	
Rochester village	183	183	
Sheffield Lake city	9,130	9,130	
Sheffield village	4,045	4,045	
South Amherst village	1,683		
Vermilion city*	10,476	10,476	
Wellington village	4,854		
Townships			
Amherst township	5,703	5,703	
Brighton township	914	914	
Brownhelm township	1,810	1,810	
Camden township	1,426	1,426	
Carlisle township	7,507	7,507	
Columbia township	7,144	7,144	
Eaton township	5,817	5,817	
Elyria township	3,256	3,256	
Grafton township	2,851	2,851	
Henrietta township	1,866	1,866	
Huntington township	1,343	1,343	
LaGrange township	4,078	4,078	
New Russia township	1,945	1,945	
Penfield township	1,805	1,805	
Pittsfield township	1,604		
Rochester township	628	628	
Sheffield township	3,728	3,728	
Wellington township	1,408	1,408	
Total Adjusted Population	**309,566**	**301,428**	**0**
60% Approval Total Needed		**185,740**	
Total Population Approved		**301,428**	
Percent Approved		**97.4%**	

**Adjusted population includes residents of Vermilion city in Erie County.*
***Largest municipality - Required for ratification.*

APPENDIX V

MISCELLANEOUS DOCUMENTS REQUIRED BY OHIO REVISED CODE

APPENDIX V. Miscellaneous Required Information

Ohio EPA notified solid waste districts that Format 4.0 did not include several items that are required by Ohio law to be included in solid waste plans. Appendix V has been developed to meet the following miscellaneous requirements:

A. 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."

1. Solid Waste Management and Recycling Inventories Response

Appendix B of the Plan Update includes a recycling infrastructure inventory providing data and information on curbside recycling, drop-offs, and composting facilities/activities operating in the District. Appendix D includes an inventory of landfills and transfer facilities managing waste generated in the district. Appendix M, "Waste Management Capacity Analysis," provides remaining disposal capacity for landfills.

The following series of maps shows the location of each existing facility or activity in the District during the 2016 reference year.

Figure V-1. 2016 District Access to Drop-Off and Curbside Recycling

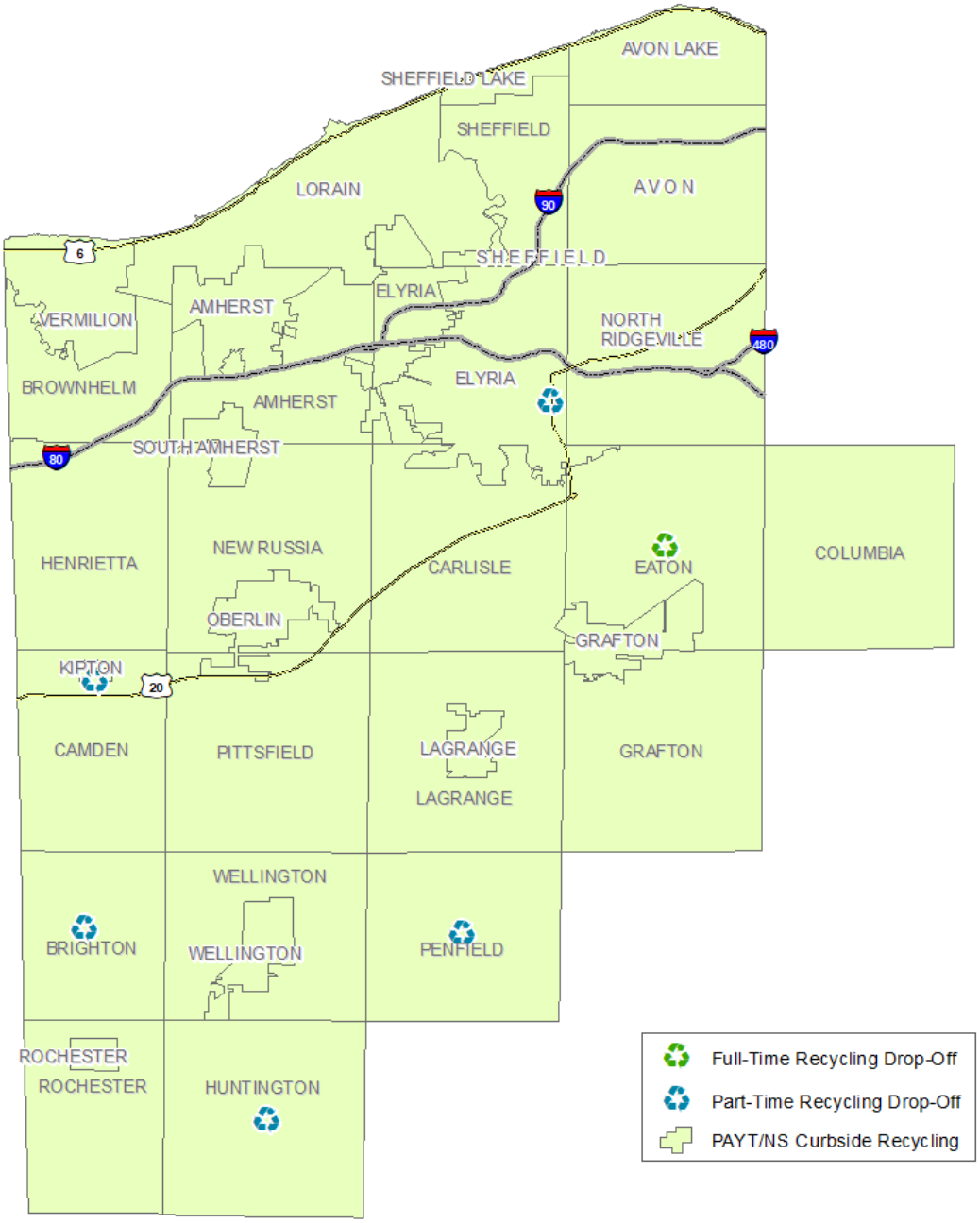


Figure V-2. 2016 District Yard Waste Composting Facilities and Activities

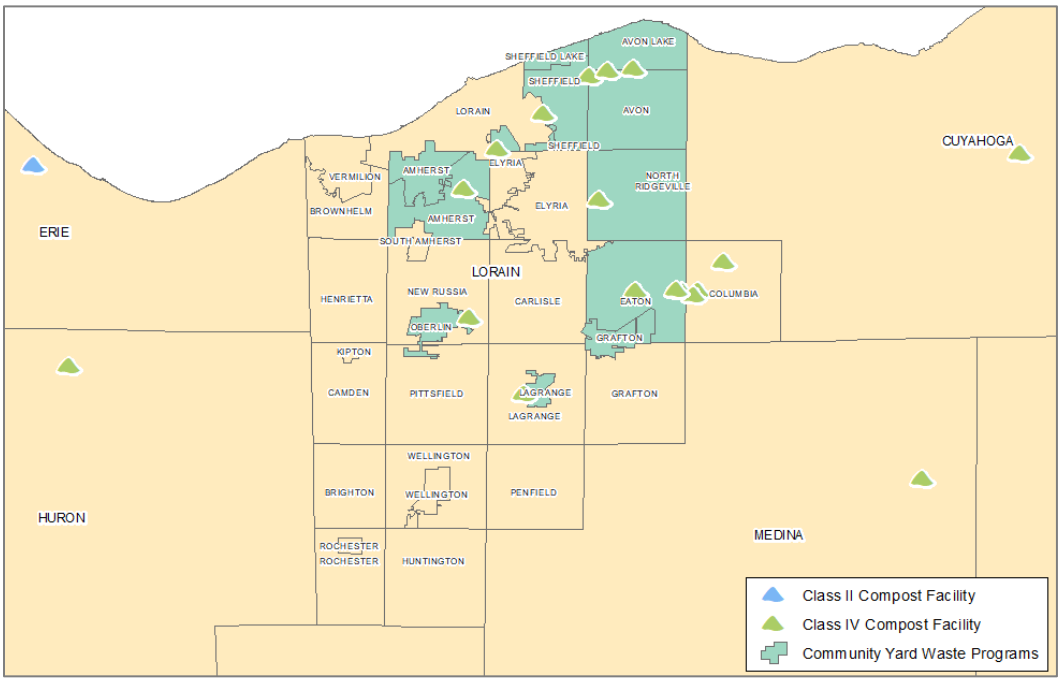
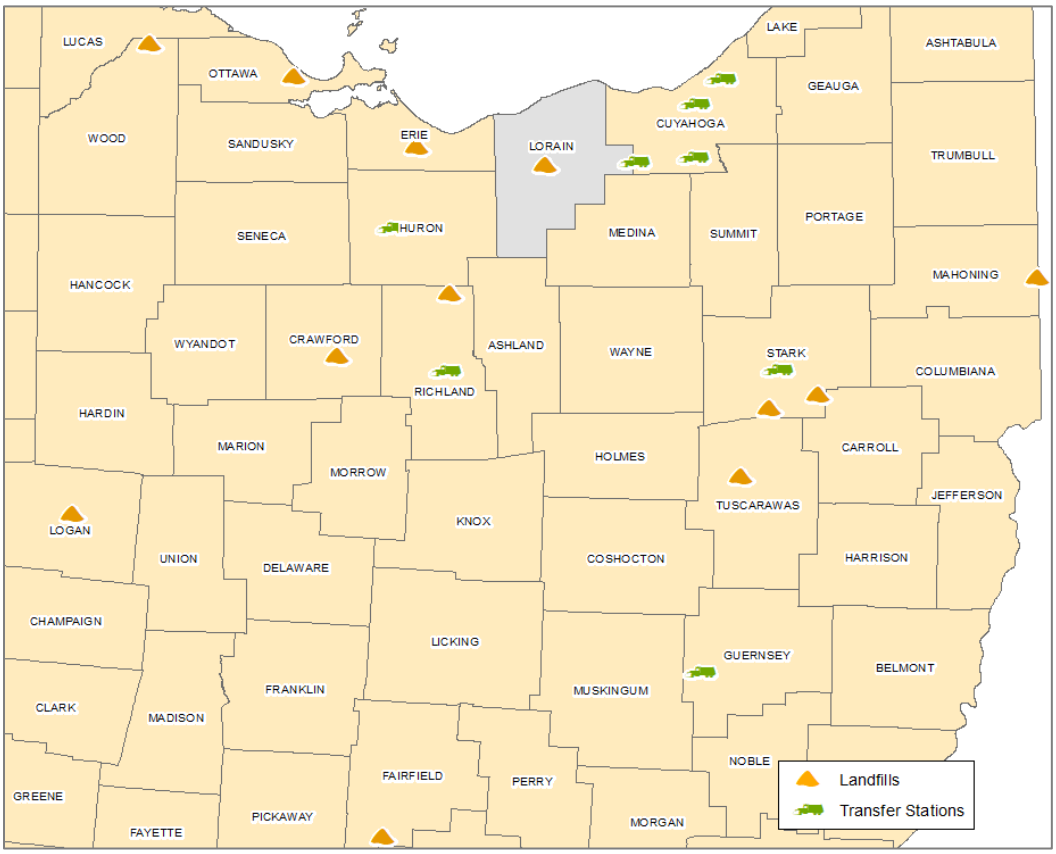


Figure V-3. 2016 Landfills and Transfer Stations Used to Manage District Waste



B. Open Dumping Sites Inventory Requirement

Ohio Revised Code Section 3734.53 (A)(4) requires "…an inventory of open dumping sites for solid wastes, including solid wastes consisting of scrap tires and facilities for the disposal of fly ash and bottom ash, foundry sand, and slag within the district. The inventory shall identify each such site or facility and shall be accompanied by a map that shows the location of each of them."

1. Open Dumping Sites Inventory Response

The District did not have any records of open dumps or waste tire dumps existing in the District during the reference year.

C. Out-of-District Waste to be Disposed in District and Effect of Newly Regulated Waste Streams Requirement

Ohio Revised Code Section 3734.53 (A)(6) requires "…for each year of the forecast period, projections of the amounts and composition of solid wastes that will be generated within the district, the amounts of solid wastes originating outside

the district that will be brought into the district for disposal or resource recovery, the nature of industrial activities within the district, and the effect of newly regulated waste streams, solid waste minimization activities and solid waste recycling and reuse activities on solid waste generation rates. For each year of the forecast period, projections of waste quantities shall be compiled as an aggregate quantity of wastes."

1. Out-of-District Waste to be Disposed in District and Effect of Newly Regulated Waste Streams Response

Appendix M evaluates landfill capacity and has determined that the District has ample capacity for landfilling based on current conditions throughout the planning period. **Tables K-1** and **K-2** include the amount of solid waste generated, recycled, and the amount of solid waste disposed for in-District waste.

The majority (approximately 75%) of the waste disposed at the Lorain County Landfill originates from outside the District. Based on the revenue projections in Table O-1 for out-of-District disposal fee revenue, the estimated amount of tonnage generated from out-of-District that will be disposed at the Lorain County Landfill is presented in the following table.

Table V-1. Out-of-District Tonnage to be Managed at the Lorain County Landfill

Year	Tons
2012	1,113,375
2013	662,226
2014	665,014
2015	770,658
2016	***777,780***
2017	811,598
2018	874,145
2019	756,263
2020	770,614
2021	785,238
2022	800,139
2023	815,323
2024	830,795
2025	846,561
2026	846,561
2027	846,561
2028	846,561
2029	846,561

D. Expense Analysis Requirement

Ohio Revised Code Section 3734.53 (A)(10) requires "…an analysis of expenses for which the district is liable under section 3734.35 of the Revised Code."

1. Expense Analysis Response

The District does not provide funding under ORC 3734.35 to any political subdivision.

E. Facility Identification Requirement and Facility Closure, Expansion, Establishment Schedule Requirement

Ohio Revised Code Section 3734.53 (A)(13) requires "…a schedule for implementation of the plan that, when applicable contains all of the following:

(a) An identification of the solid waste disposal, transfer, and resource recovery facilities and recycling activities contained in the plan where solid wastes generated within or transported into the district will be taken for disposal, transfer, resource recovery, or recycling.

(b) A schedule for closure of existing solid waste facilities, expansion of existing facilities and establishment of new facilities. The schedule for expansion of existing facilities or establishment of new facilities shall include, without limitation, the approximate dates for filing applications for appropriate permits to install or modify those facilities under section 3734.05 of the Revised Code…."

1. Facility Identification Response

Appendix P presents the table regarding designation and flow control for disposal of solid waste and transfer of solid waste.

2. Facility Closure, Expansion, Establishment Schedule Response

As of June 12, 2018, Republic Services' permit to install a vertical expansion was approved by Ohio EPA. The vertical expansion will increase the permitted airspace by 9,513,530 cubic yards to a total of 61,148,650 cubic yards. The life of the facility is calculated to be 11.1 years at the authorized maximum daily waste receipt (AMDWR) of 6,500 tons and 18.6 years at the anticipated average daily waste receipt of 4,000 tons.

F. Source Reduction Program Requirement

Ohio Revised Code Section 3734.53 (A)(14) requires "…a program for providing informational or technical assistance regarding source reduction to solid waste

generators or particular categories of solid waste generators, within the district. The plan shall set forth the types of assistance to be provided by the district and the specific categories of generators that are to be served. The district has the sole discretion to determine the types of assistance that are to be provided under the program and the categories of generators to be serviced by it."

1. Source Reduction Program Response

Appendix L includes plans for outreach and marketing and covering the topic of source reduction for solid waste generators for different categories of generators. Plans for the industrial sector also include technical assistance for source and waste reduction.

C.17 RESOLUTION NO. 09-804

In the matter of Instructing the Clerk to advertise for)
a public hearing on December 3, 2009 at 9:45 a.m.)
to designate an in-district solid waste disposal facility)
for the receipt of solid waste generated within Lorain) November 19, 2009
County Solid Waste Management District and request)
for sealed proposals, publish in Chronicle on)
November 23 & 30, open at 2 pm on December 7)

The Board of Commissioners of Lorain County, Ohio (the "Board"), in its capacity as the governing body of the Lorain County Solid Waste Management District (the "District"), met in regular session in the office of said Board on the 19th day of November 2009, with the following members present:

Commissioner Lori Kokoski, President
Commissioner Ted Kalo, Vice-President

Commissioner Kokoski moved the adoption of the following RESOLUTION:

WHEREAS, the District's solid waste management plan approved by the Director of Ohio EPA on December 4, 2007 (the "Plan") authorizes the Board to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code, and to negotiate a host community agreement with any solid waste operator where the Board believes an Agreement is in the best interests of the District; and

WHEREAS, the Plan further provides that the designation of solid waste facilities shall not apply to industrial generators in SIC code 20 and 22 through 39, inclusive; and

WHEREAS, the Board believes the designation of an in-district solid waste disposal facility subject to the terms and conditions of a host community agreement is likely to provide substantial benefits to the District including, but not limited to: assuring the availability of sufficient solid waste disposal capacity to safely and sanitarily handle all of the solid waste generated within the District during the planning period; providing a source of funding to enable the District to implement the Plan; and providing ancillary economic benefits to the District such as lower costs of disposal, local employment, etc.; and

WHEREAS, if the Board finalizes a host community agreement for the designation of an in-District solid waste disposal facility, the Board intends to adopt a District rule pursuant to the authority reserved in the Plan, granting a waiver from such designation for solid waste generated by industrial generators in SIC code 20 and 22 through 39, inclusive, and for solid waste that is delivered to a solid waste facility located outside the State of Ohio or that is subject to an existing solid waste collection agreement between the solid waste generator and a collection company that is not affiliated with the designated facility.

WHEREAS, the Board anticipates inviting competitive sealed proposals pursuant to R.C. 307.862 to determine which facility or facilities would result in the most advantageous agreement for the District if the Board finalized a host community agreement for the designation of an in-District solid waste disposal facility.

In the matter of the Intent to Establish)
Designation Pursuant to ORC 343.014) March 24, 2010
For In-District Solid Waste Disposal)
Facility)

The Board of Commissioners of Lorain County, Ohio (the "Board"), in its capacity as the governing body of the Lorain County Solid Waste Management District (the "District"), met in regular session in the office of said Board on March 24, 2010, with the following members present:

Commissioner Betty Blair, President
Commissioner Ted Kalo, Vice-President
Commissioner Lori Kokoski, Member

Commissioner Blair moved the adoption of the following RESOLUTION:

WHEREAS, the Director of Ohio EPA approved the District's amended solid waste management plan (the "Plan") on December 4, 2007, which expressly authorizes the Board to designate solid waste facilities pursuant to Section 343.014 of the Ohio Revised Code and to enter into host community agreements; and

WHEREAS, on November 19, 2009, the Board adopted a Resolution of Intent To Designate An In-District Solid Waste Disposal Facility for the receipt of solid waste generated within the District, and mailed notice to interested parties as required by Section 343.014 of the Ohio Revised Code inviting those parties to submit comments at a public hearing concerning the Resolution of Intent and the Invitation for Designation, which public hearing was conducted by the Board on December 3 & 10, 2009 and January 20, 2010; and

WHEREAS, on March 3, 2010 the Board adopted a Resolution Authorizing Preliminary Designation pursuant to Section 343.014 of the Ohio Revised Code, which approved the issuance and consideration of Competitive Sealed Proposals To Provide Solid Waste Services As A Designated Facility; and

WHEREAS, the Lorain County Landfill, located at 43502 Oberlin-Elyria Road, Oberlin, Ohio 44074 submitted the best proposal to become a designated solid waste disposal facility and enter into a host community agreement with the Board in response the Board's request for Competitive Sealed Proposals; and

WHEREAS, the Board has determined that entering into a host community agreement that designates a solid waste disposal facility to serve the District will provide stability for the District's long term solid waste management needs, and will result in substantial economic development, fiscal, and environmental benefits for the District and Lorain County generally; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Commissioners of Lorain County, Ohio, that the foregoing recitals be incorporated herein, and that:

1. The Board proposes to designate the Lorain County Landfill, located at 43502 Oberlin-Elyria Road, Oberlin, Ohio 44074 (the "Landfill"), pursuant to sections 343.01(I)(2) and 343.014 of the Ohio Revised Code, to receive solid waste that is generated within the District for disposal or transfer, in accordance with and subject to the terms and conditions of a Designation and Host Community Agreement to be negotiated between the Landfill and the Board.

2. The Board shall receive written comments from the public concerning this Resolution Of Intent to Establish Designation from April 5, 2010 until April 19, 2010; and

3. The District shall cause public notice of the adoption of this Resolution of Intent to Establish Designation, the location where said Resolution is available for review, and the dates when the public comment period begins and ends, in a newspaper of general circulation within Lorain County, Ohio; and

4. The District shall mail notice and a copy of this Resolution Of Intent to Establish Designation to:

   a. fifty industrial, commercial, and institutional generators of solid wastes within the District that generate the largest quantities of solid wastes, as determined by the Board, and to their local trade associations;
   b. the legislative authority of each municipal corporation and township within the District; and
   c. the Director of Ohio EPA; and

5. The Board determines that this Resolution was adopted at an open meeting conducted in accordance with Ohio's Sunshine Law, Section 121.22 of the Ohio Revised Code.

Commissioner Kalo seconded the motion and the roll being called upon its adoption, the vote resulted as follows: Ayes: All.

Motion carried.

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