



DELAWARE-KNOX-MARION-MORROW SOLID WASTE MANAGEMENT DISTRICT

2019 – 2033 ADOPTED SOLID WASTE MANAGEMENT PLAN UPDATE

November 14, 2018

Prepared by:



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Section i. Solid Waste Management District Information

Table i-1. Solid Waste Management District Information

SWMD Name	Delaware-Knox-Marion-Morrow Joint Solid Waste Management District
Member Counties	Delaware, Knox, Marion, and Morrow
Coordinator's Name (main contact)	Jenna Hicks
Job Title	District Director
Street Address	117 E. High Street, Suite 257
City, State, Zip Code	Mount Vernon, Ohio 43050
Phone	740-393-4600
Fax	740-392-3298
E-mail address	jhicks@dkmm.org
Webpage	www.dkmm.org

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

Member Name	Representing
Delaware County	
Barb Lewis	County Commissioners
Joe Bullis	Municipal Corporations (City of Delaware)
Ron Bullard	Townships (Berlin Township)
Doug Sams	Health Departments
Tom Price	Industrial Generators (Price Farm Organics)
Paul Wise	Delaware County Citizens
Jane Hawes	Public Interests

Member Name	Representing
Knox County	
Thom Collier	County Commissioners
Dick Mavis	Municipal Corporations (City of Mount Vernon)
Bill Persell	Townships
Julie Miller	Health Departments
Jeff Grandstaff	Industrial Generators (Ross Bros. Salvage)
Kerry King	Knox County Citizens
Randy Canterbury	Public Interests

Member Name	Representing
Marion County	
Kerr Murray	County Commissioners
Jim Bischoff	Municipal Corporations (City of Marion)
Clyde Sappington	Townships (Big Island Township)
Tyler Pigman	Health Departments
Tate Tyson	Industrial Generators (Whirlpool Corporation)
Sue Yazel	Marion County Citizens
Gary Sims	Public Interests

Member Name	Representing
Morrow County	
Warren Davis	County Commissioners
Dan Rogers	Municipal Corporations (Village of Mount Gilead)
Michael Patterson	Townships (Cardington Township)
Brian Benick	Health Departments
Earl Linder	Industrial Generators (Mid-Ohio Sanitation Works)
Vacant	Morrow County Citizens
Rita Barton	Public Interests
Dwight McFarland	Member-at-Large

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

Name	Doug Sams
Street Address	1 Winter Street, P.O. Box 570
City, State, Zip Code	Delaware, OH 43015
Phone	740-368-1700
Fax	740-368-1736
E-mail address	dsams@delawarehealth.org

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

Commissioner Name	County
Barb Lewis	Delaware
Jeff Benton	
Gary Merrell	
Roger Reed	Knox
Thom Collier	
Teresa Bemiller (Chairperson)	
Andy Appelfeller (Vice-Chairperson)	Marion
Ken Stiverson	
Kerr Murray	
Warren Davis	Morrow
Burgess Castle	
Tom Whiston	

Technical Advisory Committee

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

CHAPTER 1. INTRODUCTION

A. Brief Introduction to Solid Waste Planning in Ohio

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

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

B. Requirements of County and Joint Solid Waste Management Districts

1. Structure

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

A SWMD is governed by two bodies. The first is the board of directors which consists of the county commissioners from all counties in the SWMD. The second is a policy committee. The policy committee is responsible for developing a solid waste management plan for the SWMD. The board of directors is responsible for implementing the policy committee's solid waste management plan.²

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

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

2. Solid Waste Management Plan

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

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

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

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

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

c. District Overview

In 1989, the county commissioners of all four counties formed the Delaware, Knox, Marion, Morrow Solid Waste Management District by resolution. The Board of

Directors is comprised of the County Commissioners representing Delaware, Knox, Marion, and Morrow Counties. The District was created for the purpose of providing for, or causing to be provided for, the safe and sanitary management of solid wastes within all the incorporated and unincorporated territory of the counties.

The District's mission is to manage the District's current and long-term solid waste disposal needs in an environmentally responsible and cost-effective manner while reducing reliance on landfills by implementing waste reduction, reuse, and recycling strategies.

The District's administration consists of one centralized office, which is located at 117 E. High Street, Suite 257, Mt. Vernon, Ohio 43050.

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 Municipal Jurisdictions

1. Counties in the Solid Waste Management District

As its name suggests, the Delaware-Knox-Marion-Morrow Joint County Solid Waste Management District (District) is a multi-county district comprised of Delaware, Knox, Marion, and Morrow Counties. The following table summarizes the population of the District by county with adjustments¹:

Community	Delaware
Before Adjustment	187,277
Additions	
none	
Subtractions	
Columbus	8,063
Dublin	4,094
Westerville	7,916
After Adjustment	167,204

Community	Knox
Before Adjustment	61,061
Additions	
none	
Subtractions	
Utica	20
After Adjustment	61,041

Community	Marion
Before Adjustment	65,355
Additions	
none	
Subtractions	
none	
After Adjustment	65,355

Community	Morrow
Before Adjustment	35,074
Additions	
none	
Subtractions	
none	
After Adjustment	35,074

Total District Adjusted Population	328,674
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¹ When a community's population resides in more than one SWMD, the entire community's population is added to the SWMD where the majority of the community's population is located. The SWMD where the minority of the population lives subtracts the community's population when calculating the total SWMD's population.

2. County Overview

The District is one of the fifteen multi-county Districts in Ohio. The four-county area of the District consists of the following notable communities:

- The City of Marion in Marion County is the largest city in the District. In 2015, it had a population of 36,363 people which comprised approximately 11 percent of the District's population.
- The City of Delaware in Delaware County had a population of 35,885 in 2015.
- The City of Mount Vernon in Knox County had a population of 16,742 in 2015.
- The Mount Gilead Village in Morrow County had a population of 3,653 in 2015.
- There are 25 villages ranging in population from 123 people to 4,928 people.
- There are 53 townships ranging in population from 269 people to 26,491 people.

B. Population

1. Reference Year Population

For the 2015 reference year, the population of the District was 328,674. Table 2-1 presents the adjusted population, the largest city, and the population of the largest city in each county of the SWMD during the 2015 reference year.

Table 2-1. District Population in 2015

County		Largest Municipal Jurisdiction		
Name	Population	Community Name	Population	Percent of Total County Population
Delaware	167,204	Delaware city	35,885	21%
Knox	61,041	Mount Vernon city	16,742	27%
Marion	65,355	Marion city	36,363	56%
Morrow	35,074	Mount Gilead village	3,653	10%
Total	328,674			

Source(s) of information: Ohio Development Services Agency, "2015 Population Estimates by County, City, Village, and Township." May 2016. Mid-Ohio Regional Planning Commission.

2. *Population Distribution*

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

Table 2-2. Population Distribution

County	Percent of Population in Cities	Percent of Population in Villages	Percent of Population in Unincorporated Townships
Delaware	29%	5%	66%
Knox	27%	14%	59%
Marion	56%	6%	38%
Morrow	0%	20%	80%

Source(s) of information: Ohio Development Services Agency, "2015 Population Estimates by County, City, Village, and Township." May 2016. Mid-Ohio Regional Planning Commission.

According to the Ohio Development Services Agency's profile for the four counties, they are comprised of slightly more rural than urban areas. The bullet points below show the largest uses of land in the county:

- 38% of land use is agricultural
- 37% of land use is urban
- 24% of land cover was forest, open water, or wetlands

Large portions of the District's population are concentrated in the southern portion of Delaware county.

3. *Population Change*

Table 2-3 shows that the rate of change during the planning period is expected to be less than that experienced from 2000 through 2010.

Table 2-3. Percentage Change in Population

Time Period	Area	Delaware	Knox	Marion	Morrow
2000 to 2010	County	29.11%	10.52%	0.43%	9.19%
	Largest City	27.36%	14.30%	4.10%	10.11%
	Unincorporated areas	29.62%	9.06%	-4.13%	9.08%
Planning Period	County	26.56%	0.96%	-3.99%	-1.37%
	Largest City	30.63%	0.96%	-3.99%	-1.37%
	Unincorporated areas	25.36%	0.96%	-3.99%	-1.37%

Sources of information: Ohio Development Services Agency, “Population Projections: County Totals” (2010-2040). Prepared March 2013. Ohio Development Services Agency, “2015 Population Estimates by County, City, Village, and Township.” May 2015. Mid-Ohio Regional Planning Commission.

Based on the results of the 2000 and 2010 censuses, the District experienced an overall increase in its population from 2000 to 2010. According to population projections developed by the Ohio Development Services Agency, the District’s population is projected to increase during the planning period. The projected rate of increase during the planning period are greater than those experienced from 2000 to 2010.

The population of the City of Delaware, the largest city in Delaware County, increased 27.36% from 2000 to 2010. During the planning period, District’s overall population is projected to increase around 22%. The population in unincorporated areas of the four counties are projected to decrease around 16% over the planning period, which is less than the county’s rate of overall population change.

4. *Implications for Solid Waste Management*

As the information above illustrates, large portions of the District’s population are concentrated in the southern area of Delaware County. Data trends indicate that, while the population in the Delaware area is increasing, residents are moving to surrounding areas as well. As populations increase in cities, villages, and townships surrounding Delaware, there may be more opportunities to implement or expand residential recycling programs.

C. Profile of Waste Management Infrastructure

Solid waste generated within the four-county area is currently collected by both private and public haulers and delivered to a number of different facilities depending on the type of material collected. In 2015, trash was directly hauled to 16 landfills:

- No in-district landfills;
- Fourteen out-of-district, but in-state landfills; and
- Two out-of-state landfills.

The Crawford County Sanitary Landfill in Crawford County, the Cherokee Run Landfill in Logan County, and the County Environmental of Wyandot in Wyandot County are the primarily used landfills. These three landfills disposed more than 80 percent of the total waste direct-hauled to landfills in 2015. Transfer stations also received a larger portion of the District’s waste (75 percent) prior to being sent for disposal.

Recyclables were collected and hauled to processors to sort, prepare, and ship recyclables to end markets which use the materials to manufacture new products. Yard trimmings were collected and processed by a number of private companies (including 10 facilities within the District) to produce compost which could then be used as a beneficial soil amendment. Smaller amounts of food scraps and other organic material were also composted by some facilities.

D. Profile of Commercial and Institutional Sector

The District has a strong commercial and institutional sector. The District is home to six colleges and universities, including:

- Mount Vernon Nazarene University
- Central Ohio Technical College
- Kenyon College
- Marion Technical College
- Ohio State University Marion Campus
- Ohio Wesleyan University

Cultural points of interest include the Little Brown Jug harness racing, Olentangy Indian Caverns, The Barn at Stratford, Honey Run Waterfall, Bridge of Dreams, Schnormeier Gardens, Buckeye Telephone Museum, Harding Home, Mount Gilead State Park, and the Mid-Ohio Sports Car Course.

The following table presents the major commercial/institutional sector employers in the four-county area that employ 21,400 or more people.

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

County	Company/Institution	Number of Employees	Type of Business/Organization
Delaware	Ohio Health (Grady Memorial Hospital)	1,500	Healthcare
Delaware	Delaware County	1,091	Government
Delaware	Kroger	1,086	Logistics
Delaware	Pcm/Sarcom Inc	1,001	Information Technology Services
Delaware	Delaware City Schools	646	Education
Delaware	Ohio Wesleyan University	576	Education
Delaware	Cigna	550	Insurance
Delaware	Veeam Software	501	Information & Referral Svcs
Delaware	Exel Inc	500	Freight-Forwarding
Delaware	Meijer	500	Grocers-Retail
Delaware	Kroger Great Lakes Distribution Center	446	Distribution Centers (Whls)
Delaware	Advance Auto Parts Distr Ctr	446	Distribution Centers (Whls)
Delaware	Advance Auto Parts Distribution	406	Logistics
Delaware	Cheesecake Factory	400	Restaurants

County	Company/Institution	Number of Employees	Type of Business/Organization
Delaware	GSW Worldwide	400	Advertising-Agencies & Counselors
Delaware	In Ventiv Health Inc	400	Business Management Consultants
Knox	Knox Community Hospital	900	Hospitals
Knox	Kenyon College	575	Schools-Universities & Colleges
Knox	Kokosing Construction Company	450	Construction
Knox	Knox County	425	Government
Knox	Mount Vernon City Schools	400	Education
Knox	Mount Vernon Nazarene University	370	Schools-Universities & Colleges
Knox	Walmart	325	Department Stores
Knox	Mount Vernon Developmental Center	300	Rehabilitation Services
Knox	Sanoh America	300	Automotive repairs
Knox	First Knox National Bank	200	Financial Services
Knox	City of Mount Vernon	165	Government
Marion	OhioHealth Marion General Hospital	989	Healthcare
Marion	Marion City Schools	769	Education
Marion	Frontier Communications	597	Communication Services
Marion	Ohio Heartland Community Action Commission	596	Governmental Services
Marion	OhioHealth Marion Area Physicians	405	Healthcare
Marion	MTC/North Central Correctional Complex	350	Government - Prison
Marion	Walmart	318	Department Stores
Marion	The Kroger Co.	314	Grocery/Food Distribution
Marion	OhioHealth Marion Medical Campus	260	Healthcare
Marion	Ohio State University at Marion	205	Schools-Universities & Colleges
Marion	River Valley Local Schools	201	Education
Marion	Meijer	200	Grocery/Food Distribution
Marion	Heartland of Marion	170	Nursing Care & Rehabilitation
Marion	Tri-Rivers Career Center	147	Schools-Universities & Colleges
Marion	Marion Technical College	147	Schools-Universities & Colleges
Marion	Lowe's	141	Lumber and Building Materials Dealers
Marion	Kindred Nursing and Rehabilitation Community	122	Nursing Care & Rehabilitation
Marion	Marion Family YMCA	110	Civic Association
Marion	Cummins Facility Services	130	Cleaning Services
Morrow	Mt Gilead Exempted Village School	200	Schools
Morrow	Morrow County Hospital	170	Hospitals

* The sources of this information include the ReferenceUSA online database.

The District's commercial/institutional sector is diverse, which contributes to the sector's stability. The healthcare industry is the biggest employer in the District, which employs the most residents. Other types of commercial/institutional sector jobs that employ a significant portion of all the District's employees include governments and retail trade.

Approximately 5,654 active businesses were located in the District in 2015. Since 2010, the number of active commercial businesses in the District has not increased or decreased. Over that same time, employment in the commercial sector increased an average of 3.3 percent.²

Table 2-5. Number of Active businesses for 2010 and 2015

	2010	2015
Delaware	3,166	3,280
Knox	1,089	1,043
Marion	981	898
Morrow	418	433
	5,654	5,654

E. Profile of Industrial Sector

Manufacturing plays an important role in the District's economy. In 2015, approximately 328 manufacturing facilities were located in the District employing approximately 18,860 residents. Manufacturing employment made up 11.1³ percent of all employed people in the District. Ohio's average manufacturing employment in 2015 was 10.4%. Since 2010, the number of manufacturing facilities in the District decreased by 5.7 percent. Over that same time, employment in the industrial sector increased an average of 8.3 percent. Major industries in the District are the automotive and appliances.

The following table presents the major industrial sector employers in the District that employ 11,000 or more people.

² Ohio Development Services Agency, "Ohio County Indicators," July 2017, pp 61, 62, 67, 74, 85. <http://development.ohio.gov/files/research/C1091.pdf>.

³ Ohio Development Services Agency, "Ohio County Profiles – Delaware/Knox/Marion/Morrow County," pp 5, <http://www.development.ohio.gov/files/research/C1022.pdf>, <http://www.development.ohio.gov/files/research/C1060.pdf>, <http://www.development.ohio.gov/files/research/C1043.pdf>, <http://www.development.ohio.gov/files/research/C1052.pdf>

Table 2-6. Major Industrial Sector Employers in District

County	Company/Institution	Number of Employees	Type of Manufacturing
Delaware	PPG Industries, Inc.	330	Manufacturing - Automotive Aftermarket Paints
Delaware	City of Delaware	301	Government
Delaware	Domtar/AHP	290	Manufacturing - Diaper and Hygienic Products
Delaware	Liberty Castings	234	Foundry
Delaware	International Paper	175	Manufacturing - Cardboard Containers
Delaware	Midwest Acoust-A-Fiber	150	Manufacturing - Thermal & Acoustical Products
Knox	Ariel Corporation	1,200	Air & Gas Compressors (Mfrs)
Knox	Siemens	750	Gas turbine and compressor manufacturer
Knox	Jeld-Wen 500 Mount Vernon	500	Windows
Knox	F.T. Precision, Inc	300	Automobile Parts & Supplies-Mfrs
Knox	Schafer Driveline	125	Motor Vehicle Parts and Accessories
Knox	AMG Industries	125	Motor Vehicle Metal Stamping
Knox	United Precast/Prestress	115	Mfg Precast Concrete Products;
Knox	International Paper	100	Paper-Manufacturers
Marion	Whirlpool Corp.	2,350	Appliances-Household-Manufacturers
Marion	Andersen Windows (Silver Line Windows & Doors)	600	Manufacturing-Processing, Windows-Repair & Replacement
Marion	Sypris Technologies LLC	430	Automobile Parts & Supplies-Mfrs
Marion	Nucor Steel Marion, Inc.	405	Steel Mills (Mfrs)
Marion	Marion Industries, Inc.	330	Automobile Parts & Supplies-Mfrs
Marion	Wyandot, Inc	325	Potato Chips Corn Chips/Snacks (Mfrs)
Marion	Graphic Packaging International, Inc.	250	Folding box manufacturer
Marion	Swan Products LLC	250	Hose & Tubing-Rubber & Plastic-Mfrs
Marion	General Mills	250	Bread/Other Bakery Prod-Ex Cookies
Marion	U.S. Yachiyo	141	Tank Manufacturers
Marion	TODCO Div. of Overhead Door Corp.	140	Metal Door Manufacturers
Marion	Union Tank Car Co.	110	Manufacturing - Machining
Marion	International Paper	101	Paper-Manufacturers
Morrow	Cardington Yutaka Technologies	700	Automobile Parts & Supplies-Mfrs

* The sources of this information include the ReferenceUSA online database.

F. Other Characteristics

Looking at the universities listed earlier in the chapter, the District hosts over 12,000 students. The students comprise a transitory population which fluctuates during the year and results in a variable solid waste generation from the schools.

Institution	Number of Enrollment
Mount Vernon Nazarene University	2,131
Central Ohio Technical College	3,566
Kenyon College	1,711
Marion Technical College	2,441
Ohio State University Marion Campus	1,085
Ohio Wesleyan University	1,671
Total	12,605

*Enrollment figures obtained from: <http://www.collegesimply.com/colleges/ohio>

These facilities have the potential to increase solid waste generation substantially during certain periods of the year.

CHAPTER 3. WASTE GENERATION

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

The District 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 are required to 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

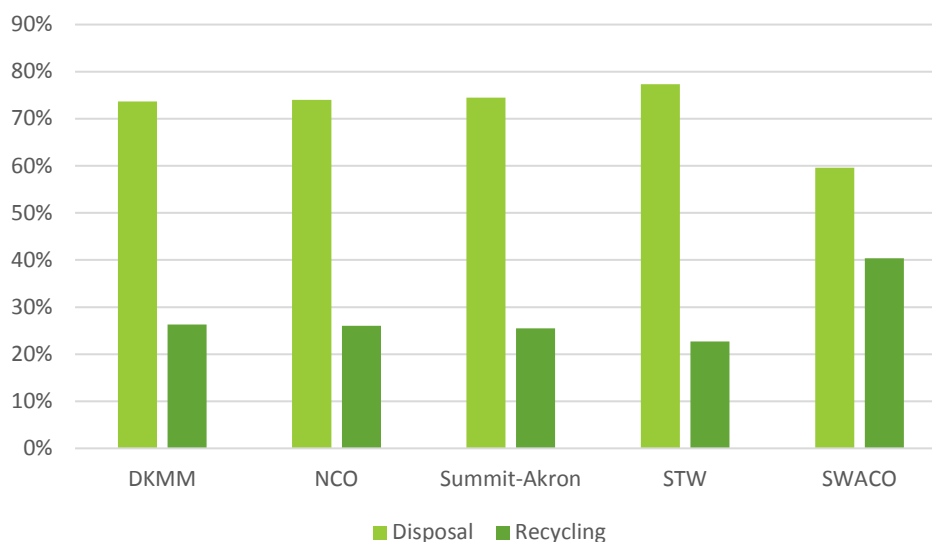
Table 3-1 shows the amounts of residential/commercial (R/C) and industrial waste generated within the District during 2015 (the reference year). The amount generated is defined by the tons disposed in landfills plus the tons recycled, composted, and otherwise diverted from landfill disposal.

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

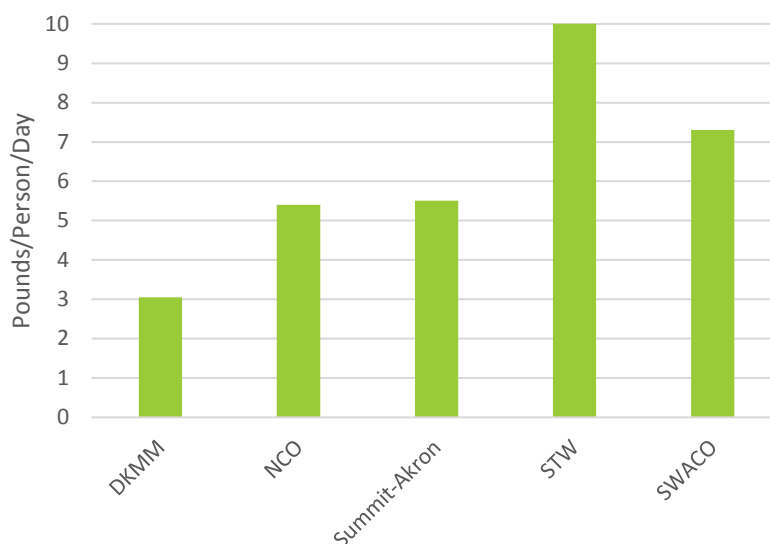
Type of Waste	Quantity Generated (tons)
Residential/ Commercial	323,222
Industrial	182,441
Excluded	38,194
Total	543,856

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

Disposal comprises a much larger percentage of total R/C generation than recycling for the District. This relationship is also true for some of the other surrounding and rural solid waste districts in Ohio, which is illustrated in Figure 3-1. For these solid waste districts, disposal ranges from 60 to 77 percent of total generation while recycling is estimated at 23 to 40 percent.

Figure 3-1. R/C Disposal and Recycling as Percentage of Generation

In terms of the R/C generation rate, the District residents, commercial businesses, and institutions produced daily amounts of waste during 2015 which were in the middle of the range compared to other districts in the area. Figure 3-2 shows that the R/C generation rate for the District was approximately 3.04 pounds per person per day (PPD) in 2015.

Figure 3-2. 2015 Residential/Commercial Generation Rates

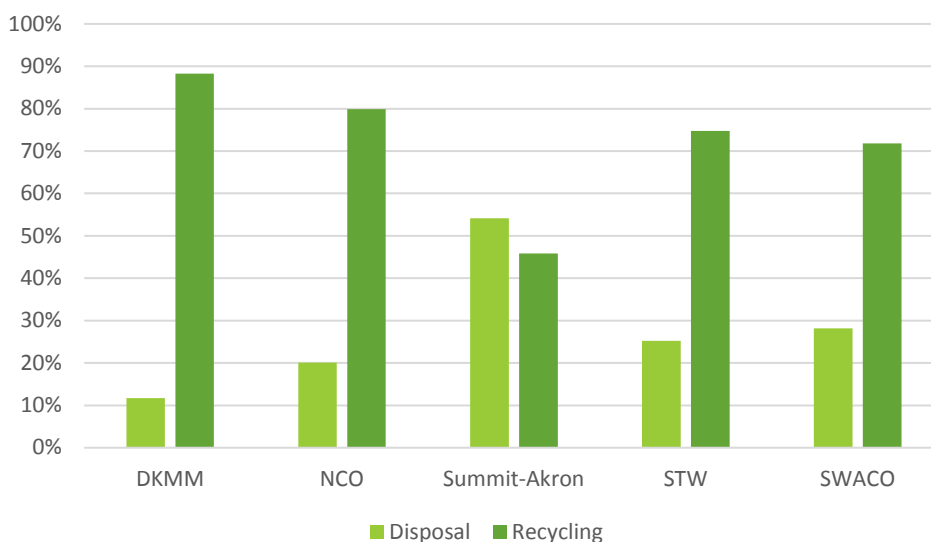
The statewide R/C generation for 2015 was approximately 6.44 PPD, while the average generation rate for all SWMDs above was 6.34 PPD. The national R/C generation rate, according to a recent U.S. EPA publication, is approximately 4.4 PPD.

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

2. Industrial Waste Generated in Reference Year

In contrast to the residential/commercial sector, recycling and waste reduction contribute a good share of total generation in the industrial sector. The relative percentages in other surrounding and rural solid waste districts in Ohio for disposal vs. recycling are very similar to the District's percentages (see Figure 3-3).

Figure 3-3. Industrial Disposal and Recycling as Percentage of Generation

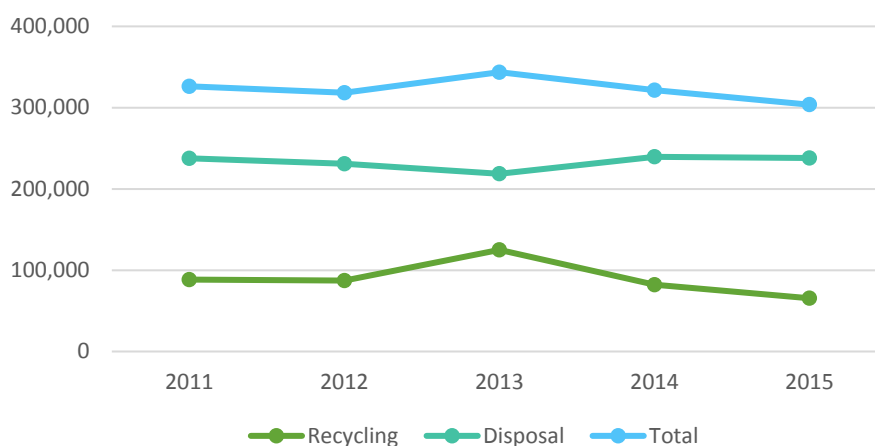


B. Historical Waste Generated

1. *Historical Residential/Commercial Waste Generated*

There has been little fluctuation in the past five years for the generation of R/C waste in the District. Disposal has stayed rather flat while recycling has increased almost 36,000 tons during 2013. (See Figure 3-4.) These trends are consistent with other SWMDs in Ohio.

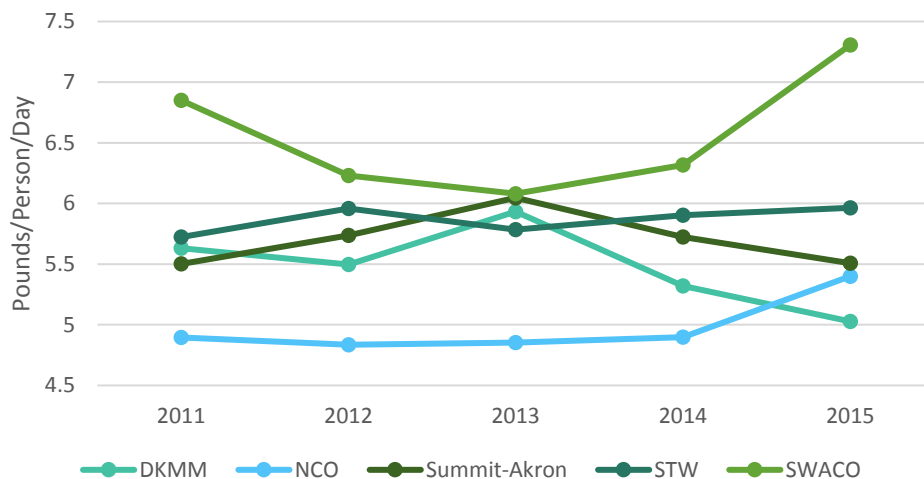
Figure 3-4. District Historical R/C Generation: 2011 – 2015



In general, the R/C waste generation rates for the multi-county SWMDs in Ohio have stayed relatively level during the last five years. While each of the SWMDs depicted in Figure 3-5 has experienced some fluctuation in the

amount of waste produced, the overall trends exhibit stagnant generation rates.

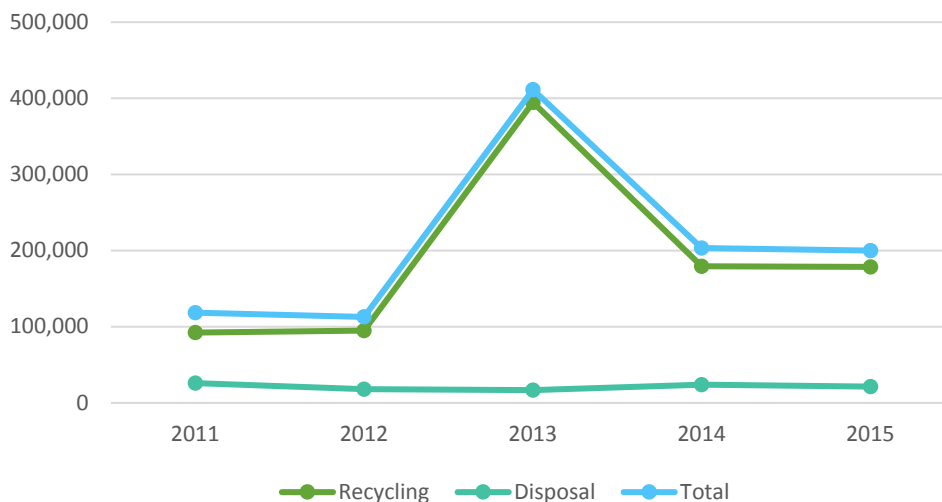
Figure 3-5. Residential/Commercial Generation Rates: 2011-2015



2. *Historical Industrial Waste Generated*

The generation of industrial waste during the past five years has fluctuated a lot more than the R/C generation. As illustrated in Figure 3-6, changes in industrial generation have been seen to spike at times. The chart shows a substantial increase in industrial generation from 2012 through 2013, which was due to an increase in recycling and not disposal, but levels off afterwards.

Figure 3-6. District's Historical Industrial Generation: 2011 – 2015



C. Waste Generation Projections

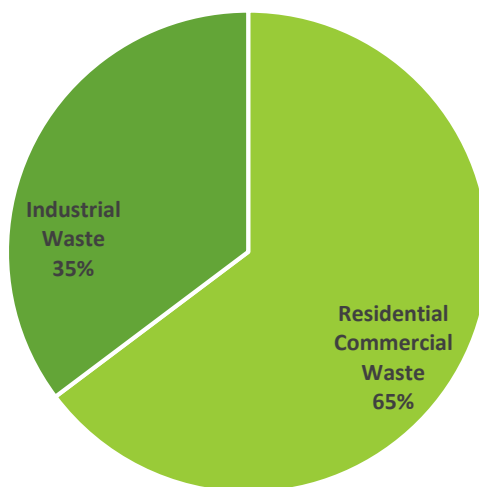
Table 3-2 shown below demonstrates that waste generation within the District is expected to increase slightly during the first six years of the planning period. However, the projected total for 2019 is larger than the total for the 2015 reference year.

Table 3-2. Waste Generation Projections

Year	Residential Commercial Waste	Industrial Waste	Excluded Waste	Total
2019	327,708	180,895	38,194	546,797
2020	327,910	180,512	38,194	546,616
2021	328,381	180,131	38,194	546,705
2022	328,831	179,750	38,194	546,776
2023	329,262	179,372	38,194	546,828
2024	331,661	179,372	38,194	549,227

Figure 3-7 shows the percentage of solid waste generated in the residential/commercial vs. industrial sectors for the first year of the planning period (2019). Projections for both of these sectors have been developed by analyzing historical disposal data, determining trends for the historical data, and estimating future disposal amounts by incorporating any known changes which may affect the tons landfilled. The same process has been used to establish the projections for waste reduction and recycling, and the sum of the disposal and waste reduction/recycling projections comprise the total waste generation projections.

Figure 3-7. Residential/Commercial vs. Industrial Waste Generation: 2019



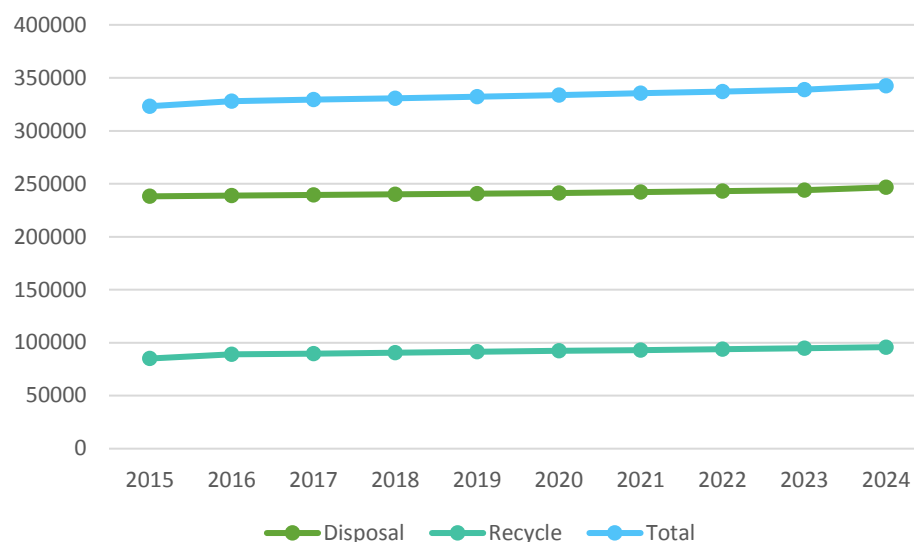
1. Residential/Commercial Waste Projections

As stated above, projections for the residential/commercial sector were developed for disposal and recycling in order to determine total generation. Figure 3-4 shows that disposal amounts for the residential/commercial sector have been decreasing over the past ten years. However, the disposal rate in pounds/person/day for the District has been steady since 2011, especially in 2015. The disposal rate is expected to remain constant and follow population changes throughout the remainder of the planning period.

Recycling projections were developed using the historical trend, but anticipating the District's population was also a crucial component in determining the total residential/commercial sector recycling expected in future years. See Chapter 5, Section B, for a much more complete discussion of the District's waste reduction and recycling programs and the expectations for these programs during the planning period.

Figure 3-8 below shows that tonnages for the residential/commercial sector are projected to increase slightly to approximately 342,000 tons in 2024.

Figure 3-8. Residential/Commercial Waste Generation: 2015-2024



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. As depicted in Figure 3-6 above, industrial generation tonnages within the District have shown a lesser degree of variability over time than waste from the residential/commercial sector. This is especially true with respect to waste reduction and recycling

even though the District programs to assist and encourage waste reduction and recycling in the industrial sector have remained relatively consistent over time.

Generation tonnages reached their highest level in 2013 followed by a substantial increase in 2014. 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. It is assumed that the tonnage reported for 2015 in the industrial surveys not including scrap yards or processors to avoid double counting will decrease slightly until 2023 then remain constant through year 2033.
- Disposal. It is assumed that the amount of industrial sector disposal will increase slightly until 2023 then remain constant through year 2033.

The result of these assumptions is that waste generation for the industrial sector is projected to decrease slightly from year 2015 through the end of the planning period.

3. Excluded Waste

Projections for excluded waste (i.e., materials such as construction and demolition debris) have not been developed since excluded waste comprised less than 10 percent of the total waste generated in the reference year (2015).¹

¹ Ohio EPA's Format v4.0 instructs solid waste management districts to delete excluded waste if it comprises less than 10 percent of the total waste disposed.

CHAPTER 4. WASTE MANAGEMENT

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

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

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

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

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

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

A. Waste Management Overview

The solid waste generated within the District 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 recycle 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
2019	546,797	229,408	20,249	235,289	61,495
2020	546,176	229,241	20,417	238,201	58,317
2021	546,184	229,079	20,607	238,185	58,313
2022	546,176	228,918	20,797	238,155	58,306
2023	546,353	228,958	20,988	238,112	58,296
2024	548,752	228,998	21,178	239,853	58,722

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

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

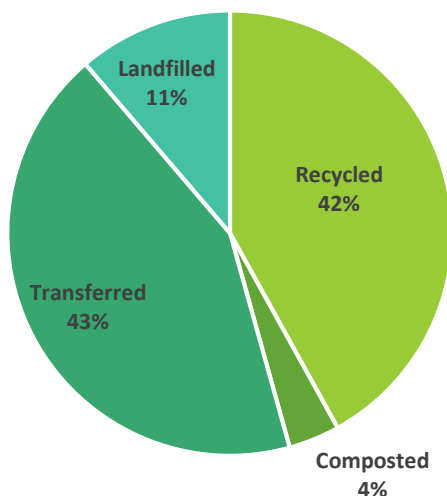
³ "Compost" is the total amount of composting

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.

The proportion of each method used to manage the District's waste during the first six years of the planning period are predicted to change very little. Figure 4-1 shows the breakdown of total generation.

Figure 4-1. Waste Management Methods: 2019



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

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 2015 are shown in Table 4-2 below. This table illustrates that more than 65 percent of the direct-hauled waste was disposed at the Cherokee Run Landfill and County Environmental of Wyandot. These facilities are publicly-available but are owned by a private company. These two facilities combined also have many years of remaining capacity available for disposal as shown in Table 4-2. There was 19% of the solid waste went to the Noble Rd Landfill which may need to be transferred to a different landfill towards the end of the planning period.

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					
None					
Out-of-District					
Athens Hocking C&DD/Reclamation Center Landfill	Athens & Hocking	OH	47	0.11%	51.2
Carbon Limestone Landfill LLC	Mahoning	OH	41	0.10%	60.7
Cherokee Run Landfill	Logan	OH	14,195	34.24%	29.1
County Environmental of Wyandot	Wyandot	OH	12,836	30.96%	156.5
Crawford County Sanitary Landfill	Franklin	OH	328	0.79%	12.1
Evergreen Recycling & Disposal	Hancock	OH	7	0.02%	35.5
Franklin County Sanitary Landfill	Franklin	OH	328	0.79%	22.3
Hancock County Sanitary Landfill	Hancock	OH	7	0.02%	30.1
Kimble Sanitary Landfill	Tuscarawas	OH	26	0.06%	30.8
Noble Rd Landfill	Richland	OH	8,042	19.40%	8.6
Pine Grove Regional Facility	Fairfield	OH	432	1.04%	60.1
Rumpke Waste Inc Hughes Rd Landfill	Hamilton	OH	7	0.02%	14.2
Suburban Landfill, Inc	Perry	OH	3,459	8.34%	20.0
Tunnel Hill Reclamation Landfill	Perry	OH	44	0.11%	22.0
Out-of-State					
Unknown	0	KY	1,647	4%	N/A
Unknown	0	IN	10	0%	N/A

Total	41,456	100%	--
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Note: The "tons accepted from SWMD" represents only the amount of waste which was directly-hauled to landfills. It does not include the tonnage which was sent to transfer stations then delivered to a landfill.

2. *Transfer and Processing Facilities*

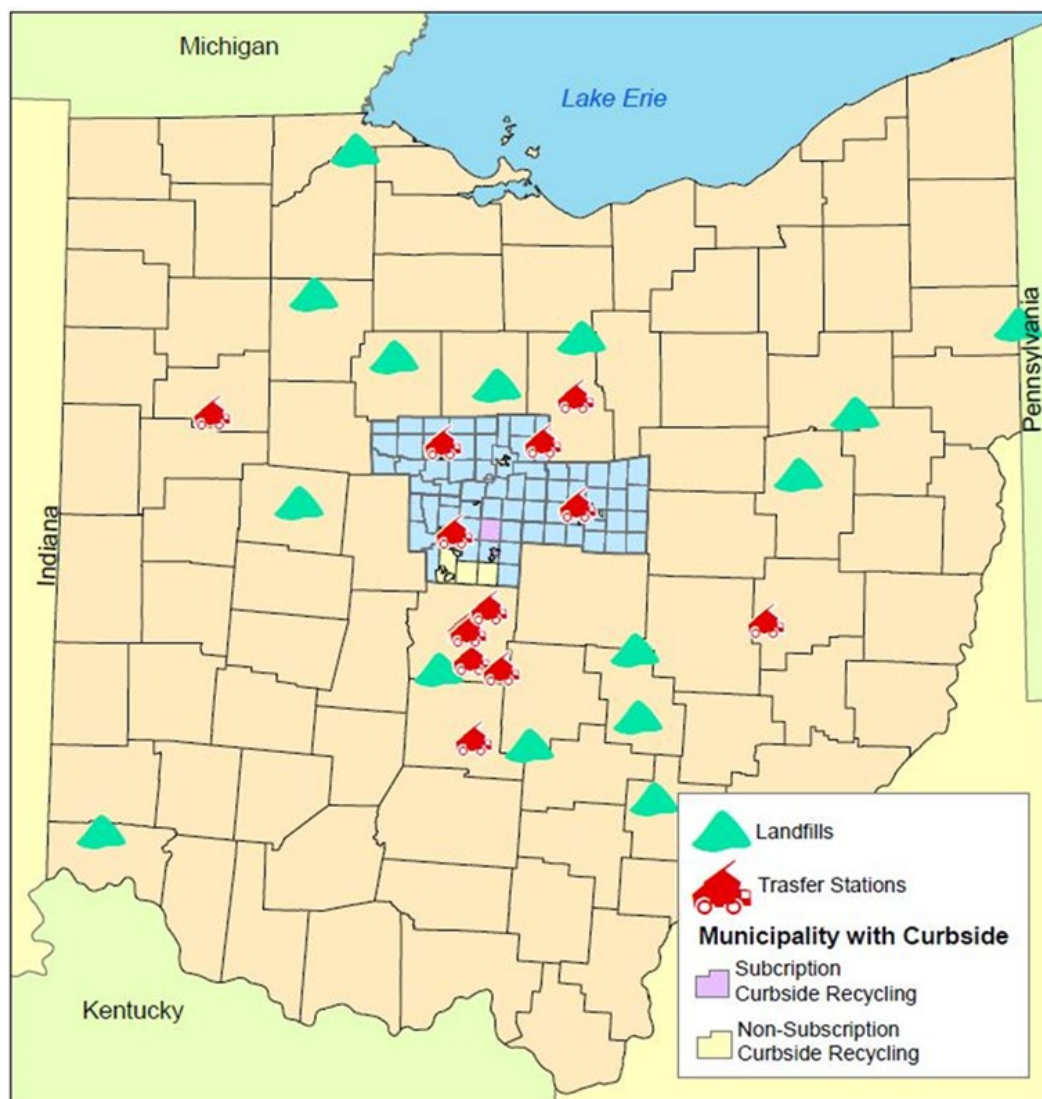
The transfer facilities receiving waste from District entities during 2015 are listed in Table 4-3. Of all the solid waste in the District, 84% of the total waste ultimately sent for disposal was processed by transfer stations, with the Columbus Transfer and Recycling Facility receiving 23 percent of transferred waste.

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

Facility Name	Location		Tons Accepted from District	% all District Waste Transferred	Final Waste Destination
	County	State			
<i>In-District</i>					
Allied Waste - Mt Vernon	Knox	OH	30,896	14.0%	Pine Grove Regional Facility Cherokee Run Landfill
Delaware County Transfer Station	Delaware	OH	46,848	21.2%	Crawford County Sanitary Landfill CD/D Landfill
Marion Co. Solid Waste Transfer Facility	Marion	OH	28,008	12.7%	County Environmental of Wyandot
Mid-State Waste Transfer Station	Morrow	OH	6,156	2.8%	Noble Rd Landfill
<i>Out-of-District</i>					
Circleville Transfer Station	Pickaway	OH	3,385	1.5%	Pike Sanitation Landfill Beech Hollow Landfill
Columbus Transfer and Recycling Facility	Franklin	OH	51,578	23.4%	Noble Rd Landfill Beech Hollow Landfill
Kimble Transfer & Recycling Facility - Cambridge	Guernsey	OH	0.00	0.0%	Kimble Sanitary Landfill
Local Waste Services Transfer	Franklin	OH	6349	2.9%	Pine Grove Regional Facility Franklin County Sanitary Landfill Tunnel Hill Reclamation Landfill
SWACO Morse Road Transfer Station	Franklin	OH	631	0.3%	Franklin County Sanitary Landfill
Reynolds Avenue Transfer Station	Franklin	OH	14126	6.4%	Pine Grove Regional Facility Franklin County Sanitary Landfill Cherokee Run Landfill
Richland County Transfer Station	Richland	OH	23736	10.8%	Noble Rd Landfill
Waste Management of Ohio - Lima	Allen	OH	1919	0.9%	Pike Sanitation Landfill Sunny Farms Landfill LLC Beech Hollow Landfill Out-of-State Facilities
Waste Management of Ohio	Franklin	OH	6945	3.1%	Franklin County Sanitary Landfill

Facility Name	Location		Tons Accepted from District	% all District Waste Transferred	Final Waste Destination
	County	State			
Transfer & Recycling					Suburban Landfill, Inc.
Out-of-State					
None			0	0%	0
Total			220,577	100%	

The following map depicts the landfills and transfer stations utilized by the District in the reference year:



3. Composting Facilities

Table 4-4 shows the composting facilities which received yard trimmings and food scraps from the District in 2015.

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

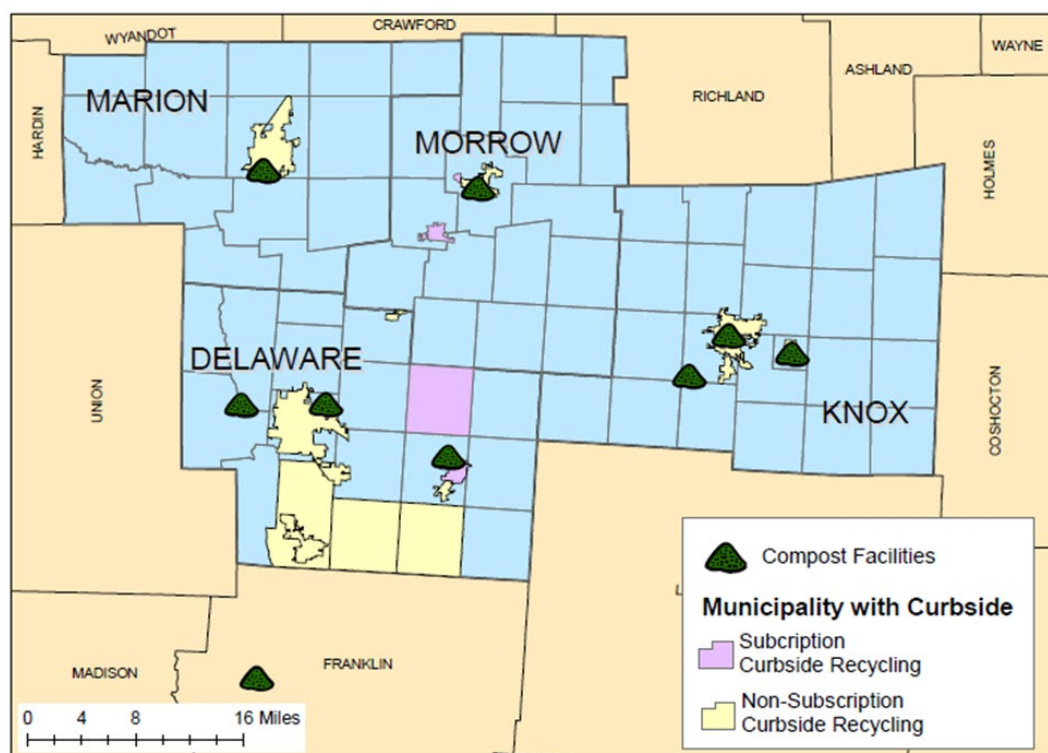
Facility Name	Location	Material Composted (tons)	Percent of all Material Composted
Delaware County			
Price Farm Organics ¹	4838 Warrensburg Road, Delaware	2,540	15.58%
Ohio Mulch Supply Inc	883 US Highway 42 North, Delaware	1,510	9.26%
Mulch 1st Ltd	725 Kintner Parkway, Sunbury	1,287	7.89%
Knox County			
Kenyon College	301-G Duff St., Gambier	58	0.36%
United Aggregates	420 Howard St., Mt. Vernon	4,372	26.82%
Knox County Farm Property	7425 Thayer Road, Mt. Vernon	566	3.47%
Marion County			
Park Enterprise Construction Company ²	560 Barks Road West, Marion	5,472	33.57%
Park Enterprise Construction Company	560 Barks Road West, Marion	230	1.41%
Morrow County			
Mt Gilead Yard Waste	273 South St., Mount Gilead	267	1.64%
Out-of-District Facilities			
Wood Landscape Services	4756 Scioto-Darby Road, Hilliard	7	0.04%
Total		16,308	

¹ The tonnage for this facility includes materials received from Marion County.

² The tonnage for this facility includes materials received from Knox County.

Note: This table does not include the 975 tons of food which was reported by haulers, Kroger, and Walmart, and listed in Ohio EPA's composting report.

The following map depicts the yard trimmings and compost facilities utilized by the District in the reference year:



4. Processing Facilities

Table 4-5 shows all the companies and 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 as well as data published by Ohio EPA.

Table 4-5: Processing Facilities Used by the District in the 2015

Name of Facility	Location		Facility Type	Tons of Recyclables Accepted in 2015 from District
	County	State		
<i>In-District</i>				
Knox County Recycling Center ³	Knox	OH	MRF ²	2362
General Recycling of Ohio LLC ⁴	Marion	OH	Scrap Yard	N/A
Sims Brothers Inc.	Marion	OH	MRF and Scrap Yard	44,411
Mid Ohio Sanitation & Recycling, LLC.	Morrow	OH	MRF	1,018
Ross Brothers	Knox	OH	Scrap Yard	8,057
Allied Waste - Mt. Vernon	Knox	OH	MRF	N/A
<i>Out-of-District</i>				

Name of Facility	Location		Facility Type	Tons of Recyclables Accepted in 2015 from District
	County	State		
Rumpke Waste Recycling	Franklin	OH	MRF	10,450
Waste Management Recycling	Franklin	OH	MRF	523 ¹
Rumpke Waste Recycling	Montgomery	OH	MRF	24
Royal Oaks Recycling	Dayton / Cleveland	OH	Processor	737
Out-of-State				
None				
Total				67,583

¹ Tons accepted is based upon Ohio EPA's 2015 Annual MRF Report.

² "MRF" means Material Recovery Facility.

³ This facility operated by Rumpke Waste closed in 2016. Tons processed at this facility in 2015 are included in the total for the Rumpke Waste Recycling facility in Franklin County.

⁴ This facility was purchased by Sims Brothers in 2016.

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. Each landfill which received a substantial percentage of District-generated waste during 2015 is estimated to have a minimum of 29 years remaining capacity.

Transfer stations have been an important factor in the District's waste management strategy in past years, and that situation is not expected to change during the planning period.

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

The percentage of materials recycled throughout the planning period is not expected to increase above 30 percent. As the number of operating recycling transfer stations and MRFs processing the majority of recyclables from the District is not expected to change, recyclable facility capacity should be adequate

throughout the planning period. The District is interested in increasing the amount recycled by offering a MRF grant for the development of a new MRF or assisting existing MRF's in the District. The cost of recycling may cause a hindrance to waste diversion in the District.

D. Siting Strategy

Ohio EPA's Format requires the inclusion of a siting strategy in a solid waste plan update if the solid waste district determines that it will construct a solid waste facility to provide disposal capacity. This requirement follows from Ohio law [Ohio Revised Code, Section 3734.53(A)(8)]. Even though the District does not anticipate the development of a new disposal facility during the planning period, a siting strategy has been included in this *Plan Update* in order to address the possibility of facility construction.

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 Board 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:

- Adversely affect the Board's ability to finance and implement the Plan;
- Interfere with the Board's obligation to provide for the maximum feasible utilization of existing in-District solid waste facilities;
- 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
- 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.

Except as otherwise provided herein, all proposed solid waste facilities, whether to be sited by or on behalf of the District or by and on behalf of any person, municipal corporation, township or other municipal subdivision, shall be subject to the Siting Strategy and shall comply with the requirement to submit general plans and specifications to the Board for its determination that the modification or construction of the solid waste facility complies with the Plan. (See Appendix S for a complete discussion of the District's siting strategy.)

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.

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

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

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

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

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

Decisions regarding designation, if implemented, or the granting of a designation waiver, if applicable, shall be made by the District, following a review of the request by the Policy Committee.

Where if 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(l)(2). The Policy Committee will evaluate each request for designation or waiver based upon, at least, the following general criteria:

- The facility's compatibility with the District's Solid Waste Management Plan.
- Other criteria as defined in Section C of Appendix P.

The full procedure for granting a designation waiver is included in Appendix P.

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

2. *List of Designated Facilities*

Table 4-6 contains the designated facilities for the District.

Table 4-6. Facilities Currently Designated

Facility Name	Location		Facility Type
	County	State	
<i>In-District</i>			
Delaware County Transfer Station	Delaware	OH	Transfer Station
Marion County Transfer Station	Marion	OH	Transfer Station
Mid-State Waste Transfer Station	Morrow	OH	Transfer Station
Ross Brothers Transfer Station	Knox	OH	Transfer Station
<i>Out-of-District</i>			
American Landfill	Stark	OH	Landfill
Athens-Hocking Reclamation Center	Hocking	OH	Landfill
Beech Hollow Landfill	Jackson	OH	Landfill
Brown County Landfill	Brown	OH	Landfill
Cambridge Transfer Station	Guernsey	OH	Transfer Station
Canal Winchester Transfer Station	Franklin	OH	Transfer Station
Canton Transfer Station	Stark	OH	Transfer Station
Cherokee Run Landfill	Logan	OH	Landfill
Chillicothe Transfer Station	Ross	OH	Transfer Station
Circleville Transfer Station	Pickaway	OH	Transfer Station
Columbus Transfer Station	Franklin	OH	Transfer Station
Coshocton Landfill, Inc.	Coshocton	OH	Landfill
Crawford County Sanitary Landfill	Crawford	OH	Landfill
Evergreen RDF	Lucas	OH	Landfill
Franklin County Sanitary Landfill	Franklin	OH	Landfill
Georgesville Rd. Transfer Station	Franklin	OH	Transfer Station
Greenville Transfer Station	Darke	OH	Transfer Station
Hancock County Sanitary Landfill	Hancock	OH	Landfill
J & J Refuse Transfer Facility	Carrol	OH	Transfer Station
Jackson Pike Transfer Station	Jackson	OH	Transfer Station
Kimble Sanitary Landfill	Tuscarawas	OH	Landfill
Lima Transfer Station	Allen	OH	Transfer Station
Morse Road Transfer Station	Franklin	OH	Transfer Station
Noble Road Landfill	Richland	OH	Landfill
Ottawa County Landfill	Ottawa	OH	Landfill
Pine Grove Regional Facility	Fairfield	OH	Landfill
Reynolds Avenue Transfer Station	Franklin	OH	Transfer Station
Richland County Transfer Station	Richland	OH	Transfer Station
Rumpke Landfill	Hamilton	OH	Landfill
Shelby Transfer Station	Shelby	OH	Transfer Station
Stony Hollow Landfill	Montgomery	OH	Landfill
Suburban South Landfill	Perry	OH	Landfill
Sunny Farms Landfill	Seneca	OH	Landfill
<i>Out-of-State</i>			
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 must also ensure that there are programs and services available to meet local needs. The SWMD may directly provide some of these programs and services, may rely on private companies and non-profit organizations to provide programs and services, and may act as an intermediary between the entity providing the program or service and the party receiving the program or service.

Through achieving the goals of the *State Plan* and meeting local needs, the SWMD ensures that a wide variety of stakeholders have access to reduction and recycling programs. These stakeholders include residents, businesses, institutions, schools, and community leaders. Programs and services collectively represent the SWMD's strategy for furthering reduction and recycling within its jurisdiction.

Before deciding upon the programs and services that are necessary and will be provided, the Policy Committee performed a strategic, in-depth review of the District's existing programs and services, recycling infrastructure, recovery efforts, finances, and overall operations. This review consisted of a series of 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 trimmings and cardboard?
- How well is the SWMD's recycling infrastructure being used, and how well is it performing?
- What is the District's financial situation and ability to fund programs?

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

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

A. Solid Waste Management District's Priorities

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 for each program have been identified. For programs which have data available, quantitative evaluations were also incorporated. The District conducted additional analyses for subject areas or issues not necessarily related to an existing program, such as providing opportunities for curbside and yard trimmings recycling within the four counties.

Table 5-1 lists the 14 analyses conducted by the District and defines the programs which were evaluated within each analysis. For example, the first analysis involved evaluating programs as well as topics/needs for residential recycling infrastructure. This analysis was subdivided into sections addressing drop-off recycling, curbside recycling, recycling provided at special events, and opportunities for recycling at multi-family housing units.

Table 5-1. Listing of District's 14 Analyses from Appendix H

#	Section Name	Subsection
H-1	Residential Recycling Infrastructure Analysis	A. Drop-off Recycling
		B. Curbside Recycling
		C. Special Events Housing
		D. Multi-Family Recycling
H-2	Commercial Sector Analysis	A. Existing Programs
H-3	Industrial Sector Analysis	A. Existing Programs
H-4	Residential/Commercial Waste Composition Analysis	A. Yard Trimmings
		B. Cardboard and Paper
		C. Food Scraps
		D. Plastics
H-5	Economic Incentive Analysis	A. Existing Volume-based Programs
		B. Grants
H-6	Restricted and Difficult to Manage Waste Streams Analysis	A. Scrap Tires
		B. HHW
		C. Lead-Acid Batteries, Scrap Metals
		D. E-Waste
		E. Appliances
		F. Household Batteries
H-7	Waste Diversion Analysis	A. Residential/ Commercial Sector
		B. Industrial Sector
H-8	Special Program Needs Analysis	A. Health Departments
H-9	Financial Analysis	A. Revenues
		B. Expenditures

#	Section Name	Subsection
		C. Balances
H-10	Regional Analysis	
H-11	Population Analysis	
H-12	Data Collection Analysis	A. Data Collection Methods
H-13	Education and Outreach Analysis	A. Comprehensive Resource Guide
		B. County Outreach and Marketing Plans
		C. District Web Site
		D. Education and information on yard trimmings reduction, backyard composting, etc.
		E. School Presentations and Programs
		F. Speakers/Presenters - Community Presentations
H-14	Recyclable Material Processing Capacity Analysis	

Where applicable, this evaluation analyzed historical comparisons, performance, weaknesses, participation, impacts, costs, and other factors influencing the District's waste reduction and diversion efforts. This section provides a summary of the analyses performed. See Appendix H for the complete analyses.

The District created a targeted list of priorities for new or expanded programs for the planning period. The following is a list of chosen priorities from Appendix I to address the challenges from Appendix H. These actions were incorporated into the programs for the planning period for section B of Appendix I:

Table 5-2. Prioritized Conclusions from Analyses

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking
1	Drop-Off	Perform campaign to reduce drop-off contamination levels. This may include use of social media, print media, signage, etc.	5
		Work with universities and volunteer programs to staff problem drop-off sites to be able to education residents and reduce contamination.	5
		Work with municipal jurisdictions to educate their residents about drop-off program and best practices.	4
	Curbside	Work with municipal jurisdictions when contracts are nearing renewal time to make contract adjustments that will maximize recycling collected, such as adding a Pay-As-You-Throw element, increasing recycling container size, and/or requiring the hauler to provide ongoing education, such as a quarterly direct mailer to residents.	5

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking
		Perform a study to survey local organizations/municipal jurisdictions to obtain curbside program participation and performance data.	4
2	Commercial	Create an awards program for commercial businesses that conduct a waste assessment and then implement initiatives that demonstrate success.	4
		Assistance with Materials Marketplace	5
4	Yard Trimmings and Food Scraps	Create plan to reduce contamination rate at yard trimmings facility in Knox County	5
		Access options for yard trimmings and other organics collection at the curb when communities re-bid their trash and recycling contracts.	4
6	Scrap Tires	Continue to apply for tire amnesty grants from OEPA for agricultural tire collection events.	4
		Develop awareness campaign for proper scrap tire management stressing the use of existing tire dealer infrastructure.	5
	HHW	Evaluate the opportunity for permanent HHW collection at District MRF partner locations using the appointment and user fee system used by other districts in Ohio.	5
	E-Waste	Analysis for year-round e-waste options in Delaware County and cost. Include possible inclusion of electronics in permanent HHW evaluation.	5
	Appliances	Create and promote a list of companies or individuals who can remove Freon from appliances.	5
8	Special Program Needs	Evaluate Districts allocations to Health Departments compared to the costs for programs serving the District.	3
12	Data Collection	Develop a new mailing list for annual surveys and then improve list over time for businesses survey contact.	5
		Annually target high recyclable diversion potential businesses for active engagement and relationship building to obtain better data.	5
13	Education	Mailing inserts. The District could explore the possibility of including inserts with mailings. For example, an insert could be developed explaining the waste audit program and its benefits, then the insert could be included in the annual survey mailing to businesses, institutions, and industries. The District could use this approach for two to three years and then determine if requests for waste audits have increased due to the mailing inserts.	4
		Data to measure effectiveness. The District currently has very limited data to measure the effectiveness of education and outreach programs. Each program could be examined to determine the types of data necessary to evaluate the program, take steps to collect the data, and then evaluate it. The District could also undertake survey efforts to determine if the educational imperative of recycling, waste reduction, etc. is being adequately delivered to the five	4

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking
		target audiences. If the answer to this question is “no”, changes could be made to existing programs (or new programs could be created) to address the deficiency(ies).	
		Social marketing. The District could develop a comprehensive plan for improving social marketing to all target audiences.	5
		Backyard composting. The District could explore the possibility of promoting backyard composting for residents in conjunction with the master gardener program available through county extension service offices. Producing compost from yard trimmings (and other organics) is certainly compatible with improving landscaping and growing healthier plants associated with the master gardener program.	4
		Identification of additional resources. The District provides links for obtaining information on its website. This listing could be expanded and organized by target audience to improve user friendliness. Printed lists of additional resources could also be compiled. In conjunction with developing lists of additional resources, the District conduct random surveys of the target audiences to better understand their needs in terms of waste reduction and recycling information. Teachers may want easy and quick access to curriculum guides, and many websites provide useful classroom exercises, projects, and courses.	4
		Press releases. The District could devote more efforts towards developing timely press releases and ensure that all local newspapers, radio stations, and other news outlets within the District receive copies. Additional exposure for various programs and topics may improve participation within the four-county area.	4
		Revamp website to increase user friendliness	5
14	Recyclable Material Processing Capacity	Create a specific grant program dedicated to the development of a new MRF or assisting existing MRFS in the District.	5

B. Program Descriptions

The following section defines the major programs and services the District will have available during the planning period. See Appendix I for the complete list of programs and descriptions.

1. Residential Recycling Programs

Curbside Recycling

During 2015, the District had eleven non-subscription and four subscription curbside programs.

Table 5-3. Curbside Recycling Services

County	Type	Name of Curbside Service	Community Served	Service Provider
Delaware	NSC	Genoa Township	Genoa Township	Contract between Township & Rumpke
Delaware	NSC	Orange Township	Orange Township	Contract between Township & Rumpke
Delaware	NSC	Ashley Village	Ashley Village	Contract between Village & Republic
Delaware	NSC	Delaware City	Delaware City	Delaware City
Delaware	NSC	Galena Village	Galena Village	Contract between Village & Waste Management
Delaware	NSC	Powell City	Powell City	Contract between City & Rumpke
Delaware	NSC	Liberty Township	Liberty Township	Contract between Village & Rumpke
Delaware	SC	Kingston Township	Kingston Township	Contract between Township & Waste Management
Delaware	SC	Sunbury Village	Sunbury Village	Contract between Village & Local Waste
Knox	NSC	Gambier Village	Gambier Village	Village
Knox	NSC	Mt. Vernon City	Mt. Vernon City	Multiple Haulers
Marion	NSC	Marion City	Marion City	Marion City
Morrow	NSC	Mt. Gilead Village	Mt. Gilead Village	Contract between Village & Mid-Ohio Sanitation and Recycling
Morrow	SC	Cardington Village	Cardington Village	Free recycling with trash contract between Resident & Mid-Ohio Sanitation and Recycling
Morrow	SC	Edison Village	Edison Village	Free recycling with trash contract between Resident & Mid-Ohio Sanitation and Recycling

NS = Non-subscription, S = Subscription

The following are new initiatives to be implemented in the planning period:

Survey Local Organizations/Municipal Jurisdictions

The District will perform a survey of local organizations and municipal jurisdictions to obtain curbside program participation and performance data.

Contact Communities Likely Candidates for Non-Subscription Curbside Programs

The District attends community meetings to encourage moving forward with franchise agreements for non-subscription curbside programs.

Drop-off Recycling

During 2015, the District had 52 drop-off locations open to the public in Delaware, Knox, Marion, and Morrow.

Table 5-4. Drop-off Recycling Locations

County	Location of Drop-off	Service Provider
Delaware	Ashley Village/Oxford Township	Rumpke
Delaware	Berlin Township	Rumpke
Delaware	Brown Township	Rumpke
Delaware	Genoa Township	Rumpke
Delaware	Harlem Township	Rumpke
Delaware	Kingston Township	Rumpke
Delaware	Liberty Township	Rumpke
Delaware	Liberty Township at Olentangy Liberty HS ¹	Rumpke
Delaware	Orange Township	Rumpke
Delaware	Porter Township	Rumpke
Delaware	Radnor Township	Rumpke
Delaware	Scioto Township / Ostrander Village	Rumpke
Delaware	Sims Recycling	Sims Brothers
Delaware	Sunbury Village ²	Rumpke
Delaware	Trenton Township	Rumpke
Delaware	Troy Township	Rumpke
Knox	Berlin Township	Rumpke
Knox	Brown Township	Rumpke
Knox	Centerburg Village / Hilliar Township	Rumpke
Knox	Danville Village / Union Township	Rumpke
Knox	Fredericktown/Wayne, Morris, Middlebury, Berlin Townships	Rumpke
Knox	Harrison Township	Rumpke
Knox	Howard Township	Rumpke
Knox	Liberty Township	Rumpke
Knox	Martinsburg Village / Clay Township	Rumpke

County	Location of Drop-off	Service Provider
Knox	Miller Township	Rumpke
Knox	Monroe Township	Rumpke
Knox	Mt. Vernon, Rumpke Recycling Center ³	Rumpke
Knox	Pike Township	Rumpke
Marion	Bowling Green & Montgomery Townships/Larue Village	Sims Brothers
Marion	Claridon Township/Caledonia	Sims Brothers
Marion	Claridon Township/Caledonia Town Square	Sims Brothers
Marion	Grand Prairie Township	Sims Brothers
Marion	Green Camp Township	Sims Brothers
Marion	Marion City, Sims Bros. Inc.	Sims Brothers
Marion	New Bloomington Village	Sims Brothers
Marion	Pleasant Township	Sims Brothers
Marion	Prospect Village	Sims Brothers
Marion	Waldo Township	Sims Brothers
Morrow	Bennington Township	Mid-Ohio Sanitation and Recycling
Morrow	Cardington Township	Mid-Ohio Sanitation and Recycling
Morrow	Chester Township at Chesterville	Mid-Ohio Sanitation and Recycling
Morrow	Congress Township	Mid-Ohio Sanitation and Recycling
Morrow	Congress Township	Mid-Ohio Sanitation and Recycling
Morrow	Franklin Township	Mid-Ohio Sanitation and Recycling
Morrow	Fulton Township	Mid-Ohio Sanitation and Recycling
Morrow	Mt. Gilead, Mid-Ohio Recycling Center	Mid-Ohio Sanitation and Recycling
Morrow	Perry Township	Mid-Ohio Sanitation and Recycling
Morrow	Peru Township ⁴	Mid-Ohio Sanitation and Recycling
Morrow	South Bloomfield Township	Mid-Ohio Sanitation and Recycling
Morrow	Washington Township	Mid-Ohio Sanitation and Recycling
Morrow	Westfield Township	Mid-Ohio Sanitation and Recycling

¹ Liberty Township removed at Olentangy Liberty HS removed at the request of school due to need for additional parking.

² Sunbury Village removed in July at the request of the landowner.

³ This drop-off closed in December 2016.

⁴ Peru Township was moved from Marengo UNC

The following are new initiatives to be implemented in the planning period:

Campaign to Reduce Drop-Off Contamination Levels

Perform a campaign to reduce drop-off contamination levels in recyclables. This may include use of social media, print media, signage, etc.

Collaborate with Universities and Volunteer Programs to Staff Drop-Off Sites

The District will work with universities and volunteer programs to staff problem drop-off sites to be able to educate residents and reduce contamination. Sites would be staffed during high traffic times.

Educate Their Residents About Drop-Off Program

The District will work with municipal jurisdictions to educate their residents about the drop-off program and best practices. This will include awareness of locations and materials accepted.

2. Commercial/Institutional Reduction and Recycling Programs

The following are new initiatives to be implemented in the planning period:

Awards Program for Commercial Businesses

An awards program will be organized for commercial businesses that conduct a waste assessment and then implement initiatives that demonstrate success.

Develop A New Mailing List for Annual Surveys

A new mailing list will be developed for annual surveys. The list will be improved over time for businesses survey contact.

Annually Target Potential High Diversion Businesses

The District will target high recyclable diversion potential businesses for active engagement and relationship building to obtain better data. This will be done with research on businesses that have high revenue and manufacturing and contacting the business to inquire about their recycling practices.

3. Industrial Sector Reduction and Recycling Programs

The following are new initiatives to be implemented in the planning period:

Annually Target Potential High Diversion Industries

The District will target high recyclable diversion potential industries for active engagement and relationship building to obtain better data. This will be done with research on businesses that have high revenue and manufacturing and contacting the business to inquire about their recycling practices.

Assistance with Materials Marketplace

This District will offer assistant to businesses to increase usage of the Ohio Materials Market Place. This will help businesses navigate the online platform to connect and find reuse and recycling solutions for waste and by-product materials. The link to the Ohio Material Marketplace website: ohio.materialsmarketplace.org

4. Special Waste Streams

The following are new initiatives to be implemented in the planning period:

Yard Trimmings

Provide Funding to Yard Trimmings Composting Operations

The DKMM District will continue to provide financial support, if necessary, to assure that at least one facility per county is publicly available to receive yard waste from District residents.

Plan to Reduce Contamination Rate at Yard Trimmings Facility in Knox County

The District will create a plan to reduce the contamination rate at the yard trimmings facility in Knox County. This plan will include ways to educate, increase signage, and surveillance at the Yard Trimmings Facility.

Access Options for Yard Trimmings and Other Organics Collection at The Curb

If communities are re-bidding their trash and recycling contracts, the District may help the community to get access to options for yard trimmings and other organics collection at the curb.

Scrap Tire Program

Apply for Grants for Agricultural Tire Collection Events

The District will continue to apply to the OEPA grant program to fund agricultural tire collection events.

Develop Awareness Campaign for Proper Scrap Tire Management

The District will develop an awareness campaign for proper scrap tire management with stressing the use of existing tire dealer infrastructure.

Evaluate Permanent HHW Collection Opportunity

An evaluation will be completed for the opportunity of a permanent HHW collection at District MRF partner locations using the appointment and user fee system used by other districts in Ohio.

Analysis for Year-Round E-Waste Options in Delaware County

Analysis will be conducted for year-round electronic waste options and cost in Delaware County. This will contain the possible inclusion of electronics in the permanent HHW evaluation.

Promotion List for Freon Removal

The District will create and promote a list of companies or individuals who can remove Freon from appliances.

Evaluate District's Allocations to Health Departments

Evaluate District's allocations to Health Departments compared to the costs for programs serving the District.

5. Outreach, Education, Awareness

The following are new initiatives to be implemented in the planning period:

Evaluate Using Mailing Inserts for Waste Audit Program Awareness

The District may explore the possibility of including inserts with mailings. For example, an insert could be developed explaining the waste audit program and its benefits, then the insert could be included in the annual survey mailing to businesses, institutions, and industries. The District could use this approach for two to three years and then determine if requests for waste audits have increased due to the mailing inserts.

Evaluate the Types of Data the District Needs to Measure Program Effectiveness.

The District currently has very limited data to measure the effectiveness of education and outreach programs. Each program may be examined to determine the types of data necessary to evaluate the program, take steps to collect the data, and then evaluate it. The District could also undertake survey efforts to determine if the educational imperative of recycling, waste reduction, etc. is being adequately delivered to the five target audiences. If the answer to this question is "no", changes could be made to existing programs (or new programs could be created) to address the deficiency(ies).

Develop Social Marketing Plan

The District may develop a comprehensive plan for improving social marketing to all target audiences.

Promote Backyard Composting

The District may explore the possibility of promoting backyard composting for residents in conjunction with the master gardener program available through county extension service offices. Producing compost from yard waste (and other organics) is certainly compatible with improving landscaping and growing healthier plants associated with the master gardener program.

Expand and Organize Identification of Additional Resources

The District provides links for obtaining information on its website. This listing can be expanded and organized by target audience to improve user friendliness. Printed lists of additional resources could also be compiled. In conjunction with developing lists of additional resources, the District may conduct random surveys of the target audiences to better understand their needs in terms of waste reduction and recycling information. Teachers may want easy and quick access to curriculum guides, and many websites provide useful classroom exercises, projects, and courses.

Develop 2 Press Releases Per Year of The Plan

The District may devote more efforts towards developing timely press releases and ensure that all local newspapers, radio stations, and other news outlets within the District receive copies. Additional exposure for various programs and topics may improve participation within the four-county area.

Revamp District website

The District may update the website to increase user friendliness and navigation. The web site will be used to promote all the recycling opportunities in the District and will include information and links useful to residents, business, and industry.

6. Economic Incentives

The following are new initiatives to be implemented in the planning period:

Assist Contract Renewals to Adjust for Optimize Recycling Collected

The District will work with municipal jurisdictions when contracts are nearing renewal time to make contract adjustments that will maximize recycling collected. These adjustments may include adding a Pay-As-You-Throw element, increasing recycling container size, and/or requiring the hauler to provide ongoing education, such as a quarterly direct mailer to residents.

Recycling Program Grant

A new grant program dedicated to focus on improving recycling rates and accessibility in the District. Grants may be awarded but not limited to MRFs, community recycling, education, or infrastructure improvement in the District (this grant program may not exceed \$250,000 every 3 years during the planning period unless approved by the District Board). A separate grant agreement would be developed by the District along with grant program specifics (application, funding levels, etc.) prior to implementation of the program. This grant may also include match moneys for market development grants from EPA.

The district reserves the right to use funds from the grant program for plan implementation programs.

C. Waste Reduction and Recycling Rates

1. Residential/Commercial Recycling in the District

In the 5-year period leading up to and including the reference year, residential/commercial sector recycling increased a great amount in 2015, then decreased from 2013 through 2015 due to the decrease in recyclables collected. The following table presents the historic residential/commercial recovery from 2011-2015, which includes recycling and composting:

Table 5-5a. Historical Residential/Commercial Sector Waste Reduction Analysis

Year	Residential/Commercial					Annual Percentage Change	Annual Tonnage Change
	Organics	Tires	Recycling	Total			
2011	17,250	2,787	68,382	88,419	--	--	--
2012	28,367	2,524	56,531	87,422	-1%	-997	
2013	22,886	2,861	99,290	125,037	43%	37,615	
2014	24,519	2,995	54,498	82,011	-34%	-43,026	
2015	19,576	2,607	62,893	85,076	4%	3,065	
2011-2015 Average							
Average Annual Percent Change						2.8%	
Average Tons over 5 Year Period						93,593	
Average Annual Tonnage Change						-836	

Waste reduction and recycling in the residential/commercial sector is expected to increase slightly during the first six years of the planning period, as demonstrated in the following table. Further analysis can be found in Appendix E.

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

Year	Projected Tons Collected	Residential/ Commercial WRR ¹
2019	89,403	27.3%
2020	89,606	27.3%
2021	89,837	27.4%
2022	90,067	27.4%
2023	90,298	27.4%
2024	90,528	27.3%

¹ "WRR" means waste reduction and recycling rate.

2. Industrial Recycling in the District

In the 5-year period leading up to and including the reference year, industrial sector recycling increased on average 68,704 tons, or 63.5%. The following table presents the historic industrial sector recovery from 2011-2015, which includes recycling, composting, and waste reduced by incineration:

Table 5-6a. Historical Industrial Sector Waste Reduction Analysis

Year	Industrial Sector		
	Tons	Annual Percentage Change	Annual Tonnage Change
2011	92,361	-----	-----
2012	94,846	2.7%	2,485
2013	394,609	316.1%	299,764
2014	179,462	-54.5%	-215,147
2015	161,065	-10.3%	-18,397
2011-2015 Average			
Average Annual Percentage Change			63.5%
Average Tons Over 5 Year Period			184,468
Average Annual Tonnage Change			17,176

Table 5-6b shows the projected amount of waste reduction and recycling for the industrial sector during the first six years of the planning period. The District was able to project a flat quantity of tons recycled by the industrial sector because the industrial sector recycled more than the industrial sector State Plan goal of 66% during the reference year. The waste reduction and recycling rate is expected to be approximately 88 percent. Further analysis can be found in Appendix F.

Table 5-6b. Industrial Waste Reduction and Recycling Rate

Year	Projected Tons Collected	Industrial WRR ¹
2019	160,254	88.1%
2020	160,052	88.1%
2021	159,850	88.0%
2022	159,648	88.0%
2023	159,648	88.0%
2024	159,648	88.0%

¹ "WRR" means waste reduction and recycling rate.

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

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

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

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

A. Overview of the District's Budget

During the 2015 reference year, the District's overall revenue was \$1.58 million. During the first five years of the planning period, revenue is projected to increase from \$1.580 million to \$1.585 million in 2023. Current revenue is generated through disposal fees.

Projected expenditures were developed based on the programmatic needs identified in Appendices D, H, I, and L. During the first five years of the planning period, annual expenditures increase from \$1.58 million to \$1.77 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 2019 with a carryover balance of \$1.9 million and carryover balance with a low of \$733 thousand during the planning period.

B. Revenue**Overview of How Solid Waste Management Districts Earn Revenue**

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

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

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

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

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

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

Generation Fees (see Ohio Revised Code Section 3734.573)

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

Rates and Charges (see Ohio Revised Code Section 343.08)

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

Contracts (see Ohio Revised Code Sections 343.02 and 343.03)

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

Other Sources of Revenue

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

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

The following summarizes the actual funding sources for the District:

1. Disposal Fees

The District does not have a disposal fee.

2. Generation Fees

The District does not have a generation fee.

3. Designation Fees

The District has designated solid waste facilities pursuant to ORC 343.014 and has entered into contracts with designated facilities pursuant to which the District currently receives a Contract Fee for solid waste generated in the District and received at the designated facility. The per ton contract fee in the reference year was \$6.00. The Contract Fee, which is deposited into the Solid Waste District Fund, is used to fund the District's activities and programs. Appendix W contains a sample of a uniform designation agreement used for all designated facilities.

The total amount of waste generated in the District and disposed at contracted facilities in 2011 was 263,589 tons. This generated approximately \$1,581,537 of contract fee revenue. The total amount of waste generated in the District and disposed at contracted facilities in the

2015 reference year was 258,270 tons, generating approximately \$1,549,622 in contract fee revenue. From 2018 to 2022, contract fee revenue is projected at a 1.5% increase based on historical revenue average increases. The District plans to increase the contract fee in 2023 to cover increasing plan implementation costs. Actual contract fee adjustments occur under a separate process and are not automatically changed with the approval of this *Plan Update*. Total contract fee revenue for 2023 until the end of the planning period is based on the projected solid waste disposal tons from Appendix D. Table O-3 presents the contract fee schedule and the actual and projected contract fee revenue from 2011 to 2033.

4. Other Sources of Revenue

Other sources of revenue include:

- **Grants** – There were no grant revenues in 2015. In 2016, the District sponsored a \$125,000 Ohio EPA Community Development Grant for Price Farms. Also in 2016, the District received a \$12,500 Grant from the OPEA for a tire collection and matched \$1,542.15. In 2017, the District closed out the grant and received an additional \$1,379.35.

Grants obtained by the District are competitive and therefore not a guaranteed source of revenue. Potential revenue from future grants has been excluded from the projections in Table O-5.

- **Recycling Revenue** – The commodity market for recycled materials is volatile and unpredictable. During 2011, the District receive \$3,572 recycling revenue. In terms of revenue projections, the District feels most comfortable making conservative estimates. Annual recycling revenue is projected to be flat for \$0.
- **County Contributions** – During 2013, the District receive \$408 in contributions. In terms of revenue projections, the District feels most comfortable making conservative estimates. Annual County contribution revenue is projected to be flat for \$0.
- **Miscellaneous Revenue** – Miscellaneous revenue represents the total of donations in which are mostly from residents who participate in the Special Collection events. From 2011 to 2016, miscellaneous revenue ranged from a low of \$1,289 in 2016 to a high of \$5,100 in 2013. Based on the first 11 months of miscellaneous revenue collected for 2017, the annual total is estimated to be \$454. To keep a conservative projection, the District estimates \$500 for 2018. This amount is held constant for the remainder of the planning period.

5. Summary of Revenue

The following table presents the District's total revenue by source for the 2015 reference year and the planning period.

Table 6-1. Summary of Revenue

Year	Contract Fees	Other Revenue					Total Revenue
		Reimbursements	County Contributions	Grants	Recycling Revenue	Miscellaneous	
Reference Year							
2015	\$1,549,622	\$32,412	\$0	\$0	\$0	\$1,647	\$1,583,681
Planning Period							
2019	\$1,559,525	\$20,000	\$0	\$0	\$0	\$500	\$1,580,025
2020	\$1,559,876	\$20,000	\$0	\$0	\$0	\$500	\$1,580,376
2021	\$1,561,681	\$20,000	\$0	\$0	\$0	\$500	\$1,582,181
2022	\$1,563,366	\$20,000	\$0	\$0	\$0	\$500	\$1,583,866
2023	\$1,564,933	\$20,000	\$0	\$0	\$0	\$500	\$1,585,433
2024	\$1,577,940	\$20,000	\$0	\$0	\$0	\$500	\$1,598,440

Source(s) of information: Plan Tables O-6

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 of the uses are directly related to managing solid waste or for dealing with the effects of hosting a solid waste facility. The 10 uses are as follows:

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

10. Financial assistance to communities adjacent to and affected by a publicly-owned landfill when those communities are not located within the SWMD or do not host the landfill.

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

- 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 trimmings, 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 2015 reference year and for the first 6 years of the planning period (2019 to 2024) broken into specific expense categories.

Table 6-2. Summary of Expenses

Expense Category	Year						
	Reference	Planning Period					
	2015	2019	2020	2021	2022	2023	2024
1. Plan Monitoring/Prep.	\$ -	\$ 2,800	\$ -	\$ -	\$ -	\$ 34,349	\$ 7,792
2. Plan Implementation							
a. District Administration	\$ 151,138	\$ 220,205	\$ 220,110	\$ 225,161	\$ 230,364	\$ 235,723	\$ 241,243
b. Facility Operation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
c. Landfill Closure/Post-Closure	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
d. Recycling Collection	\$ 410,389	\$ 678,000	\$ 708,040	\$ 744,281	\$ 766,610	\$ 789,608	\$ 778,296
e. Special Collections	\$ 54,647	\$ 59,740	\$ 66,532	\$ 63,528	\$ 65,434	\$ 67,397	\$ 69,419
f. Yard Waste/Other Organics	\$ 81,152	\$ 117,000	\$ 117,000	\$ 117,000	\$ 117,000	\$ 117,000	\$ 117,000
g. Education/Awareness	\$ 284,113	\$ 300,264	\$ 364,655	\$ 369,112	\$ 313,637	\$ 318,229	\$ 322,889
h. Recycling Market Development	\$ 98,115	\$ -	\$ -	\$ -	\$ 250,000	\$ -	\$ -
i. Service Contracts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
j. Feasibility Studies	\$ -	\$ -	\$ 15,000	\$ -	\$ -	\$ -	\$ -
k. Waste Assessments/Audits	\$ -	\$ -	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
l. Dump Cleanup	\$ 8,392	\$ 15,450	\$ 15,682	\$ 17,250	\$ 17,250	\$ 17,250	\$ 17,250
m. Litter Collection/Education	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Expense Category	Year						
	Reference	Planning Period					
		2015	2019	2020	2021	2022	2023
n. Emergency Debris Management	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
o. Loan Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
p. Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3. Health Dept. Enforcement	\$ 170,272	\$ 162,751	\$ 163,565	\$ 164,383	\$ 165,205	\$ 165,205	\$ 165,205
4. County Assistance	\$ -	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
5. Well Testing	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
6. Out-of-State Waste Inspection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7. Open Dump, Litter Law Enforcement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
8. Heath Department Training	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9. Municipal/Township Assistance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10. Compensation to Affected Community (ORC Section 3734.35)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Expenses	\$1,258,219	\$1,581,210	\$1,698,084	\$1,728,216	\$1,952,999	\$1,772,261	\$1,746,595

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

Expense categories in Table 6-2 include the following:

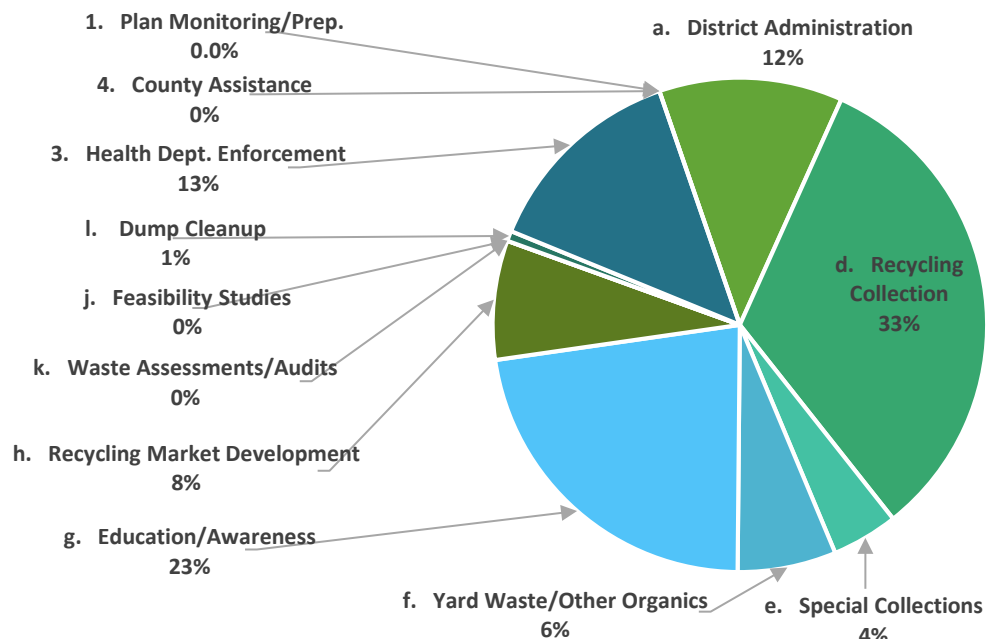
- **Plan Preparation/Monitoring** – Budget includes estimated expenses related to retaining a consultant for assistance with plan preparation for each 5-year update that will occur during the planning period.
- **District Administration** – Budget includes expenditures for salaries, workers' compensation, Medicare, and health insurance. Budget includes expenditures for a variety of administrative costs, including but not limited to software subscriptions, supplies, equipment, annual financial audit, postage, utilities, telecommunications, staff training, and trade organization memberships.
- **Recycling Collection** – Expenses reflect the cost of the drop-off recycling program.
- **Special Collections** – Includes expenses for the tire, HHW, electronics, and other recyclables programs.
- **Yard Waste/Other Organics** – Includes expenses for yard trimmings collection.
- **Education/Awareness** – Reflects expenditures for staff for educational presentations, advertisement, promotion and backyard compost program. A budget of \$2,500 was set annually for the backyard compost program and to evaluate program effectiveness of data. In 2020 and 2021, an additional \$60,000 is budgeted each year for Recycling Partnership Education Ideas to be implemented in the City of Delaware, Marion, and Mt. Gilead with an estimated \$2 per household.

- **General Market Development Activities – General Market Development Activities** – In 2022, a budget of \$250,000 was set aside for match funds in the case a pass-through grant is awarded. This is to make sure a budget is accounted for if a max of two grants are received with matching half of required funds. The contractor would be responsible for the other half of the match.

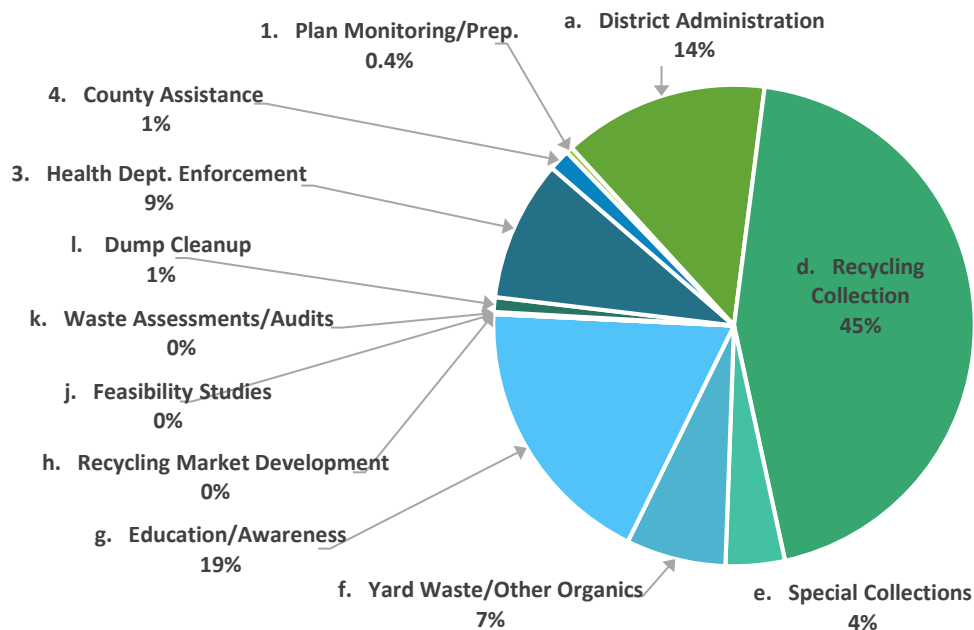
For the Recycling Program Grant, funds are placed in 2022. The grant may be awarded every 3 years as funds are available for years onward or annually if approved by the District Board. If the funds are not spent as anticipated, they will carry over to the next year. Grant funds will focus on improving recycling rates and accessibility in the District. The District reserves the right to fund this program per the flexibility statement in Appendix O.

- **Feasibility Studies** – A budget of \$15,000 is allocated to feasibility study in 2020 for evaluation of permanent HHW collection opportunities.
- **Waste Assessments/Audits** – This budget will be used for an awards program for commercial businesses that conduct a waste assessment and then implement initiatives that demonstrate success.
- **Dump Cleanup** – If funding is available after mandatory programs have been funded, the District may fund the clean-up of illegal tire dumps or other illegal, open dump sites at the request of a county health department if other sources of funding have been exhausted.
- **Health Dept. Enforcement** – The District's 2018 approved budget was used to project 0.5% increases annually, starting in 2019.
- **County Assistance** – The District's 2018 approved budget was used and a flat annual budget of \$25,000 is allocated to maintain drop-off locations (gravel, fencing, etc.) as needed from 2019 until the end of the planning period.

In 2015, 33% of the District's expenses were attributed to recycling collection.

2015 Distribution of Expenses by Category

Throughout the first five years of the planning period, the distribution of expenses among categories varies slightly. In 2024, the sixth year of the planning period, the top three expense categories include recycling collection at 45%, education/awareness at 19%, and Health Department Enforcement at 9%.

2024 Distribution of Expenses by Category

D. Budget Summary

Table 6-3 presents a summary of the budget for the 2015 reference year and the first six years of the planning period (2019 to 2024). The summary includes revenue, expenditures, net balance, and year-end fund balance. Revenue is projected to increase from \$1.583 million in 2015 to \$1.598 million in 2024. Expenses increase from \$1.25 million in 2015 to \$1.74 million in 2024. The District's ending balance during the first six years of the planning period ranges from \$955 thousand to \$1.9 million annually. 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				
2015	\$1,583,681	\$1,258,219	\$325,462	\$1,234,966
Planning Period				
2019	\$1,580,025	\$1,581,210	(\$1,186)	\$1,923,612
2020	\$1,580,376	\$1,698,084	(\$117,708)	\$1,805,904
2021	\$1,582,181	\$1,728,216	(\$146,035)	\$1,659,869
2022	\$1,583,866	\$1,952,999	(\$369,134)	\$1,290,735
2023	\$1,585,433	\$1,772,261	(\$186,829)	\$1,103,907
2024	\$1,598,440	\$1,746,595	(\$148,155)	\$955,752



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

1. Reference Year

The reference year for this solid waste management plan is **2015**.

2. Planning Period (first and last years)

The planning period for this solid waste management plan is: **2019 to 2033**

3. Goal Statement

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

4. Material Change in Circumstances/Contingencies

Ohio Law [ORC Section 3734.56(D)] requires district plans to be updated when the District Board of Directors determines that circumstances have materially changed from those addressed in the approved plan. If a plan update is required due to a material change in circumstances, the plan update must address those portions of the plan that need to be modified due to the change. Upon receipt of the Board's request, the Policy Committee shall prepare a draft amended plan for the District and shall proceed to adopt and obtain approval of the amended plan in accordance with ORC Section 3734.55 (A) – (C).

The District will use its normal operational procedures to monitor plan implementation and determine whether and when a material change in circumstances has occurred in the District which requires a plan amendment. The District's Board of Directors meets at least quarterly, and the Policy Committee meets as needed during the year to receive updates on District implementation activities. The Policy Committee reviews the implementation of the District Plan annually. The Board of Directors and the Policy Committee meet frequently enough to detect and respond to changing circumstances.

a. Circumstances which may result in a material change.

Circumstances which may result in a material change include, but are not limited to, the following:

- i. Reduction in the available capacity of the publicly available landfills used for disposal of solid waste generated in the District such that total available daily disposal capacity of those landfills is less than 150% of the average daily amount of solid waste generated in the District that is disposed of in landfills. A material change in

circumstance will not occur if the District is able to demonstrate that capacity can be achieved through the use of other landfills not normally used by the District or its generators or the implementation of the District's Capacity Contingency Plan yields the desired capacity.

- ii. Changes in strategies for waste reduction or recycling that result in the District failing to provide the waste reduction or recycling programs and activities that are required by the implementation schedule that is included in this plan.
 - iii. Delay of more than one year in the implementation of programs and/or activities that are required parts of this plan's implementation schedule that are needed to demonstrate compliance with State Plan Goals, specifically, Goal #1, #3, #4 and #5.
 - iv. Funding that is not adequate to maintain the District programs that are required by this plan. The District will examine whether or not there is a material change if either of the following occurs: annual revenues total less than 90% of the revenue projected in this plan or annual expenditures are more than 110% of the expenditures projected in the plan. If the District can continue to fully implement the programs required by this plan, the District may find that there has not been a material change in circumstances.
 - v. Changes in waste generation could trigger a material change in circumstances if the change is such that additional disposal results in a reduction in available landfill capacity or decreased disposal results in revenue reductions. Both of these situations are specifically addressed above.
- b. Board action that may eliminate the need for a material change in circumstances determination.

In the event that any of the above circumstances occur, the District Board of Directors may take action which eliminates the need to determine that a material change in circumstances has occurred. Examples of such actions include, but are not limited to the following:

- i. A material change in circumstances may not have occurred if the District Board of Directors is able to secure solid waste landfill disposal capacity commitments from landfills within a reasonable distance from the District that replace the solid waste disposal capacity that otherwise becomes unavailable to the District.
- ii. If the Board of Directors is able to secure written assurances from landfill owners and operators within a reasonable distance from the District such that there is sufficient solid waste disposal capacity for the solid waste generated within the District to manage that solid waste for the balance of the planning period, to replace the solid waste landfill disposal capacity that is otherwise unavailable, the

Board may conclude that no material change in circumstances has occurred.

- iii. Likewise, the Board may conclude that no material change in circumstances has occurred if the Board of Directors increases the amount of the designation or waiver fee, as provided in the designation or waiver fee agreements by and between the District and solid waste facilities, in an amount sufficient to fully fund implementation of the District Plan in the event of a shortfall.
- iv. Delay of more than one year in the implementation of a program or activity that is required as part of the plan's implementation schedule may not constitute a material change in circumstances if the Board concludes that an equivalent program or activity has been instituted in its place.

- c. Procedure and timetable to address a material change in circumstances.

The Policy Committee, District Staff or member of the District Board of Directors will notify the Chairperson of the Board of Directors of any reliable information that is likely to establish that a material change in circumstances addressed in the District's approved Plan may have occurred. The Board will place an item on the agenda of the next regularly scheduled meeting or schedule a special meeting as appropriate. The District Board of Directors will make a determination on whether to request a plan amendment be prepared by the Policy Committee within 120 days after the matter is first placed on its agenda. If a recommendation for a plan amendment is adopted, the Board of Directors will notify the Director of the Ohio Environmental Protection Agency.

The Policy Committee, with the assistance of any standing or special committees, as appropriate, will prepare the plan amendment to address the material change of circumstances. The schedule for development of the plan amendment, approval, ratification, and implementation, will be established by the Policy Committee, depending upon the extent of the amendment required to address the change in circumstances.

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**

The annual district report (ADR) for 2016 (2015 calendar year data) did not include tonnages reported by businesses in the 2015 ADR for those companies which did not report for the 2016 ADR. These amounts have been added to the recycling totals for the reference year data (2015), resulting in slightly higher tonnages in the Plan Update compared to the

2016 ADR. (In addition, Appendix E explains other differences between the recycling estimates in the Plan Update vs. the 2016 ADR.)

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

This Appendix provides a review of the recycling infrastructure available in the reference year (2015), which includes curbside recycling programs, recycling drop-off sites, collection service providers and compost facilities/activities.

A. Inventory of Residential Recycling Infrastructure Available in the Reference Year

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

County	ID #	Name of Curbside Service	Type ⁽¹⁾		How Service is Provided	Pick-Up	Materials Collected ⁽²⁾	Type of Collection	PAYT ⁽³⁾	Tons
			NS	S					✓	
Delaware	NSC1	Genoa Township	✓		Contract between Township & Rumpke	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		2,021
Delaware	NSC2	Orange Township	✓		Contract between Township & Rumpke	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single stream, Automated and Manual		1,530
Delaware	NSC3	Ashley Village	✓		Contract between Village & Republic	Weekly	AC, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		NA
Delaware	NSC4	Delaware City	✓		Delaware City	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Dual Stream, Manual		1,477
Delaware	NSC5	Galena Village	✓		Contract between Village & Waste Management	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		138
Delaware	NSC6	Powell City	✓		Contract between City & Rumpke	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		1,005
Delaware	NSC7	Liberty Township	✓		Contract between Village & Rumpke	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		1,111
Delaware	NSC8	Berlin Township	✓		Contract between Township & Republic	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		Started 2017
Delaware	NSC9	Berkshire Township	✓		Contract between Township & Republic	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		Started 2017
Delaware	NSC10	Delaware Township	✓		Contract between Township & Republic	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		Started 2017
Delaware	NSC11	Concord Township	✓		Contract between Township & Republic	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		Started 2017

County	ID #	Name of Curbside Service	Type ⁽¹⁾		How Service is Provided	Pick-Up	Materials Collected ⁽²⁾	Type of Collection	PAYT ⁽³⁾	Tons
			NS	S					✓	
Delaware	NSC12	Shawnee Hills Village	✓		Contract between Village & Republic	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		Started 2017
Delaware	SC1	Kingston Township		✓	Contract between Township & Waste Management	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		NA
Delaware	SC2	Sunbury Village		✓	Contract between Village & Local Waste	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single stream, Automated		NA
Knox	NSC8	Gambier Village	✓		Village	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		NA
Knox	NSC9	Mt. Vernon City	✓		Multiple Haulers	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		367
Marion	NSC10	Marion City	✓		Marion City	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		799
Morrow	NSC11	Mt. Gilead Village	✓		Contract between Village & Mid-Ohio Sanitation and Recycling	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		216
Morrow	SC3	Cardington Village		✓	Free recycling with trash contract between Resident & Mid-Ohio Sanitation and Recycling	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		36
Morrow	SC4	Edison Village		✓	Free recycling with trash contract between Resident & Mid-Ohio Sanitation and Recycling	Weekly	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Single Stream, Manual		12
Totals										8,712

Notes:¹ NS = Non-Subscription, S = Subscription² Materials Collected: AC = aluminum containers, GL = glass containers, PL = plastic containers, ONP = newspaper, OCC = cardboard, SC = steel containers, Mag = magazines, OffP = office paper, MxP = mixed paper, Oth = other³ PAYT = Pay-As-You-Throw

Tonnage reported in Table B-1 reflects the most accurate information available, which was reported by cities, villages, townships, and haulers.

The following table summarizes the number of curbside recycling programs and the tons recycled by the programs:

Table B-1b. Total Number of Curbside Programs and Total Quantity

County	Total # of Non-Subscription Curbside Programs	Total # of Subscription Curbside Programs	Total Tons from all Curbside Programs
Delaware	12	2	7,282
Knox	2	0	367
Marion	1	0	799
Morrow	1	2	264
Totals:	16	4	8,712

Approximately 8,712 tons of materials were recycled by 11 non-subscription curbside and 4 subscription curbside recycling programs in 2015.

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

County	ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted ⁽¹⁾	Access Credit	Tons Collected from SWMD
			Urban FT	Urban PT	Rural FT	Rural PT					
Delaware	FTU1	Berlin Township	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	138
Delaware	FTU2	Genoa Township	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	185
Delaware	FTU3	Liberty Township at Olentangy Liberty HS ³	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	191
Delaware	FTU4	Liberty Township	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	214
Delaware	FTU5	Orange Township	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	89
Delaware	FTU6	Sims Recycling	✓				Sims Brothers	M-F 8am-4:30pm, Sat 8am-12:30pm	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	NA
Delaware	FTU7	Sunbury Village ⁴	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	131
Knox	FTU8	Fredericktown/Wayne, Morris, Middlebury, Berlin Townships	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	137
Knox	FTU9	Howard Township	✓				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	176
Knox	FTU10	Howard Township (location #2) ⁵	□				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	7
Knox	FTU11	Mt. Vernon, Rumpke Recycling Center ⁶	□				Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	NA
Marion	FTU12	Marion City, Sims Bros. Inc.	✓				Sims Brothers	M-F 8am-4:30pm, Sat 8am-12:30pm	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	NA
Delaware	FTR1	Ashley Village/Oxford Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	64

County	ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted ⁽¹⁾	Access Credit	Tons Collected from SWMD
			Urban FT	Urban PT	Rural FT	Rural PT					
Delaware	FTR2	Brown Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	75
Delaware	FTR3	Harlem Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	107
Delaware	FTR4	Kingston Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	42
Delaware	FTR5	Porter Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	97
Delaware	FTR6	Radnor Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	92
Delaware	FTR7	Scioto Township / Ostrander Village			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	89
Delaware	FTR8	Trenton Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	53
Delaware	FTR9	Troy Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	32
Knox	FTR10	Berlin Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	25
Knox	FTR11	Brown Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	31
Knox	FTR12	Centerburg Village / Hilliar Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	137
Knox	FTR13	Danville Village / Union Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	117
Knox	FTR14	Harrison Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	27
Knox	FTR15	Liberty Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	17
Knox	FTR16	Martinsburg Village / Clay Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	55
Knox	FTR17	Miller Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	28
Knox	FTR18	Monroe Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	28
Knox	FTR19	Pike Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	13
Marion	FTR20	Prospect Village			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	53
Marion	FTR21	Bowling Green & Montgomery Townships/Larue Village			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	40
Marion	FTR22	Claridon Township/Caledonia			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	136
Marion	FTR23	Claridon Township/Caledonia Town Square			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	47
Marion	FTR24	Grand Prairie Township			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	74
Marion	FTR25	Green Camp Township			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	35

County	ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted ⁽¹⁾	Access Credit	Tons Collected from SWMD
			Urban FT	Urban PT	Rural FT	Rural PT					
Marion	FTR26	New Bloomington Village			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	18
Marion	FTR27	Pleasant Township			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	158
Marion	FTR28	Waldo Township			✓		Sims Brothers	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	48
Morrow	FTR29	Peru Township ²			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	10
Morrow	FTR30	Bennington Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	76
Morrow	FTR31	Cardington Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	43
Morrow	FTR32	Chester Township at Chesterville			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	44
Morrow	FTR33	Franklin Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	35
Morrow	FTR34	Fulton Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	26
Morrow	FTR35	Perry Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	69
Morrow	FTR36	South Bloomfield Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	49
Morrow	FTR37	Washington Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	51
Morrow	FTR38	Westfield Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	20
Morrow	FTR39	North Bloomfield			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	54
Morrow	FTR40	Mt. Gilead, Mid-Ohio Recycling Center			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	NA
Knox	FTR41	Pleasant Township			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	Opened in 2017
Knox	FTR42	Gambier Village			✓		Rumpke	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	Opened in 2017
Morrow	FTR43	Congress Township			✓		Mid-Ohio Sanitation and Recycling	24 hours, 7 days a week	AC, GL, PL, ONP, OCC, SC, Mag, OffP, MxP	Yes	Opened in 2017
Total											3,483

Notes:

*Total tons received by each business is not reported in this table to maintain the privacy of survey participants. Tonnage information for businesses that accepted recycling from residential and commercial sector generators is available in Appendix E.

¹ Mg = Magazines, Mp = Mixed Paper, N = Newspaper, Cc = Corrugated Cardboard, As = Aseptic Containers, Gl = Glass Bottles, Pl = Plastic Bottles/Jugs, Al = Aluminum Cans, Sc = Steel Cans, Ph = Phone Books, EW = Electronic Waste, FM = Ferrous Metal, NFM = Non-Ferrous Metal, WG = White Goods/Appliances, O = Other, B = Books, BR = Batteries (Rechargeable), F = Furniture
 FT = Full-Time, PT = Part-Time, DNR = Did Not Report

² Peru Township was moved from Marengo UNC

³ Liberty Township was removed in July of 2015 at the request of school due to need for additional parking.

⁴ Sunbury Village removed in June of 2015 at the request of the landowner.

⁵ Howard Township (location #2) drop-off was not in 2015 ADR

⁶ This drop-off closed in December 2016.

Some recycling drop-off locations were removed on request during 2015. The District only has full time recycling drop-offs. Approximately a fifth of the townships in the District have curbside recycling, so it is important to have full time drop-offs to allow the communities to have greater access.

The following table summarizes the number of drop-offs and the total tons recycled:

Table B-2b. Total Number of Drop-offs by Type and Total Quantity Collected

County	Total # of FT, Urban	Total # of PT, Urban	Total # of FT, Rural	Total # of PT, Rural	Tons of Materials Collected
Delaware	7	0	9	0	1,599
Knox	3	0	10	0	791
Marion	1	0	9	0	609
Morrow	2	0	10	0	477
SWMD Totals	12	0	43	0	3,483

FT = Full-Time, PT = Part-Time

Approximately 3,483 tons of materials were recycled by 12 full-time urban drop-offs, 43 full-time rural drop-offs. Delaware county holds nearly half of the recycling collected but the county also has a similar ratio for population.

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

Name of Facility	Location	Communities Served	Types of Materials Recovered ⁽¹⁾	Tons of Materials Recovered	Total Waste	Recovery Rate in 2015
None					0	0

In 2015, there were no municipal solid waste material recovery facilities in the District. There are currently none of these facilities operating in Ohio.

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

Name of Provider	Trash Collection Service				Recycling Collection Service		
	PAYT	RES	COM	IND	RES	COM	IND
Public Sector							
Delaware City		✓			✓		
Private Sector							
A Dumpster Service	✓	✓	✓	✓			
B's Sanitation		✓					
C & C Hauling		✓					
Candlewood Lake Assoc.		✓					
Capitol Waste and Recycling			✓	✓		✓	✓
CMI Waste Removal		✓					
Dar-Bi Sanitation		✓					
Galion Sanitation		✓					
General Trash and Waste		✓					
KC Rubbish Hauling		✓					
Kurtzman Sanitation		✓	✓				
Lechler Dumpster Service		✓	✓	✓			
Local Waste Services		✓	✓	✓	✓	✓	✓
Matheny Hauling and Trash		✓					
Mid-Ohio Sanitation			✓	✓			
Mid-State Waste		✓	✓				
Mount Vernon Waste		✓	✓				
Price & Sons		✓					
Republic Services		✓	✓	✓	✓	✓	✓
Rob's Hauling Service		✓	✓				
Rumpke		✓	✓	✓	✓	✓	✓
S & R Refuse	✓	✓			✓		
Sargent's		✓	✓	✓	✓	✓	✓
Shuster's Sanitation		✓					
Tomlin Waste Management			✓				
Triad Transportation		✓			✓		
Vanderkooi Rubbish			✓	✓			
Waste Management	✓	✓	✓	✓	✓	✓	✓

Notes:

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

The haulers available in the District provide a variety of service that give residential, commercial, and industrial sectors the opportunity to haul trash and recycling. The list of haulers was obtained through the District.

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

ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from SWMD	
					Food Scraps	Yard Trimmings
Compost Facilities						
Delaware County						
YW1	Price Farm Organics ¹	II	✓	4838 Warrensburg Road, Delaware	1,921	2,540
YW2	Ohio Mulch Supply Inc	II	✓	883 US Highway 42 North, Delaware	-	1,510
YW3	Mulch 1st Ltd	IV	✓	725 Kintner Parkway, Sunbury	-	1,287
Knox County						
YW4	Kenyon College	II		301-G Duff St., Gambier	121	58
YW5	United Aggregates	IV		420 Howard St., Mt. Vernon	-	4,372
YW6	Knox County Farm Property	IV	✓	7425 Thayer Road, Mt. Vernon	-	566
Marion County						
YW7	Park Enterprise Construction Company ²	IV	✓	560 Barks Road West, Marion	-	5,472
YW8	Park Enterprise Construction Company	II		560 Barks Road West, Marion	153	230
Morrow County						
YW9	Mt Gilead Yard Waste	IV	✓	273 South St., Mount Gilead	-	267
Out-of-District Facilities						
YW10	Wood Landscape Services	IV		4756 Scioto-Darby Road, Hilliard	0	7
Total					2,196	16,308
Hauler and Walmart Food Scraps Data						
YW11	NA	NA		NA	975	-
Grand Total					3,171	16,308

¹ The tonnage for this facility includes materials received from Marion County.

² The tonnage for this facility includes materials received from Knox County.

Table B-5b. Total Number of Composting/Yard Trimmings Management Activities by Type and Total Quantity Managed

Number of Each Type of Facility/Program	Quantities (tons)		
	Food Scraps	Yard Trimmings	Total Quantity of Materials
11	2,195.5	16,308.0	18,504

There were 10 registered compost facilities in Ohio that managed food scraps and yard trimmings generated in the District. Table B-5b identifies 11 compost facilities; the additional compost facility listed in this summary table reflects materials that were diverted by haulers and Wal-Mart (YW11).

A total of 18,504 tons of organics were diverted from landfills in 2015 through a combination of registered compost facilities, organics haulers, and community collection programs.

Backyard composting is encouraged in their Recycling Guide on the District's website. A pile 3' x 3' x 3' is suggested and can help save landfill space. Their website identifies a yard trimmings facility for each county in the District with hours to drop-off grass clippings, leaves, shrubs & brush, and tree limbs up to 10" diameter. These facilities do not compost food scraps.

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

Facility Name	County	State	Type of Facility
Rumpke Waste Recycling	Franklin	OH	MRF ¹
Waste Management Recycling	Franklin	OH	MRF
Rumpke Waste Recycling	Montgomery	OH	MRF
Knox County Recycling Center ²	Knox	OH	Recycling Transfer Station
General Recycling of Ohio LLC ³	Marion	OH	Scrap Yard
Sims Brothers Inc.	Marion	OH	MRF and Scrap Yard
Mid Ohio Sanitation & Recycling, LLC.	Morrow	OH	MRF
Ross Brothers	Knox	OH	MRF and Scrap Yard
Allied Waste-Mt. Vernon	Knox	OH	Transfer Station Recycling Transfer Station
Royal Oaks Recycling	Dayton / Cleveland	OH	Processor
Total			

¹ "MRF" means Material Recovery Facility.

² This facility operated by Rumpke Waste closed in January 2017. Tons processed at this facility in 2015 are included in the total for the Rumpke Waste Recycling facility in Franklin County.

³ This facility was purchased by Sims Brothers in 2016.



APPENDIX C

POPULATION DATA



APPENDIX C. Population Data

As of July 1, 2015, the population of the four counties comprising the District totaled 348,767. 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. For Knox, Marion, and Morrow counties, estimates for 2015 are based on Ohio Department of Development (ODOD) Office of Strategic Research document, "2015 Population Estimates for Cities, Villages and Townships", published in May 2016. The 2015 Population estimates for Delaware County and jurisdictions within Delaware County are based upon data from the Mid-Ohio Regional Planning Commission (MORPC). As indicated in the table, the total adjusted population for the district is 328,674 for the reference year of 2015.

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

Community	Delaware
Before Adjustment	187,277
Additions	
None	0
Subtractions	
Columbus	8,063
Dublin	4,094
Westerville	7,916
After Adjustment	167,204

Community	Knox
Before Adjustment	61,061
Additions	
None	0
Subtractions	
Utica	20
After Adjustment	61,041

Community	Marion
Before Adjustment	65,355
Additions	
None	0
Subtractions	
None	0
After Adjustment	65,355

Community	Morrow
Before Adjustment	35,074

Additions	
None	0
Subtractions	
None	0
After Adjustment	35,074
Total District Adjusted Population	
328,674	

Sources of Information:

Ohio Development Services Agency, "2015 Population Estimates by County, City, Village, and Township," May 2016. <https://development.ohio.gov/files/research/P5027.pdf>
 Mid-Ohio Regional Planning Commission, <http://www.morpc.org/our-region/data-maps-tools/population-estimates/index>

Population projections for the entire planning period are shown below in Table C-2. Reference year 2015 populations represent the actual estimates for that year after applying the adjustments listed in Table C-1. Population for succeeding five-year projections (i.e., 2020, 2025, 2030, and 2035) have been determined individually for each county in the District by:

1. Calculating the percent change in the unadjusted population for each 5-year interval projection estimate in the Ohio Development Services Agency (ODSA) publication ("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>). For example, the ODSA population projections for Delaware County for 2015 and 2020 are 192,990 and 210,630, respectively, representing an increase of 9.14 percent over the five-year period;¹
2. Multiplying the percent change calculated in "1" by prior 5-year estimate. For example, the unadjusted Delaware County projection for 2020 has been calculated by:

$$\begin{aligned}
 \text{2020 unadjusted estimate} &= (\% \text{ change between 2015 and 2020 ODSA} \\
 &\quad \text{projections} \times \text{2015 unadjusted estimate}) \\
 &= (9.14\% + 1) \times 187,277 \\
 &= 204,395
 \end{aligned}$$

¹ ODSA projections have been used to calculate the percentage change for Delaware County since MORPC does not provide county-level projections.

- Adding the community adjustments to the unadjusted estimate after applying the five-year percentage change in population projections for the county. The adjusted 2020 population for Delaware County would be:

$$\begin{aligned} \text{2020 adjusted estimate} &= 204,395 - (20,073 * (1 + 9.14\%)) \\ &= 182,487 \end{aligned}$$

Table C-2. Population Projections

Year	Delaware	Knox	Marion	Morrow	Total District Population
2015	167,204	61,041	65,355	35,074	328,674
2016	170,261	61,415	65,408	35,307	332,390
2017	173,317	61,789	65,461	35,539	336,106
2018	176,374	62,163	65,513	35,772	339,822
2019	179,430	62,537	65,566	36,005	343,538
2020	182,487	62,911	65,619	36,237	347,254
2021	185,882	63,387	65,642	36,453	351,364
2022	189,277	63,864	65,666	36,668	355,474
2023	192,671	64,341	65,689	36,883	359,584
2024	196,066	64,817	65,713	37,098	363,694
2025	199,461	65,294	65,736	37,313	367,804
2026	202,979	65,757	65,721	37,490	371,947
2027	206,498	66,220	65,705	37,666	376,089
2028	210,016	66,683	65,689	37,843	380,232
2029	213,535	67,146	65,674	38,019	384,374
2030	217,053	67,609	65,658	38,196	388,516
2031	220,589	68,101	65,662	38,368	392,721
2032	224,125	68,593	65,666	38,541	396,925
2033	227,661	69,086	65,670	38,713	401,129

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>.

Population projections for years between the five-year intervals have been determined as follows:

- Using a straight-line projection to calculate the adjusted population change each year. For Delaware County, the adjusted annual change in population from 2015 to 2020 was calculated by:

$$\begin{aligned} \text{Adjusted annual change} &= (2020 \text{ projection} - 2015 \text{ projection}) / 5 \text{ years} \\ &= (182,487 - 167,204) / 5 \\ &= 3,057 \end{aligned}$$

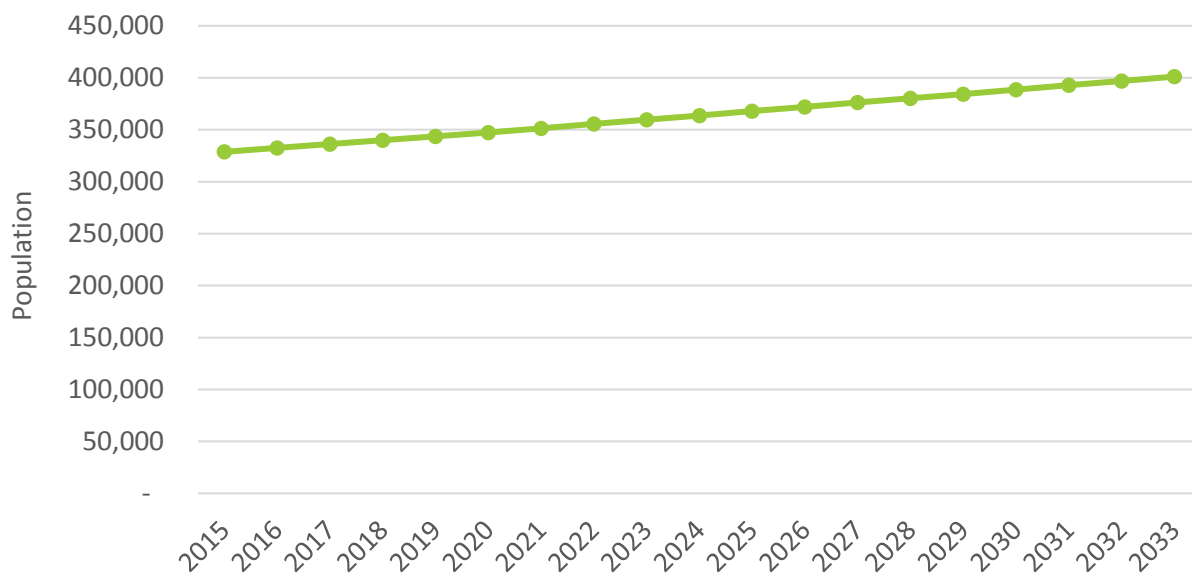
2. Adding the adjusted annual change to the adjusted population for the previous year. Once again using Delaware County as an example, the adjusted population for 2016 has been calculated as follows:


$$\begin{aligned}\text{Adjusted projection (2016)} &= \text{Adjusted 2015 projection} + \text{adjusted annual change} \\ &= 167,204 + 3,057 \\ &= 170,261\end{aligned}$$

The procedure for developing population projections as described above is slightly modified from the default method suggested in the Format v4.0. These modifications have been used to present a more consistent and smoother transition from actual population estimates in 2015 to projections. In addition, the District believes that MORPC population estimates, which include the Delaware County Planning Commission data, are more reflective of actual changes occurring in Delaware County than the estimates from ODSA.

The figure below shows a steady increase in the population throughout the planning period. The population is expected to increase by nearly 10 percent from 2015 through the fifth year of the planning period (year 2023), and increase by more than 22 percent by the end of the planning period.


District Population: 2015 through 2033





APPENDIX D

DISPOSAL DATA



APPENDIX D. Disposal Data

A. Reference Year Waste Disposed

The majority of the District waste which was direct-hauled for disposal in the reference year was sent to the Crawford County Landfill. See Table D-1a. The Cherokee Run Landfill, the County Environmental of Wyandot Landfill, and the Noble Road Landfill also accepted substantial amounts of the District's direct-hauled waste, respectively. These four landfills received nearly 92 percent of the District's direct-hauled waste sent for disposal.

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

Facility Name	Location		Waste Received from SWMD (TPY)			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
<i>In-district facilities</i>						
None						
<i>Out-of-district facilities</i>						
Athens Hocking C&DD/Reclamation Center Landfill	Athens	OH	0	47	0	47
Carbon Limestone Landfill LLC	Mahoning	OH	27	14	0	41
Cherokee Run Landfill	Logan	OH	1,651	2,490	10,054	14,195
County Environmental of Wyandot	Wyandot	OH	889	9,962	1,985	12,836
Crawford County Sanitary Landfill	Crawford	OH	27,798	0	4,808	32,606
Evergreen Recycling & Disposal	Wood	OH	0	96	0	96
Franklin County Sanitary Landfill	Franklin	OH	328	0	0	328
Hancock County Sanitary Landfill	Hancock	OH	7	0	0	7
Kimble Sanitary Landfill	Tuscarawas	OH	12	0	14	26
Noble Rd Landfill	Richland	OH	1,872	976	5,194	8,042
Pine Grove Regional Facility	Fairfield	OH	100	332	0	432
Rumpke Waste Inc Hughes Rd Landfill	Hamilton	OH	7	0	0	7
Suburban Landfill, Inc	Perry	OH	2,570	835	54	3,459
Tunnel Hill Reclamation Landfill	Perry	OH	0	0	44	44
<i>Out-of-state facilities</i>						
Unknown	N/A	KY	3	1,213	431	1,647
Unknown	N/A	IN	0	10	0	10
Total Direct Haul Waste Disposed in Landfills			35,264	15,975	22,584	73,823

Source(s) of Information: Ohio Environmental Protection Agency, “2015 Annual District Review Forms for Delaware-Knox-Marion-Morrow SWMD.”

There were no captive landfills located within the Delaware-Knox-Marion-Morrow SWMD during the reference year. In addition, no captive landfills located outside the four-county SWMD were used to manage waste generated within the District.

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

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

Source(s) of Information: Ohio Environmental Protection Agency

Transfer facilities process the majority of District waste sent for disposal. See Table D-2. During 2015, in-district and out-of-district transfer facilities received equal amounts of the transferred waste. The Columbus Transfer and Recycling Facility in Franklin County reported the highest tonnage received from the District, however, in-district facilities located in Delaware, Knox, and Marion Counties also accepted large quantities of waste from the District. Although the data does not allow an exact determination, it appears that landfills receiving the majority District waste from transfer stations include the Pine Grove Regional Facility, Cherokee Run Landfill, County Environmental of Wyandot landfill, and Noble Road Landfill.

Table D-2. Reference Year Waste Transferred

Facility Name	Location		Waste Received from the SWMD (TPY)				Destination
	County	State	Res/Com	Industrial	Excluded	Total	
In-district facilities							
Allied Waste – Mt. Vernon	Knox	OH	27,920	0	2,976	30,896	Pine Grove Regional Facility Cherokee Run LF
Delaware Co. TS	Delaware	OH	37,101	5,401	4,346	46,848	Crawford Co. LF
Marion Co. Solid Waste TF	Marion	OH	24,948	0	3,060	28,008	County Environmental of Wyandot
Mid-State Waste TS	Morrow	OH	4,243	0	1,913	6,156	Noble Rd. LF
Out-of-district facilities							
Circleville TS	Pickaway	OH	3,385	0	0	3,385	Pike Sanitation LF Beech Hollow LF
Columbus Transfer and Recycling Facility	Franklin	OH	51,578	0	0	51,578	Noble Rd LF Beech Hollow LF

Facility Name	Location		Waste Received from the SWMD (TPY)				Destination
	County	State	Res/Com	Industrial	Excluded	Total	
Local Waste TF	Franklin	OH	6,349	0	575	6,924	Pine Grove LF Franklin Co. Sanitary LF Tunnel Hill Reclamation LF
Morse Rd. TS	Franklin	OH	631	0	0	631	Franklin County Sanitary Landfill
Reynolds Ave. TS	Franklin	OH	14,126	0	2,381	16,507	Pine Grove LF Franklin Co. Sanitary LF Cherokee Run LF
Richland Co. TS	Richland	OH	23,736.0	0	359	24,095	Noble Rd. LF
WM of Ohio - Lima	Allen	OH	1,919	0	0	1,919	Pike Sanitation LF Sunny Farms LF Beech Hollow LF Out-of-State Facilities
WM of Ohio Transfer & Recycling	Franklin	OH	6,945	0	0	6,945	Franklin Co. Sanitary LF Suburban LF
Out-of-state facilities							
None							
Total Transferred Waste			202,881	5,401	15,610	223,892	

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

Source(s) of Information: Ohio Environmental Protection Agency, "2015 Annual District Review Forms for Delaware-Knox-Marion-Morrow SWMD" and "2015 Facility Data Report."

There was no waste managed at incinerators during the reference year, therefore Table D-3, "Waste Incinerated/Burned for Energy Recovery in Reference Year," has been omitted.

Table D-4¹ 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.²

Table D-4. Reference Year Total Waste Disposed

Disposal Method	Residential/Commercial	Industrial	Excluded	Total	% of Total Waste Disposed
Direct Hauled	35,264	15,975	22,584	73,823	25%
Transferred	202,881	5,401	15,610	223,892	75%
Total	238,145	21,376	38,194	297,715	100%
% of Total	80%	7%	13%	100%	

Source(s) of Information: Ohio Environmental Protection Agency, "2015 Annual District Review Forms for Delaware-Knox-Marion-Morrow SWMD."

¹ Table D-3, Waste Incinerated/Burned for Energy Recovery in Reference Year, has not been included since no waste from the District was reported to have been received by incinerators during 2015.

² 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.

B. Historical Waste Analysis

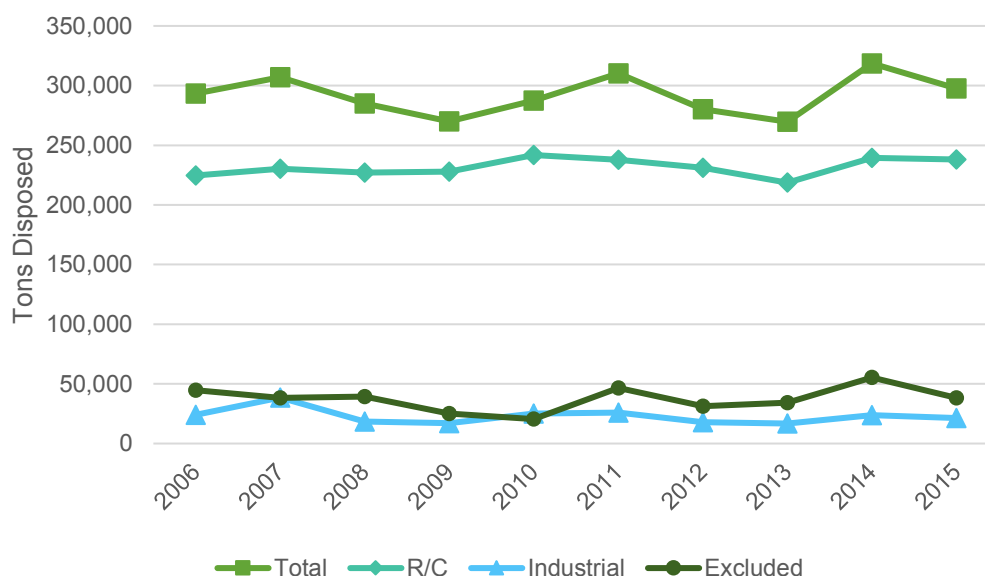
The amount of total solid waste disposed from the District since 2006 has fluctuated considerably, ranging from a low of 270,000 tons in 2009 to the highest amount reported in 2014 at more than 318,000 tons. See Table D-5.

Table D-5. Historical Disposal Data

Year	Population	Residential/Commercial Solid Waste		Industrial Solid Waste	Excluded Waste	Total Waste
		Rate (ppd)	Tons	Tons	Weight	Tons
2006	287,168	4.29	224,661	24,051	44,690	293,402
2007	290,753	4.34	230,204	38,500	38,301	307,004
2008	294,405	4.23	227,168	18,496	39,322	284,985
2009	324,573	3.85	227,768	17,150	25,125	270,043
2010	336,463	3.94	241,787	25,113	20,487	287,387
2011	317,392	4.10	237,710	25,974	46,459	310,143
2012	317,392	3.99	231,004	18,002	31,171	280,176
2013	317,392	3.77	218,630	16,768	34,280	269,678
2014	331,142	3.96	239,479	23,772	55,315	318,566
2015	328,674	3.97	238,145	21,376	38,194	297,715

Source(s) of Information: Ohio Environmental Protection Agency, Annual District Review Forms for Delaware-Knox-Marion-Morrow SWMD.

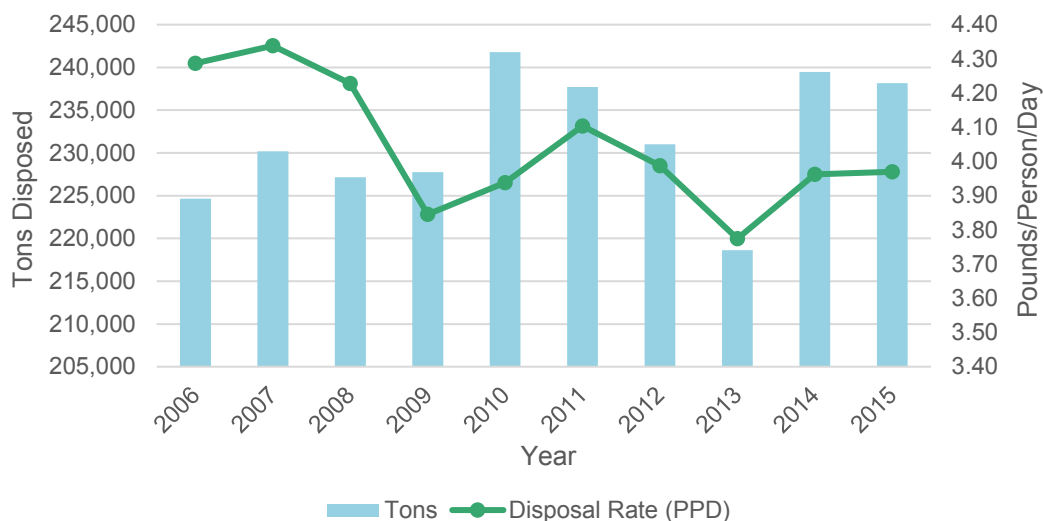
The disposal tonnages for the residential/commercial (R/C) sector, the industrial sector, excluded waste, and total disposal are shown graphically below. The figure appears to indicate more variation in the R/C disposal amount than industrial disposal, especially since 2008.

District Disposal: 2006 – 2015**1. Residential-Commercial Disposal**

Residential/commercial (R/C) disposal has increased from approximately 225,000 tons in 2006 to 238,000 tons in 2015. However, there have been several increases and decreases during this period, at times as much as 20,000 tons from one year to the next.

While the actual tons have increased, the per capita disposal rate for residential/commercial waste has decreased from 4.29 pounds per person per day (ppd) in 2006 to 3.97 ppd in 2015. As shown in the figure below, changes in the disposal rate have largely followed the variations in the tons disposed during this time period. The average disposal rate from 2006 through 2015 was 4.04 ppd while the average for the most recent five-year period was 3.95 ppd. The annual rate of change in the disposal rate from 2011 through 2015 was approximately -0.99 percent per year.

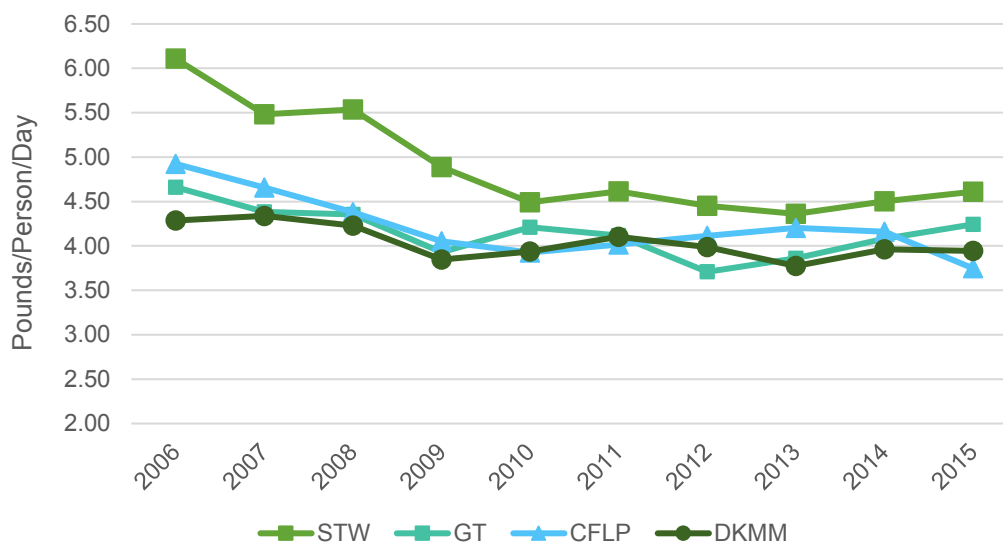
Residential/Commercial Tons Disposed vs. Disposal Rate: 2006 – 2015



The R/C disposal rate for the District was also compared with other solid waste districts in Ohio, similar in square miles, population, and/or population density. The District is:

- Very similar to Coshocton-Fairfield-Licking-Perry (CFLP) regarding population density;
- Reasonably similar to Geauga-Trumbull, Coshocton-Fairfield-Licking-Perry (CFLP), and Stark-Tuscarawas-Wayne (STW) in population; and
- Similar to CFLP and STW in physical size (square miles).

The figure below shows that each of these SWMDs experienced a decline in the R/C disposal rate from 2006 through 2009. Since 2009, the disposal rates have been less variable, and each of the disposal rates has increased slightly since 2013, with the exception of CFLP's rate. The R/C disposal rate for STW has been consistently higher than the other districts included in Figure D-3, which may be explained by the larger urban areas and higher population in STW.

R/C Disposal Rate for Selected SWMDs: 2006-2015

The residential/commercial tons disposed for the District is also shown in the figure below with a trend line included. The trend line suggests a disposal increase of approximately 4,000 tons over the five-year period.

Residential/Commercial Sector Disposal Trends: 2011-2015

The actual disposal of residential/commercial waste from the District is slightly lower than the amounts projected for 2011 through 2015 in the currently-approved plan. The table below shows that the difference between plan projections and actual disposal has lessened since 2013. It is unclear why the actual disposal amounts have been less than projected. (The actual tonnages recycled and composted for 2014 and 2015 were also lower than projected in the currently-approved plan.)

Actual vs. Current Plan Projections for Residential/Commercial Disposal: 2013-2015

Residential/Commercial Sector Tons Disposed			
Year	Actual	Projected in Current Plan	% Difference (Actual vs. Projected)
2013	218,630	250,808	14.7%
2014	239,479	253,837	6.0%
2015	238,145	256,876	7.9%

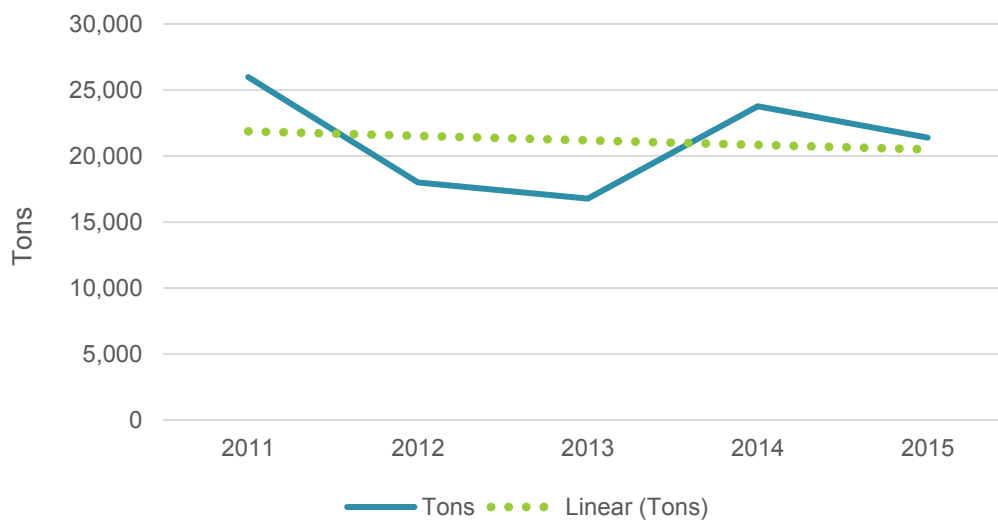
2. Industrial Sector Disposal

As shown in the figure below, industrial disposal has remained relatively consistent from year to year since 2006. The annual average industrial disposal from 2006 through 2015 was 22,920 tons, and the annual average rate of change during this period was a 1.3 percent decrease per year.

Industrial Sector Disposal: 2006 – 2015



The most recent five years of data (2011-2015) results in a slightly lower average (compared to the 10-year average): 21,178 tons of disposal from the industrial sector. The figure below illustrates the five-year period of industrial disposal, including a linear trend line. The trend line suggests a declining disposal tonnage for the industrial sector which is consistent with the negative annual rate of change in disposal cited above.

Industrial Sector Disposal: 2011 – 2015

Actual industrial disposal from 2013 through 2015 was consistently less than the tonnages projected in the current plan. (See the table below.)

**Actual vs. Current Plan Projections, Industrial Sector Disposal:
2013-2015**

Year	Industrial Sector Tons Disposed		
	Actual	Projected in Current Plan	% Difference (Actual vs. Projected)
2013	16,768	25,095	-49.7%
2014	23,772	25,095	-5.6%
2015	21,376	25,095	-17.4%

Even though industrial disposal tends to be very site-specific and specific to types of industries, the three SWMDs compared to DKMM above under R/C historical patterns have also experienced slightly decreasing or consistent disposal amounts from the industrial sector during the last ten years.

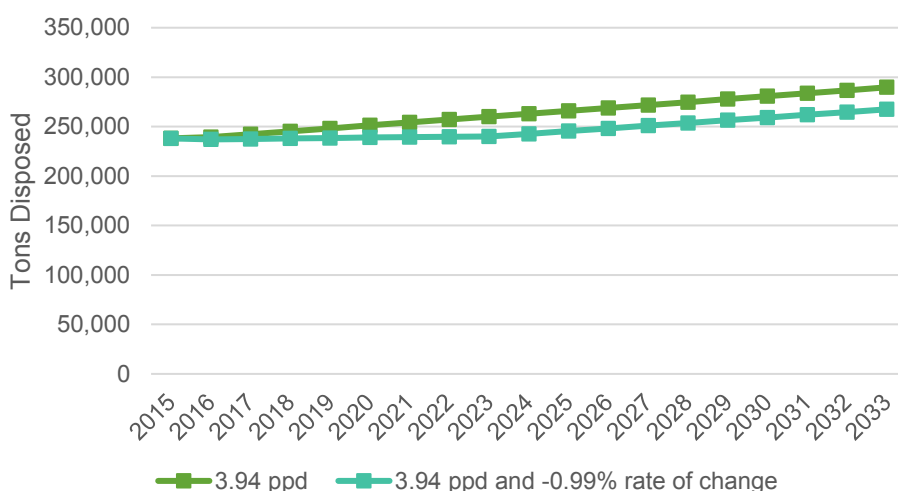
C. Disposal Projections

The District examined a number of approaches for projecting disposal for the planning period. For the R/C sector, the District has concluded that using the estimated disposal rate in pounds per person per day (ppd) is the most appropriate methodology for their four-county area. The figure below shows the results of using this methodology, assuming two different scenarios:

1. The per capita disposal rate of 3.94 ppd for 2015 remains constant throughout the planning period; and
2. The per capita disposal rate of 3.94 ppd declines at the rate of 0.99 percent annually (based upon annual rate of change in the disposal rate from 2011 through 2015) through year 2023, then remains constant.

By the end of the planning period, these projections result in disposal increases of roughly 52,000 tons for the first scenario and 29,000 tons for the second scenario. The increase in tonnage throughout the planning period for both scenarios is due to the projected increase in population.

R/C Disposal Projections: 3.94 ppd vs. Declining Disposal Rate



A comparison of the disposal rate for the District with other selected SWMDs in Ohio was shown above. In general, this figure shows that most of these SWMDs have experienced a decline in the R/C disposal rate since 2006. However, the disposal has generally flattened during the most recent five years and has increased during the last two or three years for some SWMDs.

National trends for per capita residential/commercial sector waste generation and disposal have been steadily decreasing since the year 2000. Based on U.S. EPA data, the annual rate of change in the national residential/commercial sector generation rate since the year 2000 is -0.57%, while the corresponding rate of change for disposal since the year 1990 is -1.38%. The nationwide tonnage of R/C disposed since 2000 has decreased slightly.

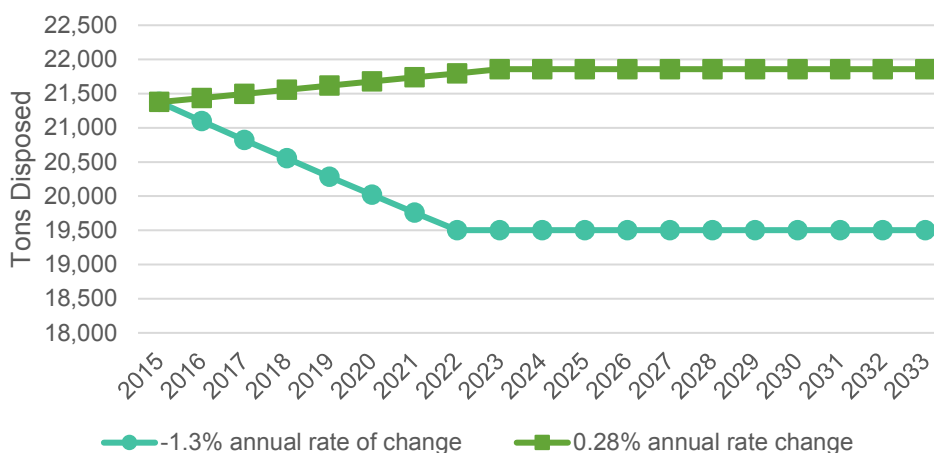
The District also evaluated alternative methodologies for projecting industrial waste disposal. The two approaches which the District believes to be most accurate are as follows:

- Scenario 1 – projections based upon the annual rate of change in industrial disposal from 2006 through 2015; and

- Scenario 2 - projections which have been developed using 2012-2022 employment projections for the central Ohio region of JobsOhio manufacturing sector.

The results of applying these two scenarios are shown in the figure below. Both of these scenarios assume a constant disposal tonnage after year 2023 to address the uncertainty associated with projections several into the future.

Industrial Projections Using the Disposal Rate of Change (2006-2015) vs. Industrial Employment



Historical industrial disposal has declined during the last ten years at the rate of 1.3 percent per year (Scenario 1) even though the tonnage has fluctuated from year to year. The annual rate of decline has been even greater for the last five-year period (-4.75 percent). As shown in the figure above, this approach results in a decrease of roughly 2,000 tons from 2015 through 2023.

The second industrial disposal scenario described above results in a modest increase in the disposal tonnage through year 2023. Employment can be a useful predictor for industrial disposal, and the JobsOhio data results in an annual average employment increase of 0.28 percent per year.

Based upon the above discussion, the District believes that the following approaches are appropriate for establishing disposal projections:

- For the residential/commercial sector:
 1. Using the year 2015 disposal rate of 3.94 ppd as the basis for projections;
 2. Applying the rate of change in the disposal rate based upon 2011-2015 data (-0.99 percent per year) through year 2023; and
 3. After year 2023, use a constant disposal rate.

- For the industrial sector, applying the annual average rate of change in employment to project disposal through the year 2023, then hold disposal constant for the remainder of the planning period.

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

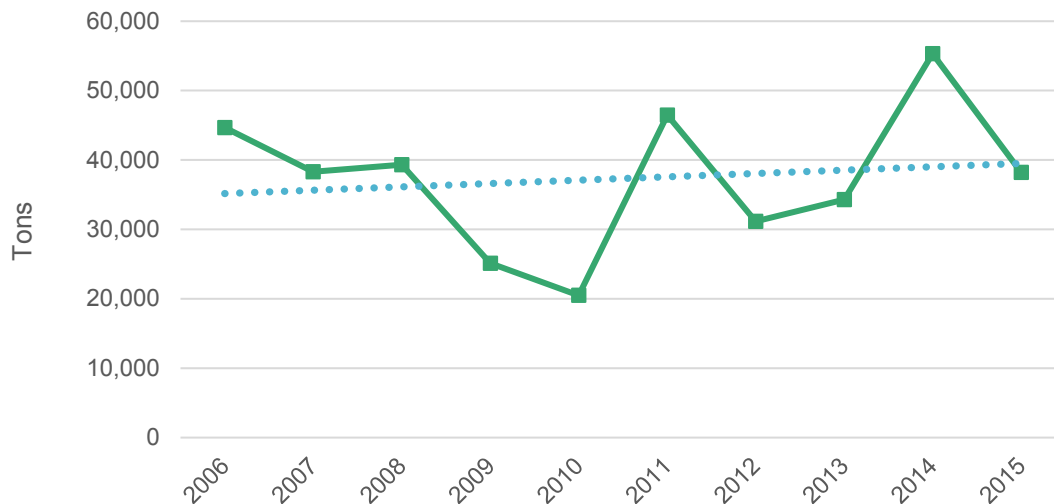
Table D-6. Waste Disposal Projections

Year	Residential/ Commercial Solid Waste	Industrial Solid Waste	Excluded Waste	Total Waste	Waste Transferred (as part of Total Disposal)	
	Tons	Tons	Tons	Tons	Tons	Percent
2015	238,145	21,376	38,194	297,715	223,892	75.2%
2016	238,853	21,435	38,194	298,483	227,452	76.2%
2017	239,533	21,495	38,194	299,223	231,044	77.2%
2018	240,186	21,555	38,194	299,935	234,670	78.2%
2019	240,811	21,615	38,194	300,621	238,331	79.3%
2020	241,410	21,676	38,194	301,280	242,026	80.3%
2021	242,255	21,736	38,194	302,185	242,753	80.3%
2022	243,069	21,797	38,194	303,060	243,456	
2023	243,853	21,858	38,194	303,905	244,135	
2024	246,640	21,858	38,194	306,692	246,374	
2025	249,428	21,858	38,194	309,479	248,613	
2026	252,237	21,858	38,194	312,289	250,869	
2027	255,046	21,858	38,194	315,098	253,126	
2028	257,855	21,858	38,194	317,907	255,383	
2029	260,664	21,858	38,194	320,716	257,639	
2030	263,473	21,858	38,194	323,525	259,896	
2031	266,325	21,858	38,194	326,376	262,187	
2032	269,176	21,858	38,194	329,227	264,477	
2033	272,027	21,858	38,194	332,079	266,767	

Excluded Waste. Table D-6 includes projections for excluded waste disposed from the District. An examination of the historical trend for excluded waste disposal shows a small but steady increase during the last ten years. (See the figure below.) However, this data also indicates that the amount of excluded

waste disposed has fluctuated over a wide range. For this reason, the District chose to use the 2015 disposal amount throughout the planning period.

Excluded Waste Disposal: 2006-2015

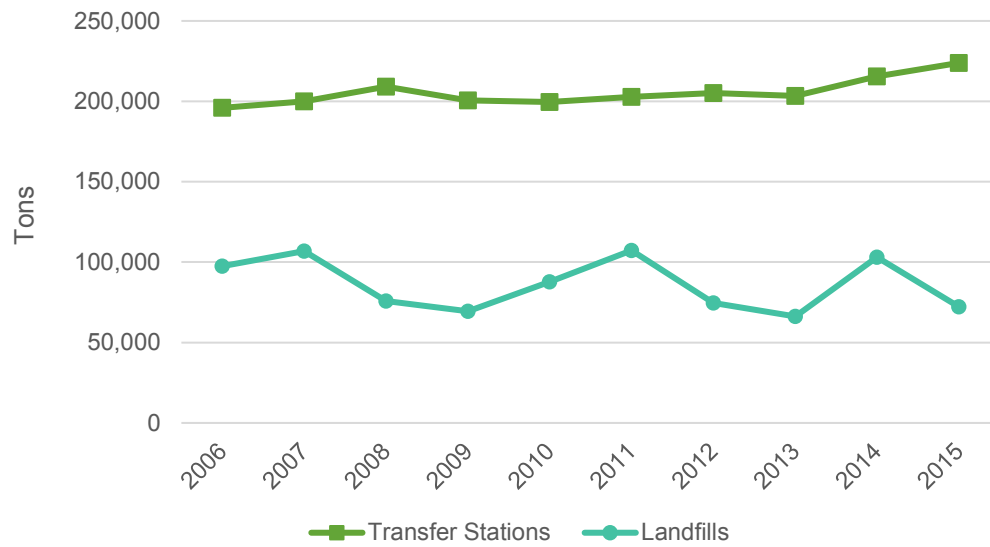


Waste Transferred. The transfer station receipts for District waste have steadily increased during the last ten years, while direct-haul to landfills has fluctuated but overall, resulted in a more constant trend. (See the figure below.) The annual rate of change in the transferred waste tonnage for 2006 through 2015 was 1.3 percent increase per year. The average amount of waste received at transfer stations during the ten-year period was approximately 206,000 tons, while the average for the most recent five-year period was slightly higher at 210,000 tons.

Based upon the historical data, the District believes it is appropriate to project waste receipts at transfer stations as follows:

- Increase the percentage of total disposed waste transferred from 2015 through 2020 at an annual rate of 1.3 percent per year.
- After year 2020, hold constant the percentage of total disposed waste transferred to address uncertainty, and to address the possibility that existing transfer station capacity may not be able to accommodate increasing amounts of waste throughout the planning period.

Transfer Station Receipts vs. Direct-Haul to Landfills: 2006 – 2015





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 2015 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 2016 to the end of the planning period (2033) which are included at the end of this Appendix.

A. Reference Year Recovery Data

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

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

52	•Finance and Insurance
53	•Real Estate Rental and Leasing
54	•Professional, Scientific, and Technical Services
55	•Management of Companies and Enterprises
56	•Administrative and Support Services •Waste Management and Remediation Services
61	•Educational Services
62	•Health Care and Social Assistance
71	•Arts, Entertainment, and Recreation
72	•Accommodation and Food Services
81	•Civic Organizations •Other Services (except Public Administration)
92	•Public Administration

Table E-1. Commercial Survey Results

NAICS	EW	LAB	FS	GL	FM	NFM	OCC	MxP	PL	W	YT	UO	ST	DCB	Other: Misc.	Total	Adj.	Adj. Total
42	-	0.0	-	-	467.0	161.0	5.0	0.4	-	3.0	-	3.3	-	-	-	639.7	632	7
44	-	10.7	-	-	17.6	2.6	460.3	10.1	1.0	-	-	0.4	39.5	-	-	542.1	2	540
45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
51	-	-	-	-	-	0.3	3.0	1.0	-	-	-	-	-	-	-	4.3	0	4
52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
54	15.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.2	0	15
55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
56	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	12.0	12.5	12	1
61	18.8	-	56.1	3.7	78.0	2.1	103.4	338.0	9.6	22.0	-	-	1.0	0.0	-	632.6	154	478
62	-	-	-	-	6.0	1.0	25.0	108.0	-	-	-	-	-	-	-	140.0	7	133
71	1.5	-	10.0	3.6	3.0	1.3	120.0	12.4	3.8	-	-	-	-	-	-	155.6	10	146
72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0
92	-	0.1	80.3	5.1	0.4	0.2	15.0	30.0	1.0	6.0	4.0	-	-	-	-	142.0	4	138
Total	36	11	146	12	572	168	732	500	15	31	4	4	41	1	12	2,284	821	1,463
Adj.	0	0	66	1	536	163	12	21	6	0	4	0	0	0	12	821		
Adj. Total	36	11	80	12	36	5	719	479	9	31	0	4	41	1	0	1,463		

NAICS = North American Industrial Classification System, WG = Appliances/ "White Goods", EW = Electronics, LAB = lead-acid batteries, FS = Food Scraps, GL = Glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = Corrugated Cardboard, MxP = mixed paper, PL = plastics, Tx = Textiles, W = wood, R = Rubber, CoM = Commingled Recyclables (Mixed), YT = Yard Trimmings, UO = used motor oil, ST = Scrap Tires, DCB= Dry-cell Batteries, Adj. = Adjusted or Adjustments

Data from a total of eight commercial businesses was used to complete Table E-1. Companies reported recycling 2,284 tons of materials in 2015. Approximately 821 tons were adjusted to avoid double-counting.

Table E-2. 2015 Data from Other Recycling Facilities

Source of Materials	LAB	GL	FS	NFM	OCC	MxP	PL	W	CoM	R	Total	Adj.	Adj. Total
Buybacks													
None	-	-	-	-	-	-	-	-	-	-	-	-	-
Scrap Yards													
SY1	118	-	7,148	708	14	2	-	17	-	50	8,057	-	8,057
SY2	2	-	-	-	-	-	-	-	-	-	2	-	2
SY3	28	-	2,087	592	7	-	-	-	-	-	2,713	-	2,713
Total	148	-	9,234	1,300	21	2	-	17	-	50	10,772	-	10,772
Adj.	-	-	-	-	-	-	-	-	-	-	-	-	-
Adj. Total	148	-	9,234	1,300	21	2	-	17	-	50	10,772	-	10,772
Processors													
PR1	-	-	-	-	-	737	-	-	-	-	737	-	737
Total	-	-	-	-	-	737	-	-	-	-	737	-	737
Adj.	-	-	-	-	-	-	-	-	-	-	-	-	-
Adj. Total	-	-	-	-	-	737	-	-	-	-	737	-	737
MRF's													
MRF1	-	-	20,289	763	5,533	1,552	-	-	1,384	-	29,519	607	28,912
MRF2	-	1,997	198	122	1,482	5,424	848	0.4	-	-	10,071	2,394	7,677
MRF3	-	-	-	-	516	6	-	-	-	-	523	-	523
MRF4	-	88	100	78	281	274	80	-	117	-	1,018	483	535
Total	-	2,085	20,586	963	7,812	7,256	927	0	1,501	-	41,131	3,484	37,647
Adj.	-	655	94	63	554	1,790	291	0	37	-	3,484	-	-
Adj. Total	-	1,430	20,493	900	7,258	5,466	636	0	1,464	-	37,647	-	-
Grand Totals													
Total	148	2,085	29,821	2,263	7,833	7,995	927	18	1,501	50	52,641	-	-
Adj.	-	655	94	63	554	1,790	291	0	37	-	3,484	-	-
Adj. Total	148	1,430	29,727	2,200	7,279	6,205	636	18	1,464	50	49,157	-	-

WG = Appliances/ "White Goods", EW = Electronics, LAB = lead-acid batteries, FS = Food Scraps, GL = Glass, FM = ferrous metals, NFM = non-ferrous metals, OCC = Corrugated Cardboard, MxP = mixed paper, PL = plastics, Tx = Textiles, W = wood, R = Rubber, CoM = Commingled Recyclables (Mixed), YT = Yard Trimmings, Adj. = Adjusted or Adjustments

Source(s) of Information: District records

Table E-2 contains tonnage collected from the MRFs in the District. Adjustments were made to avoid double counting. For example, materials sent to registered composting facilities to be managed and scrap tires sent to a registered scrap tire

hauler for processing were adjusted because the tonnage is also reflected in Table E-4.

Table E-3. 2015 Data Reported to Ohio EPA

Ohio EPA Data Source	PL	OCC	MxP	FM	W	Food: Other	CoM	Other	Total	Adj.	Adj. Total
Aldi, Inc.	6	313	-	-	-	-	-	-	319	-	319
Big Lots	-	48	-	-	-	-	-	-	48	-	48
Buehler's	4	93	1	-	-	-	-	-	99	-	99
Dollar General	-	495	1	-	-	-	-	-	496	-	496
Home Depot	1	134	-	14	460	-	-	-	608	-	608
JC Penney Distribution Ctr.	15	110	3	0	-	-	-	-	128	-	128
Kohl's	31	514	-	-	-	-	0	-	544	-	544
Kroger Division Northeast	-	-	-	-	-	-	-	11	11	-	11
Lowe's Companies	6	245	-	330	93	-	-	-	675	-	675
Meijer Corporation	-	1,835	-	-	-	-	-	-	1,835	-	1,835
Target	9	517	7	8	-	-	-	3	544	-	544
Wal-Mart	47	1,730	11	1	-	-	-	340	2,130	-	2,130
Commercial-1	29	666	3	-	-	17	83	7	805	-	805
Unadjusted Total	147	6,701	27	353	553	17	83	361	8,243	-	8,243
Adjustments	-	-	-	-	-	-	-	-	-		
Adjusted Total	147	6,701	27	353	553	17	83	361	8,243		

PL = Plastics, FM = Ferrous Metals, NF = Non-Ferrous Metals, OCC = Corrugated Cardboard, MxP = Mixed Paper, W = Wood, CoM = Commingled Recyclables (Mixed)

Source(s) of Information: 2015 Ohio EPA MRF Report

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

Note: Commercial-1 represents a commercial establishment that provided data but would like to remain anonymous.

Table E-4. 2015 Other Recycling Programs/Other Sources of Data

Other Sources of Data	HHW	ST	FS	GL	FM	NFM	OCC	MxP	PL	CoM	YT	Totals	Adj.	Adj. Totals
Ohio EPA Scrap Tire Data	-	2,607	-	-	-	-	-	-	-	-	-	2,607	-	2,607
Curbside	-	-	-	28	10	32	48	1,318	16	7,371	-	8,822	8,206	616
Ohio EPA Compost Report	-	-	2,196	-	-	-	-	-	-	-	16,308	18,504	-	18,504
HHW Programs	29	-	-	-	-	-	-	-	-	-	-	29	-	29
Drop-off Program	-	-	-	-	-	-	-	-	-	3,483	-	3,483	-	3,483
Food Scraps Hauler Data	-	-	975	-	-	-	-	-	-	-	-	975	-	975
Unadjusted Total	29	2,607	3,171	28	10	32	48	1,318	16	10,854	16,308	34,420	8,206	26,214
Adjustments	-	-	-	-	3	31	41	1,237	2	6,892	-	8,206		
Adjusted Total	29	2,607	3,171	28	7	1	7	81	14	3,961	16,308	26,214		

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

Source(s) of Information: 2015 Ohio EPA Scrap Tire Report, 2015 Ohio EPA Compost Report, Survey Data

Sample Calculations:

Corrugated Cardboard total – Adjustments = Adjusted Total

48 tons – 41 tons = 7 tons

Table E-5. Reference Year (2015) Residential/Commercial Material Reduced/Recycled

Material	Tons
Appliances/ "White Goods"	0
Household Hazardous Waste	29
Used Motor Oil	4
Electronics	36
Scrap Tires	2,648
Dry Cell Batteries	1
Lead-Acid Batteries	159

Material	Tons
Food	3,268
Glass	1,469
Ferrous Metals	30,123
Non-Ferrous Metals	2,207
Corrugated Cardboard	14,706
All Other Paper	6,792
Plastics	806
Textiles	0
Wood	602
Rubber	50
Commingled Recyclables (Mixed)	5,509
Yard Trimmings	16,308
Other (Aggregated)	361
Recycling Subtotals	85,076
Incineration	0
Grand Total	85,076

Note: Tonnage presented in this Plan Update reflects the most up-to-date and accurate data available. Tonnage presented in the Plan Update differs from the amended Annual District Report.

Source(s) of Information: 2015 ADR Calculation Spreadsheets, 2015 Ohio EPA MRF Reports, 2015 Ohio EPA Scrap Tire Report, 2015 District program and survey data, 2015 Ohio EPA Compost Report, 2015 ADR Review Forms

Sample Calculations:

Recycling Subtotal + Waste Reduced by Incineration = Grand Total

85,076 tons + 0 tons = 85,076 tons

Table E-5 shows different numbers compared to the Annual District Report submitted to the EPA. In the ADR, J.C. Penney was not included but is included above. There was additional tonnage included from the 2014 recycling surveys. While the ADR reported 1,696 tons of commingled, the District shows 5,509 tons. The District's ADR includes 2,325.49 tons of food scraps from Ohio EPA Compost Report for Delaware Co.; the Table E-5 contains the Ohio EPA report currently showing 2,134.13 tons for Delaware County. The District's spreadsheet did not include Krogers from Ohio EPA MRF Report, which adds 11 tons to the "Other" category. In the "Other" category, 1,461.5 tons of reuse included in ADR which was mostly wood chips delivered to Tom Price Farms and used to construct ramps. This reuse has not been included in this table.

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. For example, a total of 8,712 tons were collected from curbside recycling programs; however, Table E-6 only credits 616 tons toward curbside recycling.

Table E-6. 2015 Quantities Recovered by Program/Source

Source of R/C Recycling Data	Quantities (Tons)
Commercial Survey	1,463
Buybacks	0
Scrap Yards	10,772
Processors	737
MRFs	37,647
Ohio EPA Commercial Retail Data	8,243
Ohio EPA Scrap Tire Data	2,607
Curbside	616
Ohio EPA Compost Report	18,504
HHW Programs	29
Drop-off Program	3,483
Food Scraps Hauler Data	975
Total	85,076

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 Table E-6b. Tables E-6a 1-3 have been omitted.

B. Historical Recovery

Total recovery includes recycling, composting, and waste reduction from incineration. The District’s historical recovery for the residential/commercial sector over a six-year period spanning from 2010 to 2015 is presented in the following table.

Table E-6b. Historical Recycling Analysis

Year	Residential/Commercial					Annual Tonnage Change
	Organics	Tires	Recycling	Total	Annual Percentage Change	
2010	26,506	3,360	60,264	90,130	---	---
2011	17,250	2,787	68,382	88,419	-2%	-1,711
2012	28,367	2,524	56,531	87,422	-1%	-997
2013	22,886	2,861	99,290	125,037	43%	37,615
2014	24,519	2,995	54,498	82,011	-34%	-43,026
2015	19,576	2,607	62,893	85,076	4%	3,065
2010-2015 Average						
Average Annual Percent Change					2%	
Average Tons over 6 Year Period					93,016	
Average Annual Tonnage Change					-1,011	

The District's historical recovery for the residential/commercial sector over a five-year period spanning from 2010 to 2015 is presented in Table E-6b, "Historical Recycling Analysis." The table presents organics (food scraps and yard trimmings), scrap tire tonnage, and all other recycling.

An examination of the recovery patterns over the six-year period reveals that in 2013, a high of 125,037 tons were recovered and in 2014, a low of 82,011 tons were recovered. Waste recycling/reduction decreased from 2013 to 2015. Over the six-year period, recovery decreased by an average of 1,011 tons, or 2%, annually. The following figure presents the District's historical residential/commercial recovery totals from 2010 to 2015.

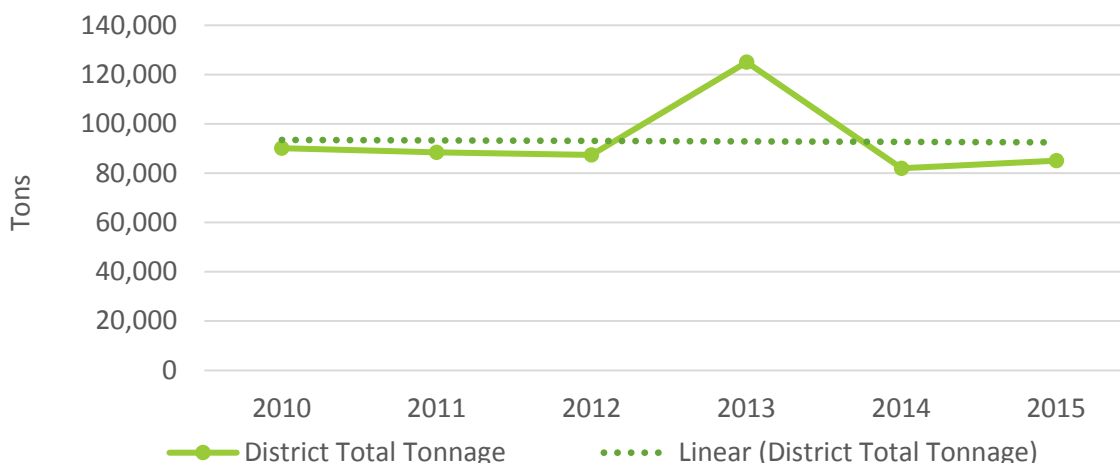
Due to 2013 identified as an outlier year for the District the following table:

Table E-6c. Historical Recycling Analysis (removed 2013 outlier)

Year	Residential/Commercial					Annual Tonnage Change
	Organics	Tires	Recycling	Total	Annual Percentage Change	
2010	26,506	3,360	60,263.67	90,130	---	---
2011	17,250	2,787	68,382	88,419	-2%	-1,711
2012	28,367	2,524	56,531	87,422	-1%	-997
2013	Taken out as outlier					
2014	24,519	2,995	54,497.64	82,011	-0.1	-5,411
2015	19,576	2,607	62,893.19	85,076	4%	3,065
2010-2015 Average (removed 2013 outlier)						
Average Annual Percent Change					-1%	
Average Tons over 6 Year Period					86,612	
Average Annual Tonnage Change					-1,263	

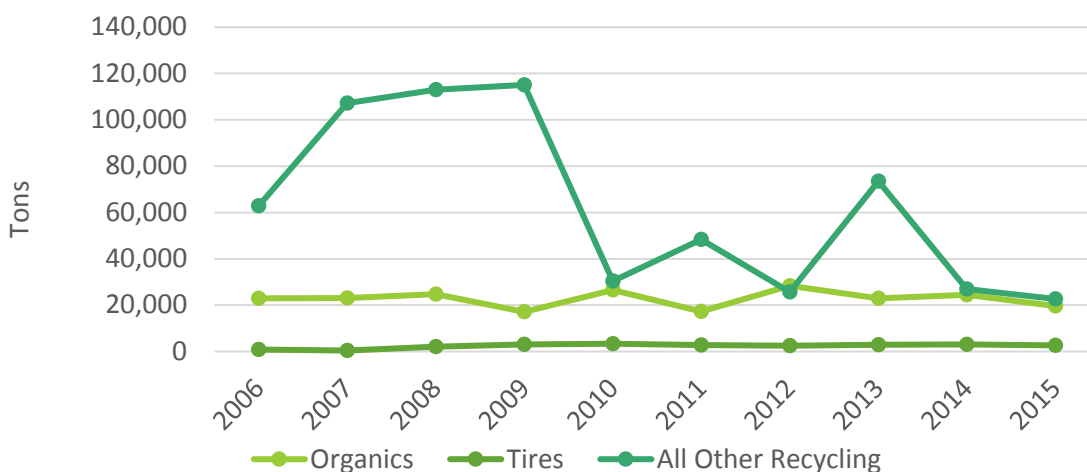
Taking out 2013 in Table E-6c definitely shows different averages over time. However, the table shows how other years were more consistent between organics, tires, and recycling tonnages. In 2014, the hauler for the drop-off program started using a weighted arm on the truck that serviced our drop-offs. This improved accuracy and the District now receives better data. The District in the past has been reliant on the tonnages given by the haulers (which may or may not be estimated weight data).

Historical Recycling Analysis: 2010- 2015



The following figure shows recycling in the District over a longer time period, 2006 through 2015, and separates recyclables into organics, tires, and all other recycling. With two exceptions, scrap tire recycling has increased each of the last ten years. Organics recycling generally seems to have decreased, with the notable exception of 2013 when it increased. All other recycling increased slightly during the first five years of this period, but then decreased substantially.

Historical Recycling: 2006-2015



The average amounts recycled in these three categories, as well as total recycling, are shown below. All other recycling is the only category in which the average tonnage is lower using a shorter time period.

Category	Averages (in tons)	
	2006-2015	2010-2015
Total Recycling	87,635	63,971
Organics	22,706	23,184
Tires	2,355	2,856
All Other Recycling	62,573	37,931

The District used historical program data to develop projections shown in Table E-7. The categories in this table are somewhat different than those envisioned in the Format 4.0 (and in previous tables in this Appendix) in order to associate tonnage projections with actual District programs. The remainder of this Appendix provides explanations for each the projections for category included in Table E-7.

Table: E-7. Residential/Commercial Recovery Projections by Program/Source

	Year	Commercial Survey	MRFs	Ohio EPA Commercial Retail Data	Ohio EPA Scrap Tire Data	Curbside	Organics	Drop-off Program	All Other ^a	Totals
	2015	1,463	37,647	8,243	2,607	616	19,576	3,483	14,924	85,076
	2016	1,463	37,647	8,243	2,607	621	19,744	3,513	14,924	88,792
	2017	1,463	37,647	8,243	2,607	627	19,912	3,543	14,924	88,995
	2018	1,463	37,647	8,243	2,607	632	20,080	3,573	14,924	89,199
X	2019	1,463	37,647	8,243	2,607	637	20,249	3,603	14,924	89,403
First Year of Planning Period →	2020	1,463	37,647	8,243	2,607	643	20,417	3,633	14,924	89,606
	2021	1,463	37,647	8,243	2,607	649	20,607	3,666	14,924	89,837
	2022	1,463	37,647	8,243	2,607	655	20,797	3,700	14,924	90,067
	2023	1,463	37,647	8,243	2,607	661	20,988	3,734	14,924	90,298
	2024	1,463	37,647	8,243	2,607	667	21,178	3,768	14,924	90,528
	2025	1,463	37,647	8,243	2,607	673	21,369	3,802	14,924	90,759
	2026	1,463	37,647	8,243	2,607	679	21,573	3,838	14,924	91,007
	2027	1,463	37,647	8,243	2,607	685	21,778	3,875	14,924	91,254
	2028	1,463	37,647	8,243	2,607	692	21,982	3,911	14,924	91,502
	2029	1,463	37,647	8,243	2,607	698	22,187	3,948	14,924	91,750
	2030	1,463	37,647	8,243	2,607	705	22,392	3,984	14,924	91,998
	2031	1,463	37,647	8,243	2,607	712	22,606	4,022	14,924	92,257
	2032	1,463	37,647	8,243	2,607	718	22,820	4,060	14,924	92,517
	2033	1,463	37,647	8,243	2,607	725	23,035	4,098	14,924	92,776

^a "All Other" primarily consists of scrap yards and processors.

Commercial Survey. The reported 2015 tonnage is held constant throughout the planning period.

MRFs. The reported 2015 was used to calculate the MRFs based on population projections found in Appendix C

Ohio EPA Commercial Retail Data. The reported 2015 was used to calculate the Ohio EPA Commercial Retail Data based on population projections found in Appendix C

Ohio EPA Scrap Tire Report. The reported 2015 was used to calculate the scrap tires based on population projections found in Appendix C

Curbside Recycling. The reported 2015 was used to calculate the curbside recycling based on population projections found in Appendix C.

Organics. The reported 2015 was used to calculate the organics based on population projections found in Appendix C.

Drop-Off Recycling (Morrow Co.). The reported 2015 was used to calculate the drop-off recycling based on population projections found in Appendix C.

Other. The reported 2015 tonnage is held constant 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 2015 reference year. To avoid double-counting tonnage, adjustments made to tonnage reported by different types of entities, such as programs, brokers, and scrap yards, will be demonstrated. A historic analysis of the industrial sector's recycling and recycling projections for the planning period are included in this Appendix.

A. Reference Year Recovery Data

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

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

22

- Utilities

31

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

32

- 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

33

- Primary Metal Manufacturing
- 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 at buybacks, scrap yards, processors, and material recovery facilities (MRFs).
- Table F-3, *Other Recycling Programs/Other Sources of Data*, which presents data from miscellaneous sources. This table was not applicable to the District.

Table F-1. Industrial Survey Results

NAICS	FS	GI	FM	NFM	OCC	AO P	PL	Tx	W	CoM	FS	Other: Misc.	Total	Adj.	Adj. Total
22	0	0	12	0	0	0	0	0	0	0	0	0	13	12	1
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	1	2,464	428	36	9,583	405	969	0	103	13	0	107	14,109	68	14,177
33	0	1	122,760	3,406	2,233	138	922	9	1,852	27	11	204	131,563	1,473	133,036
Total	1	2,465	123,200	3,442	11,816	544	1,890	9	1,955	40	11	311	145,685	1,553	144,131
Adj.	0	0	710	91	640	40	46	0	0	27	0	0	1,553		
Adj. Total	1	2,465	122,490	3,351	11,177	504	1,845	9	1,955	13	11	311	144,131		

FS = food scraps, FM = ferrous metals, NFM = non-ferrous metals, OCC = old corrugated cardboard, AOP = all other paper, PL = plastics, W = wood, CoM = commingled, FS = non-exempt foundry sand, Adj. = adjusted/adjustments

Source(s) of information: 2013-2015 District Industrial Surveys

Sample Calculation: NAICS 32 Unadjusted Tonnage – Adjustments = NAICS 32 Adjusted Total

14,109 tons – 68 tons = 14,177 tons

Table F-2. Data from Other Recycling Facilities

Source	FM	NFM	OCC	MxP	CoM	Total	Adj.	Adj. Total
Scrap Yards								
SY1	13,274	-	-	-	-	13,274	-	13,274
Total	13,274	-	-	-	-	13,274	-	13,274
Adj.	-	-	-	-	-	-		
Adj. Total	13,274	-	-	-	-	13,274		
MRFs								
MRF1	2,254	85	615	172	154	3,280	615	2,665
MRF2	-	-	379	-	-	379	-	379
Total	2,254	85	994	172	154	3,659	615	3,044
Adj.	-	-	0	-	-	615		
Adj. Total	2,254	85	994	172	154	3,044		
Grand Total	15,529	85	994	172	154	16,933		

The District annually surveys scrap yards, processors, and brokers that are located in the District or known to accept materials generated in the District. The District maintains a list of scrap yards, processors, and brokers that is regularly updated. The District adds new entities to this list throughout the year as they are identified. Each year during the preparation of the Annual District Report, a list of scrap yards and secondary materials processors and brokers is compiled based on 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 survey effort the following year. Follow-up requests are made via telephone and e-mail to entities that do not respond.

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

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

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

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

Table F-4. Reference Year (2015) Industrial Waste Reduced

Material	Quantity
Food	1
Glass	2,465
Ferrous Metals	138,019
Non-Ferrous Metals	3,436
Corrugated Cardboard	12,170
All Other Paper	676
Plastics	1,845
Textiles	9
Wood	1,955
Commingled Recyclables (Mixed)	167
Non-Excluded Foundry Sand	11
Other (Aggregated)	311
Recycling Subtotals	161,065
Incineration	0
Grand Total	161,065

Source(s) of Information: 2015 ADR Calculation Spreadsheets, 2015 Ohio EPA MRF Reports, 2015 Ohio EPA Compost Report, 2015 ADR Review Forms

Table F-5. Reference Year (2015) Industrial Material Recovered

Data Source	Tons
Industrial Survey	144,131
Scrap Yards	13,274
MRFs	3,659
Total	161,065

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

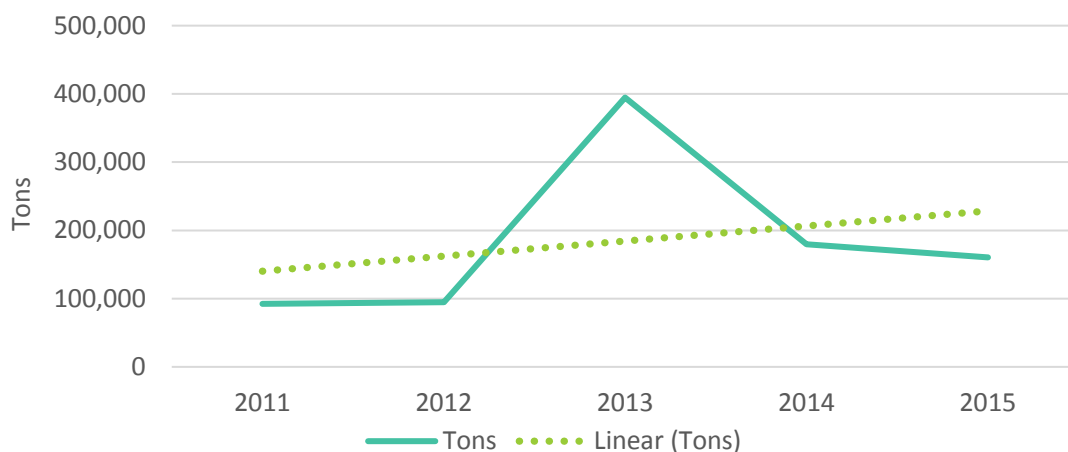
B. Historical Recovery

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 2011 to 2015 is presented in the following table.

Table F-6. Recycling Program/Source

Year	Industrial Sector		
	Tons	Annual Percentage Change	Annual Tonnage Change
2011	92,361	----	----
2012	94,846	2.7%	2,485
2013	394,609	316.1%	299,764
2014	179,462	-54.5%	-215,147
2015	161,065	-10.3%	-18,397
2011-2015 Average			
Average Annual Percentage Change			63.5%
Average Tons Over 5 Year Period			184,468
Average Annual Tonnage Change			17,176

An examination of the recovery patterns over the five-year period reveals that in 2011, a low of 92,361 tons were recovered and in 2013, a high of 394,609 tons were recovered. Waste recovery fluctuated to approximately 94,800 tons in 2012, then increased significantly (nearly 400%) from 2012 to 2013. Waste recovery decreased approximately 200% after 2013, but the volume remained significantly greater than amounts recovered from 2011 to 2012. Over the five-year period, recovery increased by an average of 21,635 tons, or 66%, annually. The District's recovery of 179,099 tons in 2015 was approximately 5% less than the 2010- 2015 average of 188,075 tons. The following figure presents the District's historical industrial recovery totals from 2011 to 2015.


Historical Recycling Analysis: Industrial Sector (2011-2015)**C. Industrial Recovery Projections**

The projections for the planning period were based on 2015 tonnage, which was the most recent recycling and waste generation statistics available for the District at the time this appendix was prepared. Tonnage was projected based on the average Projected Change in Employment Percent 2012-2022 using Ohio Job Outlook. This percentage (2.5%) was divided in half as waste is not always directly proportional to employment growth. In order to take a conservative approach, and to address the uncertainty associated with determining industrial recycling into the future, the tonnage reported for 2022 (177,524 tons) has been projected for 2022-2033. The following table presents the industrial sector recovery statistics and projections from 2015 to 2033.

Table F-7. Industrial Recovery Projections


Total	Total
2015	161,065
2016	160,862
2017	160,659
2018	160,456
2019	160,254
2020	160,052
2021	159,850
2022	159,648
2023	159,648
2024	159,648
2025	159,648
2026	159,648
2027	159,648

Total	Total
2028	159,648
2029	159,648
2030	159,648
2031	159,648
2032	159,648
2033	159,648



APPENDIX G

WASTE GENERATION



APPENDIX G Waste Generation

A. Historical Year Waste Generated

The historical waste generation for the District from 2011 through 2015 is shown in Table G-1 below. Generation has been calculated based on the sum of reported tons disposed and recycled for each year. In general, disposal decreased slightly while recycling has increased during this time period. However, significant fluctuation occurred in these trends for both R/C and industrial sectors. The per capita generation rate for total generation experienced an increase from 8.5 to 9.0 pounds per person per day (PPD).

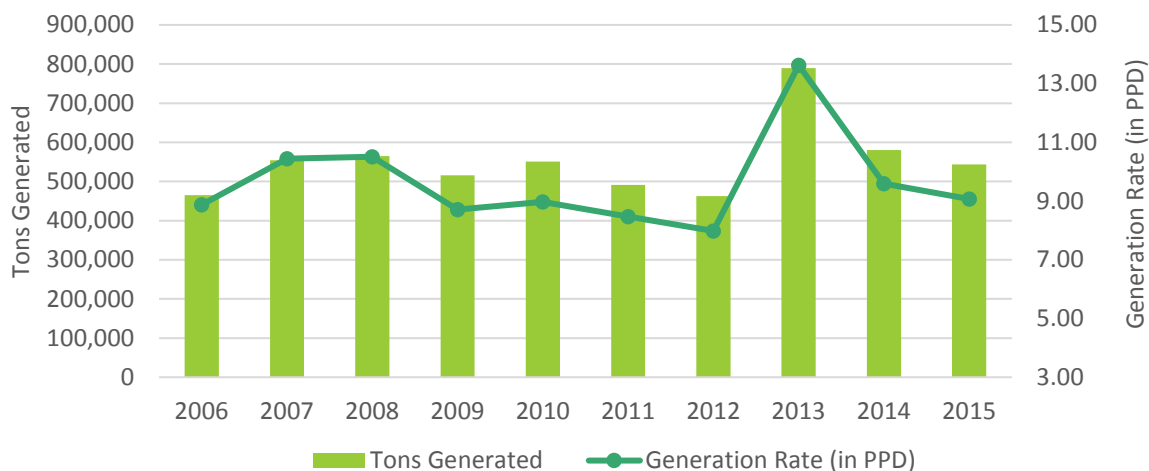
Table G-1. Reference Year and Historical Waste Generated

Year	Population	Residential/ Commercial		Industrial		Total	Per Capita Generation (ppd)	Annual % Change in Total Tons
		Disposal	Recycled	Disposal	Recycled			
2011	317,392	237,710	88,419	25,974	92,361	490,923	8.48	-
2012	317,392	231,004	87,422	18,002	94,846	462,444	7.98	-0.06
2013	317,392	218,630	125,037	16,768	394,609	789,324	13.63	70.7%
2014	331,142	239,479	82,011	23,772	179,462	580,040	9.60	-26.5%
2015	328,674	238,145	85,076	21,376	161,065	543,856	9.07	-6.2%

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

Figure G-1 shows the waste generation over a longer historical period. Both the tons generated and the per capita generation rate (PPD) show declining trends over this time period.

Figure G-1. District Total Generation: 2006-2014



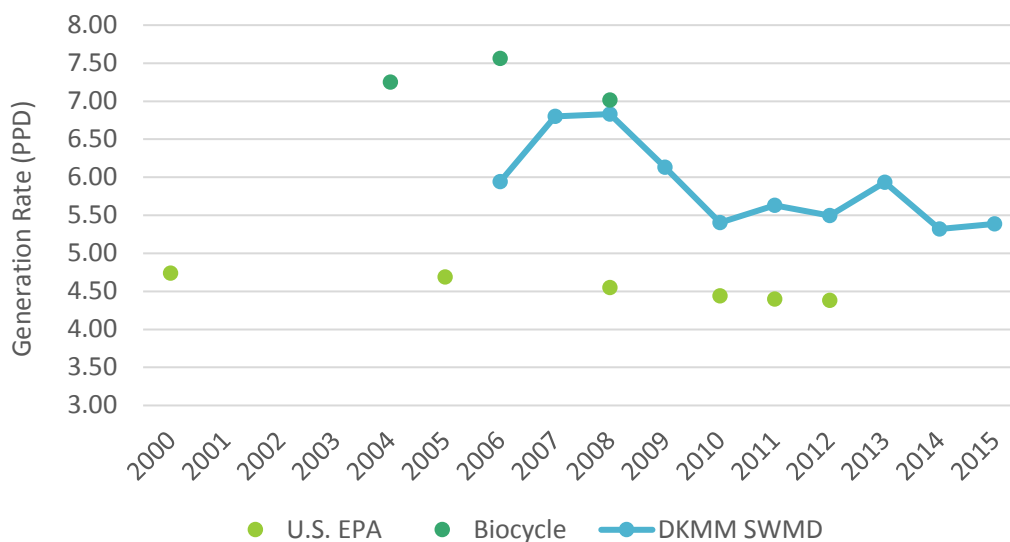
1. Residential/Commercial Waste

As discussed in Appendix D, the national waste generation rates based upon U.S. EPA documents are much lower than the District's generation rate or generation rates for the other urban Ohio SWMDs. For example, the national MSW generation rate¹ for 2012 was estimated to be 4.38 PPD. However, District's MSW generation rate for 2012 was 7.98 PPD.

At least part of the difference between these rates can be explained based upon the inclusion of both urban and rural areas into the national rate. Since rural areas traditionally have lower generation rates than urban areas, as seen in Ohio and elsewhere, this likely contributes to the lower national rate as compared to that of an urban Ohio area like the District. Also, the national generation rate relies on a modeling methodology, rather than the sum of tons disposed plus tons recycled, to determine generation.

National waste generation has also been estimated by *BioCycle Magazine* by surveying State agencies responsible for regulating solid waste. Estimates compiled by *BioCycle* utilized disposal plus recycling for determining generation, and therefore, generation rates are relatively consistent with the District's generation rates. The District's Generation rate falls in between the national MSW and *BioCycle*'s generation rate (See Figure G-2.)

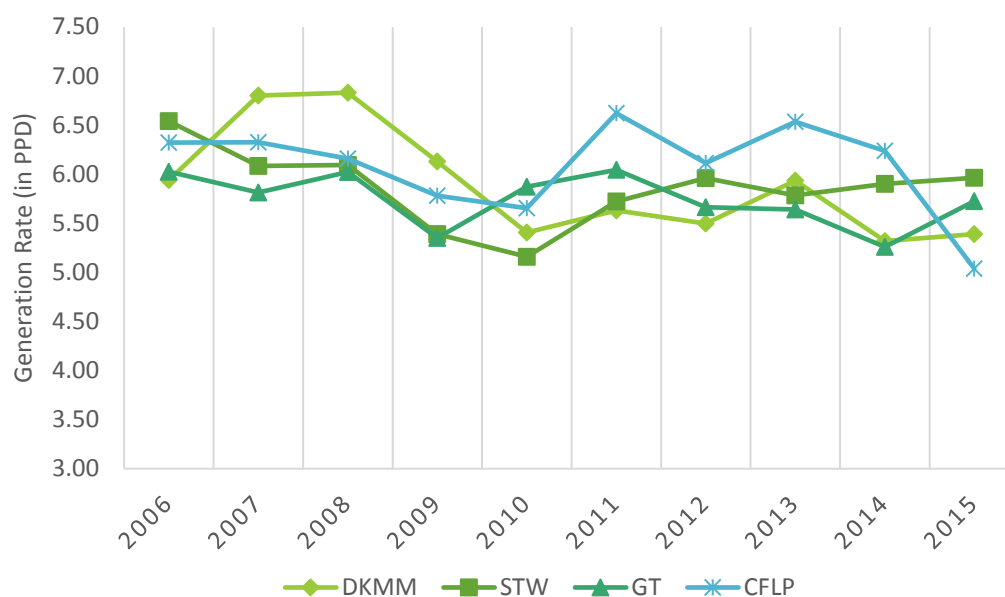
Figure G-2. MSW Generation Rates: National vs. District



¹ For purposes of this analysis, MSW or municipal solid waste is considered synonymous with residential/commercial waste.

The national MSW generation rates and the District's generation rate have been declining, as illustrated by Figure G-2. However, the District's generation rate has declined much more rapidly than U.S. EPA's generation rate estimate. As the recycling rate in PPD has remained relatively constant for the District since 2006, except for 2007 and 2008 when it spiked and came back down. Overall, the disposal rate has decreased and has resulted in the declining total MSW generation rate. Although other urban SWMDs in Ohio have experienced falling MSW generation rates since 2006, these generation rates have generally decreasing slowly in the last four or five years. (See Figure G-3 below.)

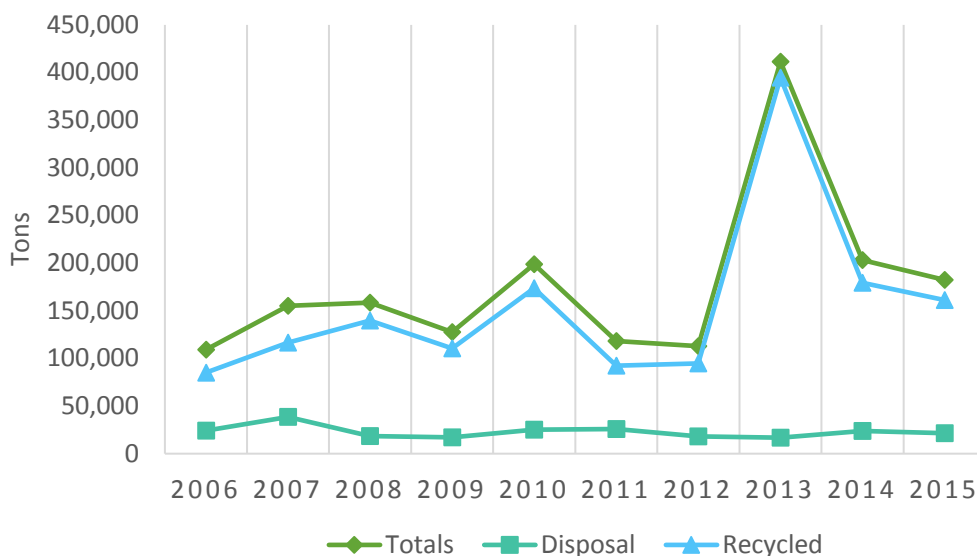
Figure G-3. MSW Generation Rates for Selected Ohio Urban SWMDs



*DKMM: Delaware-Knox-Marion-Morrow Joint SWMD, STW: Stark-Tuscarawas-Wayne Joint SWMD, GT: Geauga-Trumbull Joint SWMD, CFLP: Coshocton-Fairfield-Licking-Perry Joint SWMD, SWACO: Solid Waste Authority of Central Ohio

2. Industrial Waste

Industrial waste generation has increased for the District since 2006, although the District has experienced considerable variability in the tons generated during this time period. Industrial disposal has stayed generally level since 2006. As illustrated in Figure G-4, the amount of industrial recycling has been the larger contributing factor for the variability in total industrial generation and great spike in 2013.

Figure G-4. District Industrial Waste Generation

3. *Excluded Waste*

Excluded waste was less than 10 percent of the total waste disposed in the reference year, and as a result, has not been included in this analysis.

B. **Generation Projections**

Generation projections for the District's disposal and recycling have been developed in Appendices D, E and F for disposal and recycling for the R/C and industrial sectors. These projections which are presented in detail in Appendices D, E, and F are summarized below in Table G-2. Consistent with historical trends for the District, total generation is expected to fluctuate slightly until year 2023, then remain constant throughout the remainder of the planning period.

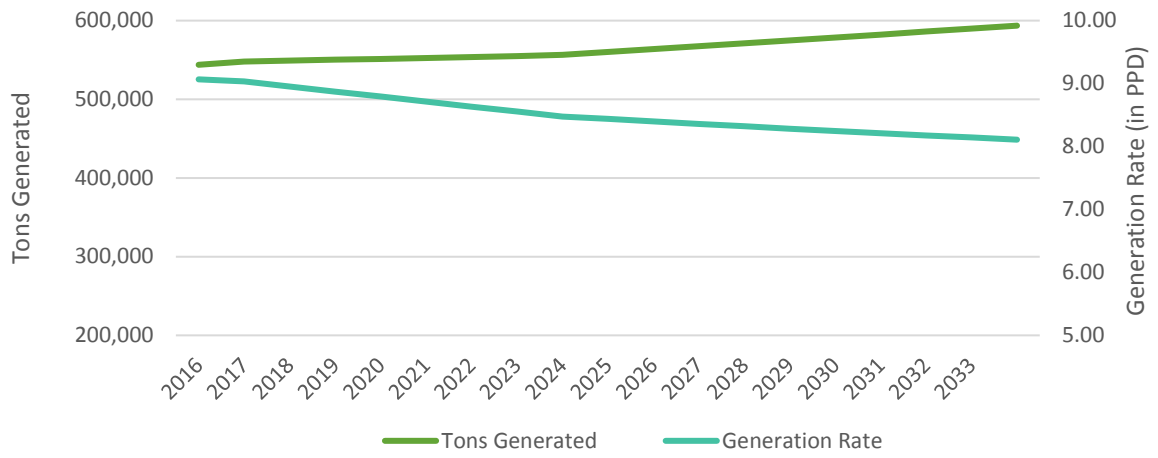
Table G-2. Generation Projections

	Year	Population	Residential/ Commercial		Industrial		Excluded Waste	Total Tons	Per Capita Generation (ppd)	Annual % Change in Total Tons
			Disposal	Recycle	Disposal	Recycle	Disposal			
X First Year of Planning Period →	2015	328,674	238,145	85,076	21,376	161,065	38,194	543,856	9.07	-----
	2016	331,496	238,211	88,792	21,435	160,617	38,194	547,249	9.05	0.6%
	2017	334,319	238,259	88,995	21,495	160,170	38,194	547,114	8.97	0.0%
	2018	337,141	238,291	89,199	21,555	159,724	38,194	546,963	8.89	0.0%
	2019	339,963	238,306	89,403	21,615	159,280	38,194	546,797	8.81	0.0%
	2020	342,785	238,304	89,606	21,676	158,836	38,194	546,616	8.74	0.0%
	2021	345,982	238,544	89,837	21,736	158,394	38,194	546,705	8.66	0.0%
	2022	349,179	238,764	90,067	21,797	157,954	38,194	546,776	8.58	0.0%
	2023	352,376	238,965	90,298	21,858	157,514	38,194	546,828	8.50	0.0%
	2024	355,572	241,132	90,528	21,858	157,514	38,194	549,227	8.46	0.4%
	2025	358,769	243,300	90,759	21,858	157,514	38,194	551,625	8.42	0.4%
	2026	362,204	245,630	91,007	21,858	157,514	38,194	554,202	8.38	0.5%
	2027	365,639	247,959	91,254	21,858	157,514	38,194	556,780	8.34	0.5%
	2028	369,074	250,289	91,502	21,858	157,514	38,194	559,357	8.30	0.5%
	2029	372,510	252,619	91,750	21,858	157,514	38,194	561,934	8.27	0.5%
	2030	375,945	254,948	91,998	21,858	157,514	38,194	564,512	8.23	0.5%
	2031	379,544	257,389	92,257	21,858	157,514	38,194	567,212	8.19	0.5%
	2032	383,144	259,830	92,517	21,858	157,514	38,194	569,913	8.15	0.5%
	2033	386,743	262,271	92,776	21,858	157,514	38,194	572,613	8.11	0.5%

Figure G-5 is a graphical representation of total generation shown in Table G-2. Tons generated are expected to increase initially until year 2023 and increase slowly over the rest of the planning period due to the projected industrial sector kept constant and the residential/commercial waste projected to increase with population. The generation rate follows a slow decline due to the continued increase projected for District population.²

² After these projections were developed, data for calendar year 2016 became available showing that the actual disposal and recycling tonnages were somewhat lower than the projections in Table G-2, with the exception of industrial disposal which increased. However, the District believes that the actual reported data for 2016 are not substantially different from the historical record of disposal and recycling, and therefore, revising the projections is not justified based upon this new information.

Figure G-5. District Total Generation Projections





APPENDIX H

STRATEGIC EVALUATION



APPENDIX H. Strategic Evaluation

This Appendix is divided into fourteen (14) separate analyses or sections to address the recommendations and suggestions in Format v4.0. Some of the more extensive sections are further subdivided, such as Section 1. In general, existing District programs (with Program ID) are discussed first within the appropriate section, followed by any additional analysis not necessarily related to an existing program. All existing programs have been evaluated qualitatively in terms of the suggestions included within Format v4.0 and the identified strengths and weaknesses which are summarized at the end of each existing program analysis. For programs which have data available, quantitative evaluations have been incorporated, also.

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

SECTION H-1 (page H-3)	•RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS
SECTION H-2 (page H-24)	•COMMERCIAL SECTOR ANALYSIS
SECTION H-3 (page H-28)	•INDUSTRIAL SECTOR ANALYSIS
SECTION H-4 (page H-30)	•RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS
SECTION H-5 (page H-37)	•ECONOMIC INCENTIVE ANALYSIS
SECTION H-6 (page H-39)	•RESTRICTED AND DIFFICULT TO MANAGE WASTE ANALYSIS
SECTION H-7 (page H-45)	•DIVERSION ANALYSIS
SECTION H-8 (page H-49)	•SPECIAL PROGRAM NEEDS ANALYSIS
SECTION H-9 (page H-51)	•FINANCIAL ANALYSIS
SECTION H-10 (page H-56)	•REGIONAL ANALYSIS
SECTION H-11 (page H-58)	•POPULATION ANALYSIS
SECTION H-12 (page H-59)	•DATA COLLECTION ANALYSIS
SECTION H-13 (page H-62)	•EDUCATION AND OUTREACH ANALYSIS
SECTION H-14 (page H-66)	•PROCESSING CAPACITY ANALYSIS

In accordance with the 2009 State Solid Waste Management Plan, a SWMD must prepare a solid waste management plan that ensures the SWMD makes progress toward achieving the following nine 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 1: RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS

A. Drop-off Recycling

The District has a variety of publicly-available drop-offs – sites at township halls, drop-offs at schools, and drop-offs at businesses and non-profits/organizations. The District only funds publicly-available sites. Each of these programs are discussed below.

1. Drop-off Recycling

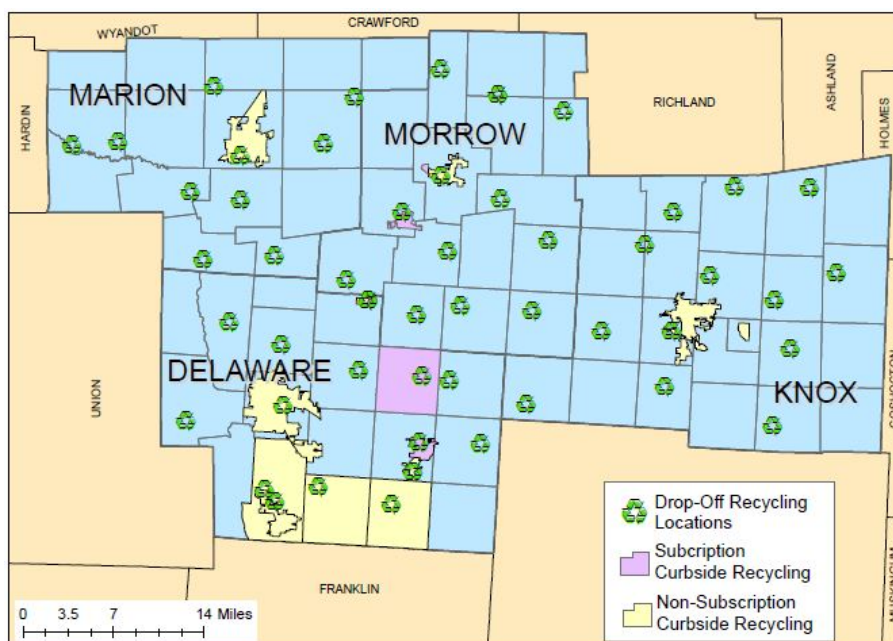
This section discusses the drop-off program, and program IDs for these sites are shown in the following table.

Existing Program Type	Existing Program IDs
Drop-off Recycling (DRP)	FTU1, FTU2, FTU3, FTU4, FTU5, FTU6, FTU7, FTU8, FTU9, FTU10, FTU11, FTU12, FTU13, FTR1, FTR2, FTR3, FTR4, FTR5, FTR6, FTR7, FTR8, FTR9, FTR10, FTR11, FTR12, FTR13, FTR14, FTR15, FTR16, FTR17, FTR18, FTR19, FTR20, FTR21, FTR22, FTR23, FTR24, FTR25, FTR26, FTR27, FTR28, FTR29, FTR30, FTR31, FTR32, FTR33, FTR34, FTR35, FTR36, FTR37, FTR38, FTR39

a. Locations of Drop-off Sites

Drop-off recycling sites are shown below in Figure H-1.

Figure H-1. Location of Recycling Drop-offs: 2015



The following four tables list each city, village, and township within each county in the District, and indicates those municipal jurisdictions which contain at least one drop-off site.¹ Each drop-off is identified as an urban drop-off or rural. In addition, each jurisdiction with some type of curbside recycling collection service is identified. (A detailed listing of each drop-off location with Program ID can be found in Appendix B.)

Table H-1 shows that during 2015 only three townships in Delaware County were without both a drop-off and curbside recycling. Only the residents of Berkshire, Concord, Marlboro, and Thompson (living outside of cities and villages) do not have access to recycling services within their township. (Since 2015, Berkshire, Concord, Delaware and Berlin Townships within Delaware County have begun non-subscription curbside recycling programs under contract with Republic Waste Services.)

Table H-1. List of Recycling Drop-offs by Municipal Jurisdiction: Delaware County

Municipal Jurisdictions	At least one Full-Time Drop-off in jurisdiction?	Urban or Rural Drop-off?	Curbside available?
Cities			
Delaware	yes	urban	yes; non-subscription
Powell			yes; non-subscription
Villages			
Ashley	yes	rural	yes; non-subscription
Galena			yes; non-subscription
Ostrander	yes	rural	
Shawnee Hills			Yes; non-subscription Added in 2017
Sunbury ¹	yes	urban	yes; subscription
Townships			
Berkshire ¹	yes	urban	yes; non-subscription added in 2016
Berlin	yes	urban	
Brown	yes	rural	

¹ This analysis has assumed that drop-offs sites in a township are available to residents in both villages and cities located within that township, and vice versa. Therefore, Tables H-1 through H-4 cannot be used to determine the total number of drop-offs since some sites are listed more than once in these tables.

Municipal Jurisdictions	At least one Full-Time Drop-off in jurisdiction?	Urban or Rural Drop-off?	Curbside available?
Concord			yes; non-subscription added in 2016
Delaware	yes	urban	yes; non-subscription
Genoa	yes	urban	yes; non-subscription
Harlem	yes	rural	
Kingston	yes	rural	yes; subscription
Liberty ²	yes	urban	yes; non-subscription
Marlboro			
Orange	yes	urban	yes; non-subscription
Oxford	yes	rural	
Porter	yes	rural	
Radnor	yes	rural	
Scioto	yes	rural	
Thompson			
Trenton	yes	rural	
Troy	yes	rural	

¹ This drop-off was removed during 2015.

² This township had two drop-offs at the beginning of 2015, however, one was subsequently removed during 2015.

Table H-2 shows that two villages and nine townships in Knox County are without a drop-off or curbside collection of recyclables. In 2017, the Mount Vernon drop-off ceased operation, the Village of Gambier (College Township) added a drop-off and Pleasant Township added a drop-off. These changes will be shown in Appendix I and Chapter 5.)

Table H-2. List of Recycling Drop-offs by Municipal Jurisdiction: Knox County

Municipal Jurisdiction	At least one Full-Time Drop-off in jurisdiction?	Urban or Rural Drop-off?	Curbside available?
Cities			
Mount Vernon	yes	urban	yes; non-subscription
Villages			
Centerburg	yes	rural	

Municipal Jurisdiction	At least one Full-Time Drop-off in jurisdiction?	Urban or Rural Drop-off?	Curbside available?
Danville	yes	rural	
Fredericktown	yes	urban	
Gambier ²	yes; added in 2017		yes; non-subscription
Gann			
Martinsburg	yes	rural	
Utica			
Townships			
Berlin	yes	rural	
Brown	yes	rural	
Butler			
Clay	yes	rural	
Clinton	yes	urban	yes; non-subscription
College ²			
Harrison	yes	rural	
Hilliar	yes	rural	
Howard ¹	yes	urban	
Jackson			
Jefferson			
Liberty	yes	rural	
Middlebury			
Milford			
Miller	yes	rural	
Monroe	yes	rural	
Morgan			
Morris	yes	urban	
Pike	yes	rural	
Pleasant ²			
Union	yes	rural	
Wayne			

¹ This township had two drop-offs.

² The District added a drop-off to this township in 2017.

Drop-off recycling in Marion County (see Table H-3) is provided in roughly one-half of the municipal jurisdictions. One village and seven townships are without at least one drop-off.

Table H-3. List of Recycling Drop-offs by Municipal Jurisdiction: Marion County

Municipal Jurisdiction	At least one Full-Time Drop-off in jurisdiction?	Urban or Rural Drop-off?	Curbside available?
Cities			
Marion	yes	urban	yes; non-subscription
Villages			
Caledonia	yes	rural	
Green Camp	yes	rural	
La Rue	yes	rural	
Morral			
New Bloomington	yes	rural	
Prospect	yes	rural	
Waldo	yes	rural	
Townships			
Big Island			
Bowling Green			
Claridon	yes	rural	
Grand			
Grand Prairie	yes	rural	
Green Camp	yes	rural	
Marion	yes	urban	yes; non-subscription
Montgomery ¹	yes	rural	
Pleasant	yes	rural	
Prospect	yes	rural	
Richland			
Salt Rock			
Scott			
Tully			
Waldo	yes	rural	
¹ This township has two drop-offs.			

In Morrow County, two villages and four townships (or approximately one-half of the townships) are without a drop-off or curbside recycling. However, one of these villages have subscription curbside

recycling, and two of the townships include villages which have drop-offs.

Table H-4. List of Recycling Drop-offs by Municipal Jurisdiction: Morrow County

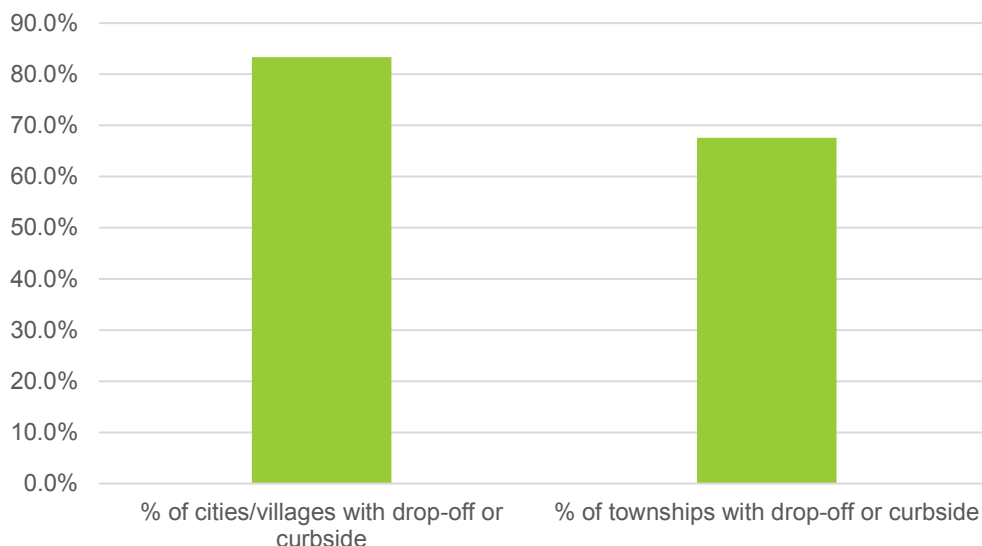
Municipal Jurisdiction	At least one Full-Time Drop-off in jurisdiction?	Urban or Rural Drop-off?	Curbside available?
Cities			
none			
Villages			
Cardington	yes	rural	yes; subscription
Chesterville	yes	rural	
Edison			yes; subscription
Fulton	yes	rural	
Marengo	yes	rural	
Mount Gilead	yes	urban	yes; non-subscription
Sparta			
Townships			
Bennington	yes	rural	
Canaan			
Cardington	yes	rural	
Chester	yes	rural	
Congress ¹			
Franklin	yes	rural	
Gilead	yes	rural	
Harmony			
Lincoln	yes	rural	
North Bloomfield	yes	rural	
Perry	yes	rural	
Peru	yes	rural	
South Bloomfield	yes	rural	
Troy			
Washington	yes	rural	
Westfield	yes	rural	

¹ The District added a drop-off to this township in early 2017.

The District includes a total of 30 cities and villages, and 71 townships. The figure below shows that more than 80 percent of the

cities and villages have a drop-off or some type of curbside recycling program. Likewise, nearly 68 percent of the townships have a drop-off or curbside recycling.

Figure H-2. Percent of Cities/Villages and Townships with a Drop-off or Curbside Recycling



The above figure does not represent the recycling access calculations which are included in Appendix J.

b. Materials Accepted, Minimum Standards, Size of Containers

The drop-off recycling program accepts a comprehensive mix of materials, which include:

Paper:

- Newspapers
- Office Paper
- Mixed paper
- Magazines
- Cardboard

Cans/Containers:

- Aluminum Beverage Cans
- Steel, Tin, Bimetal Food Cans
- Aseptic Containers (Milk, Juice, Broth, and Other Food/Beverage Containers), aseptic containers only accepted in Delaware County and Knox County
- #1 and #2 Plastic Bottles and Jugs
- Glass Bottles and Jars

All of the District's drop-offs meet the minimum standards to be classified as full-time, full-service drop-offs. With the exception of the Sims Brothers drop-offs in the cities of Marion and Delaware, each drop-off is open 24 hours a day, 7 days a week. The Marion and Delaware drop-offs are open 47 hours per week. As indicated above, the materials accepted at each drop-off exceeds the minimum four materials designated as highly amenable for the residential sector to recycle.

The drop-off containers in Delaware and Knox Counties have a capacity of 8 cubic yards and all of the containers, with the exception of those at one site, are owned by Rumpke Waste. Each site has multiple containers. The recyclables are collected single stream, and in general, the containers are emptied twice each week. However, some sites are serviced once a week or three times a week.

In Marion and Morrow Counties, the District owns the drop-off containers which consist of 40 cubic yard dumpsters. Recyclables in these counties are collected dual stream. These drop-off sites are serviced on a schedule that varies widely with some containers being emptied once a week to once every three weeks.

c. Operation of Drop-off Program

The District contracts with private haulers for the drop-off program. During the reference year, the Knox County drop-off program was bid separately from the other three counties.

While the District has site host agreements in place, these documents generally address only insurance liability issues which are provided by the District.² In instances where significant District investment for site improvement has been required, the District has attempted to include provisions in the host agreement with regard to the long-term availability of the site for use as a drop-off. However, property site owners have thus far been unwilling to accept such a provision, and the loss of an existing site has happened once. (This situation has been rectified.)

Maintenance of the drop-off sites is the responsibility of the District and many site hosts assist with the maintenance costs as well. Littering and open dumping can be a problem at some locations, and the District pays organizations such as 4-H groups to adopt drop-off sites and provide necessary cleanup. Inadequate service frequency

² Attachment A is an example of the District's host site agreement for drop-offs.

has led to overflowing containers at a couple of sites which has since been rectified.

d. Education and Awareness

The District provides information regarding the drop-offs on its website. The location of each drop-off is included as well as the types of materials accepted. See **Appendix L** for an in-depth discussion of the District's education and awareness programs.

e. Tons Recovered

The tons recovered at drop-off sites in the District is shown below in Table H-5.³ Tonnages have increased slightly in all counties, except for Delaware County. The decrease in Delaware County may be the result of the initiation of additional curbside collection programs.

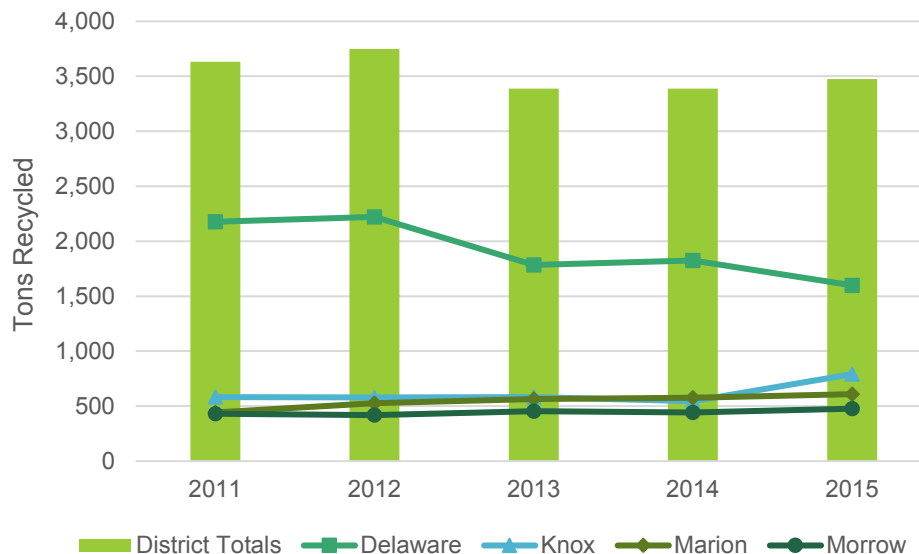
**Table H-5. DKMM SWMD Drop-off Recycling Program
Tonnage: 2011 – 2015**

Year	Tonnage				
	Delaware	Knox	Marion	Morrow	Totals
2011	2,176	582	443	429	3,631
2012	2,221	581	528	418	3,748
2013	1,784	582	565	455	3,386
2014	1,826	545	576	442	3,389
2015	1,599	791	609	477	3,483

Figure H-3 is a graphic representation of the data shown in Table H-5.

³ The tonnages for Delaware County in 2012 and 2013 were extrapolated from one or more samples conducted by the hauler at each drop-off.

**Figure H-3. DKMM SWMD Drop-off Recycling Program
Tonnage: 2011 – 2015**

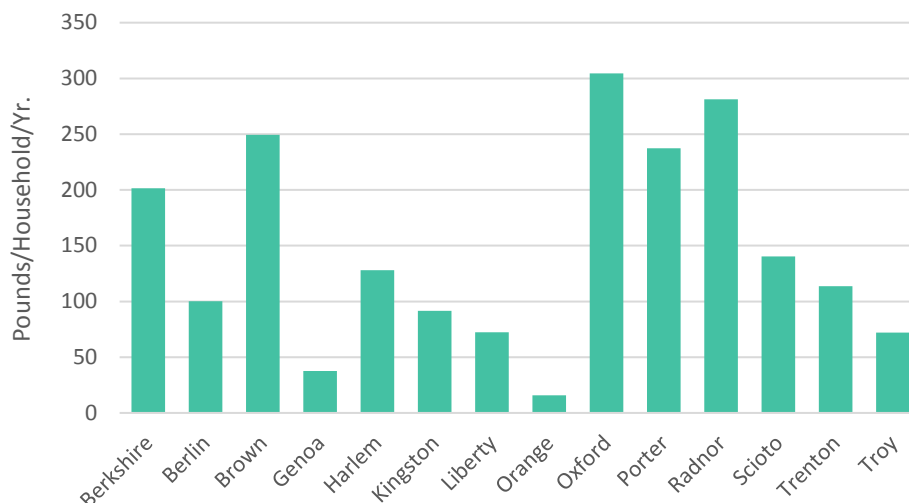


The District also attempted to analyze the performance of the drop-offs individually, based upon tonnage recovered during 2015.⁴ In order to develop this analysis, 2010 Census data was used to calculate the average number of persons per households in each county. These averages were then applied to 2015 population estimates for each township in each county with at least one drop-off to determine the pounds of recyclables recovered per household. A wide range of recovery rates resulted from this process for Delaware County. See Figure H-4.

With the exception of Troy Township, the lowest recovery rates can likely be explained due to the existence of curbside recycling programs. Genoa, Kingston, Liberty, and Orange Townships all have curbside recycling programs in place. The average recovery rate for all townships without curbside recycling program is 183 pounds per household per year.

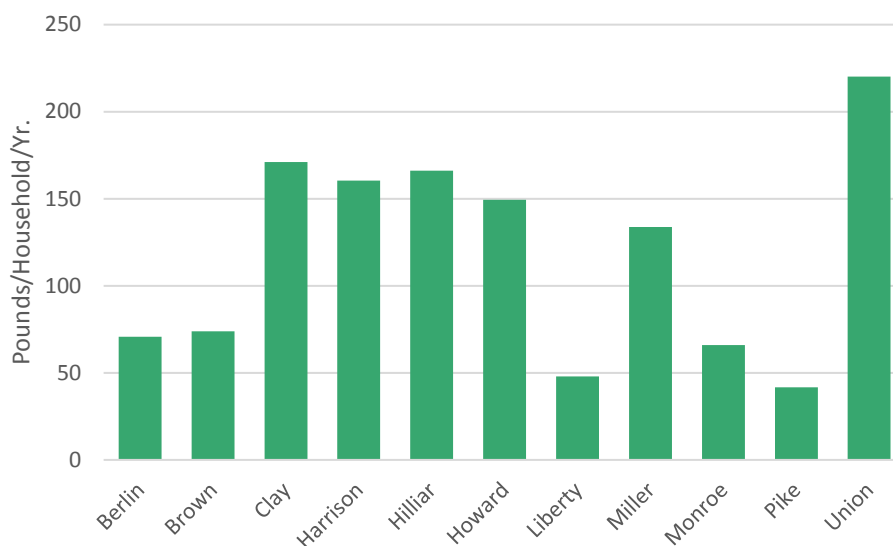
⁴ This analysis does not include drop-offs operated by Sims Brothers for which tonnage is not available.

**Figure H-4. Drop-off Recycling Recovery Rates for 2015:
Delaware County**



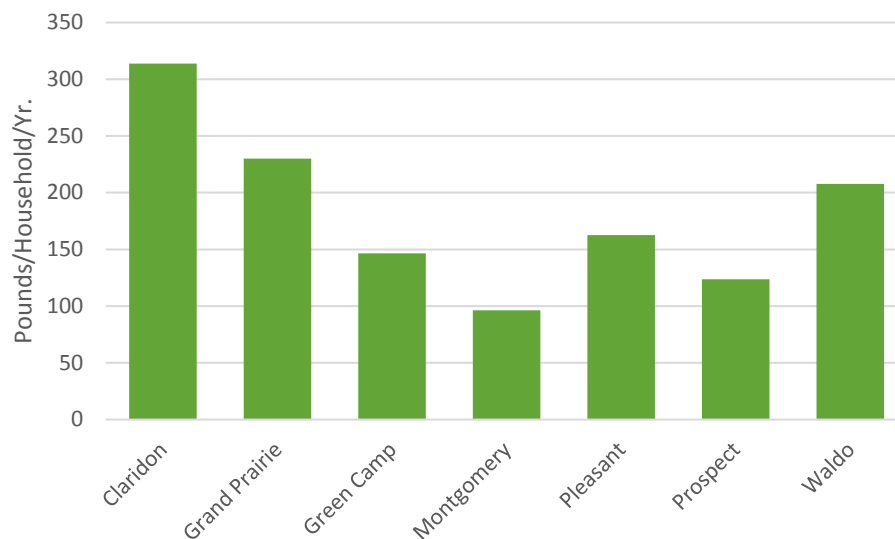
The variability in recovery rates for drop-offs in Knox County is less than observed for Delaware County. However, none of the townships depicted in Figure H-5 has a curbside recycling program. The average recovery rate for drop-offs in Knox is considerably less than Delaware County at 118 pounds per household per year.

**Figure H-5. Drop-off Recycling Recovery Rates for 2015:
Knox County**



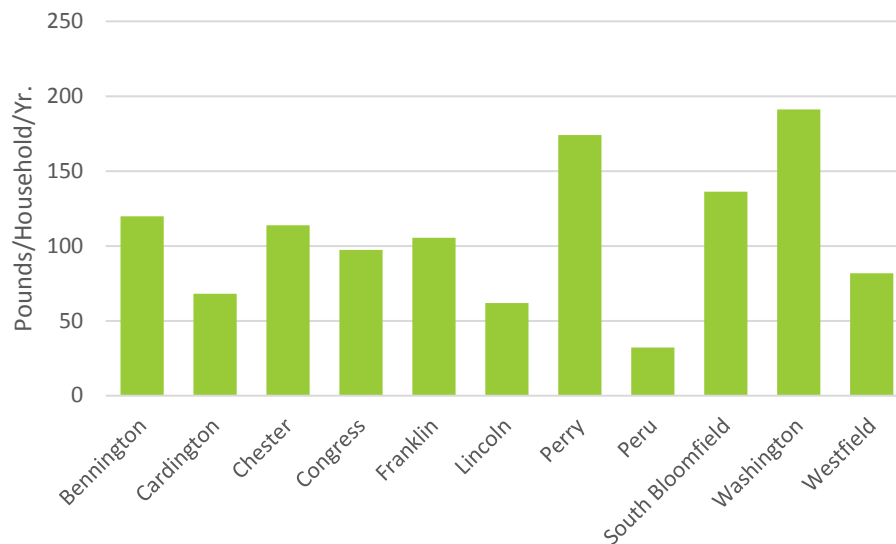
Marion County drop-offs experienced a wide range of recovery rates during 2015. Claridon Township recycled more than 300 pounds per household while Montgomery Township recycled less than 100 pounds per household. (See Figure H-6.) The average for all townships with drop-offs was 183 pounds per household.

**Figure H-6. Drop-off Recycling Recovery Rates for 2015:
Marion County**



Morrow County drop-off recovery rates are shown in Figure H-7, and also indicate a rather wide range. The average for all Morrow County drop-offs was 107 pounds per household per year, or the lowest for all four counties.

**Figure H-7. Drop-off Recycling Recovery Rates for 2015:
Morrow County**



f. Cost of Drop-off Recycling

The cost of the drop-off program is shown in Figure H-8. The total cost of the program has been reasonably consistent from 2011 through 2015, with somewhat higher costs in 2013. The closure of the Rumpke Waste MRF in Mount Vernon has substantially impacted the drop-off program in Knox County. The cost for the drop-off program in Knox County is expected to increase 63 percent in 2017 compared to the prior year due to the new Rumpke contract. (See Section 14 in this appendix for further discussion regarding District plans to address the loss of the Mount Vernon MRF.)

Figure H-8. Cost of the District's Drop-off Program: 2011 – 2015

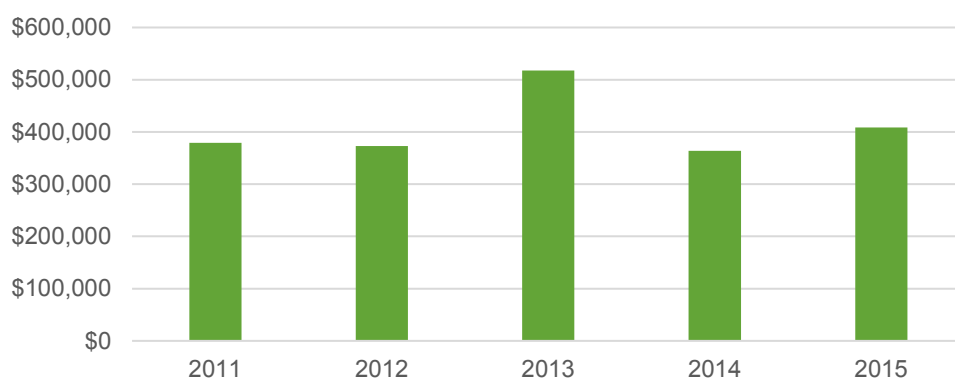
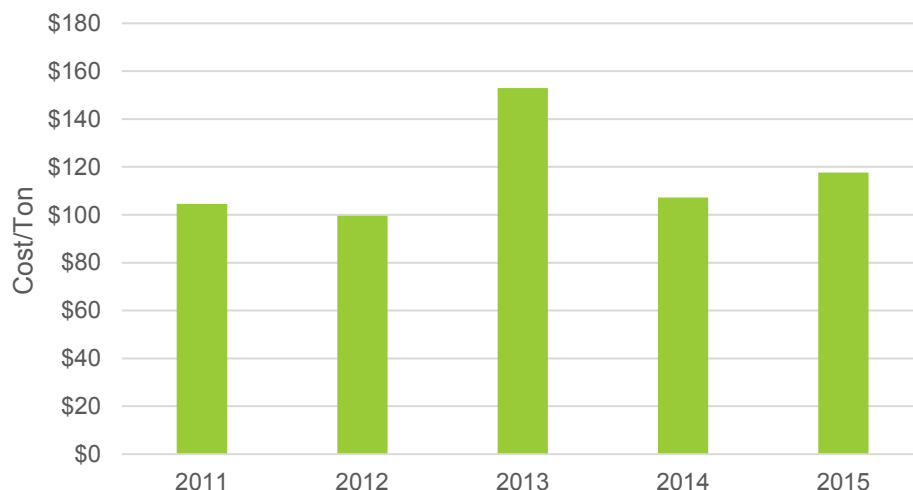


Figure H-9 depicts the cost per ton for the drop-off program.

Figure H-9. Cost/Ton for the District's Drop-off Program: 2011 – 2015



The District's drop-off program costs per ton are somewhat higher than those experienced in two other SWMDs. See the table below. However, it is possible that the costs reported by each SWMD are not necessarily consistent in terms of the types expenditures.

Table H-6. Drop-off Program Costs in Other SWMDs

Year	Cost/Ton	
	Carroll-Columbiana-Harrison	Ottawa-Sandusky-Seneca
2014	\$79.83	\$100.10
2015	\$78.12	\$65.41

g. Summary of Drop-Off Program Findings and Challenges

The drop-off program is important because it provides an opportunity for residents and possibly businesses to recycle. The use of drop-off locations (based upon tonnage) seems to be higher in more urbanized areas, suggesting that perhaps residents utilize the sites more often when frequenting grocery stores, community centers, churches, shopping centers, schools, parks, etc. The following challenges have been identified by the District during the analysis of this program:

- The cost of the program is slightly higher in 2015 compared to 2011. The drop-off program is one of the highest expenses for the District.
- The possible loss of sites is a concern, and could intensify with increased population and property owners desiring to use drop-off site space for other purposes.

- The closure of the MRF in Mount Vernon has led to rising costs for the drop-off program in Knox County.
- The District's analysis shows considerable variation in the recovery rates among drop-off sites.
- Contamination as well as illegal dumping continues to be a problem at drop-off sites.
- Residents often fail to flatten cardboard prior to placement in recycling containers, resulting in considerable wasted space in the container.

B. Curbside Recycling

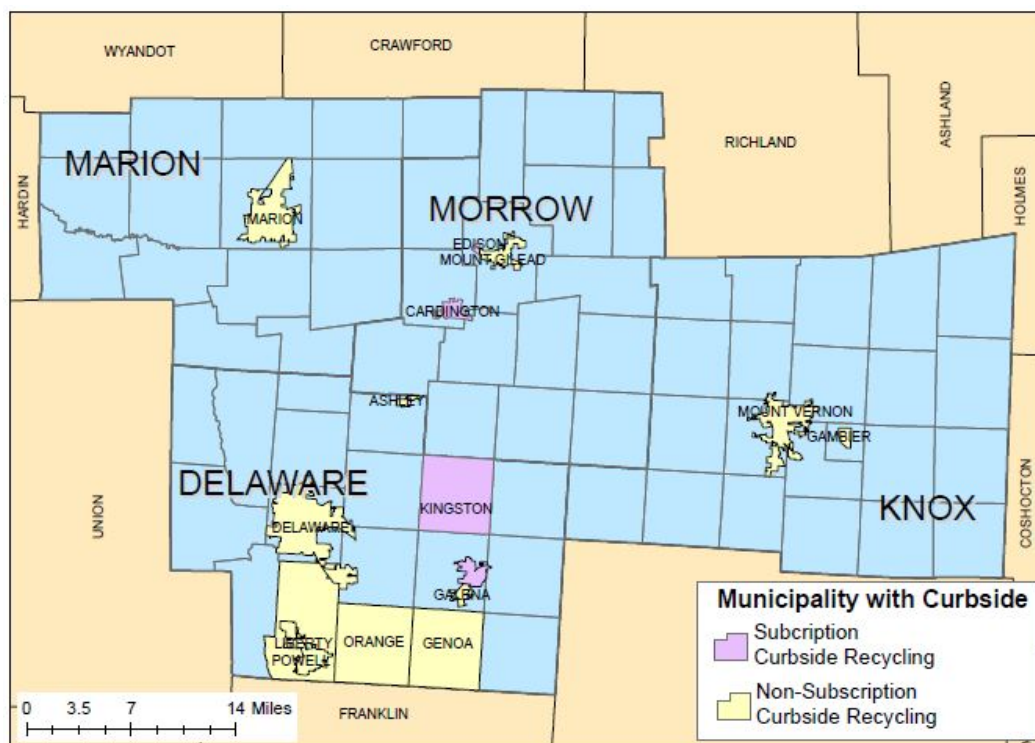
A number of existing curbside recycling programs operate within the District. These programs are discussed below.

Existing Program Type	Existing Program IDs
Curbside Recycling Programs (CRP)	NSC1, NSC2, NSC3, NSC4, NSC5, NSC6, NSC7, SC1, SC2, NSC8, NSC9, NSC10, NSC11, SC3, SC4

1. Locations of Curbside Recycling Programs

The locations of the communities which offer curbside recycling to their residents is shown in Figure H-10.

Figure H-10. Locations of Curbside Recycling Programs in the District



In the reference year, ten communities in the District provided non-subscription curbside recycling to residents. Four additional municipal jurisdictions offered subscription curbside recycling. Most of these programs have been in existence for more than ten years, and nine programs have existed since at least 1997. See Appendix B for a detailed listing of each curbside program.

2. *Materials Accepted*

The curbside recycling programs all accept a comprehensive mix of materials, which include:

Paper/Fiber Stream:

- Newspapers
- Mixed Paper
- Office Paper
- Magazines
- Corrugated

Commingled Cans/Containers:

- Aluminum Beverage Cans
- Steel, Tin, Bimetal Food Cans
- Paper board
- Clear, Green, and Brown Glass Bottles and Jars
- Aseptic Containers (Milk, Juice, Broth, and Other Food/Beverage Containers)
- #1 and #2 Plastic Bottles and Jugs

3. *Contracting, Contract Management, Operation of Programs*

All of the curbside recycling programs are managed through the individual municipal jurisdiction in which the service is provided. The service for most of the programs is provided through a contract between the city, village or township and a private hauler. For communities with non-subscription curbside, the individual household pays the private hauler for the service contracted by the municipal jurisdiction. For subscription curbside, the individual households also pay the private hauler directly.

In recent years, some communities have entered into joint contracts in order to obtain more favorable pricing. In Delaware County, curbside collection in Genoa, Liberty, and Orange Townships continued in 2015 under a joint contract with Rumpke Waste.

For the City of Mount Vernon, City Council adopted an ordinance which requires all private haulers operating within the City to be certified. As part of the certification, haulers must agree to provide non-subscription collection for recyclables if trash collection is provided. Each household pays for the service directly to the hauler. With the closure of the material recovery facility (MRF) and drop-off in Mount Vernon, the City's police department has stepped up enforcement of the collection ordinance to ensure that residents have a viable option for recycling. Improved education by the haulers is also being emphasized by the City.

The cities of Delaware and Marion as well as the Village of Gambier provide collection of recyclables through city/village departments. These programs have been operating more than 25 years.

All of the curbside programs have a weekly pickup frequency for recyclables, and each program, with the exception of the City of Delaware, utilizes single-stream collection.

4. District Assistance for Curbside Recycling

The District provides assistance to communities with regard to curbside recycling through existing programs. Guidance is offered to communities to ensure that necessary elements are included in all contracts such as mandatory reporting of recycling tonnage (designated as “Contract Assistance” in Appendix I⁵). Communities without non-subscription curbside are contacted and encouraged to consider this program option which is designated as “CS Tech Assist” in Appendix I.⁶

The District attended meetings in Delaware County during 2015 for Berkshire and Concord Townships and the Village Sunbury, and contracts were awarded in 2016, with all communities except Sunbury who chose subscription, to provide franchised non-subscription curbside collection. Curbside collection was also initiated in Berlin and Delaware Townships in Delaware County during 2016. The District also encourages municipal jurisdictions to include other helpful elements in contracts for collection such as separate yard trimmings collection and options for senior citizens including backdoor service, but the District does not get involved in actual contract negotiation.

The District also offers financial assistance to communities through a recycling grant program (“Grants Recycling”⁷) and technical assistance for implementation of volume-based rates (“Incentives PAYT”⁸). These programs are discussed in Section 5, Economic Incentives Analysis, in this appendix.

⁵ The District’s implementation schedule for the Annual District Report identifies this effort as program ID 8691.

⁶ The District’s implementation schedule for the Annual District Report identifies this effort as program ID 8685.

⁷ The District’s implementation schedule for the Annual District Report identifies this effort as program ID 8690.

⁸ The District’s implementation schedule for the Annual District Report identifies this effort as program ID 8698.

5. **Participation in Curbside Programs, Problems**

The District is not aware of any studies which have estimated the participation rates for community curbside programs in any of the four counties. No problems have been identified.

According to Mt. Vernon local law enforcement, all haulers are to educate their customers on the recycling program they offer.

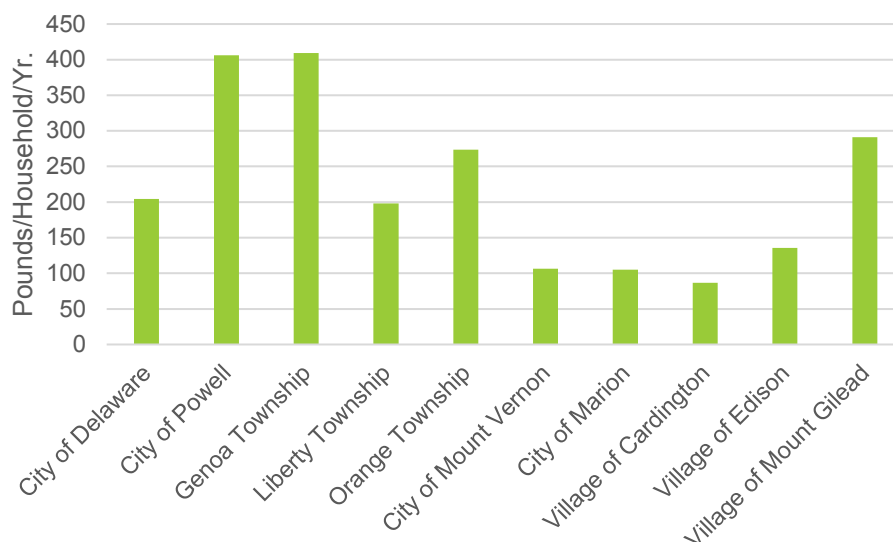
6. **Education and Awareness**

The District provides information regarding curbside recycling on their website. See **Appendix L** for a discussion of Education and Awareness programs within the District.

7. **Tons Recovered and Performance**

The District evaluated the existing curbside programs using the tonnage reported for 2015 and estimated the number of households served based upon the persons per household from the 2010 Census data. Tonnage was not available for some programs, and therefore, these programs could not be included. Figure H-11 shows the results of the analysis.

Figure H-11. Recovery Rates Per Household for Individual Curbside Programs: 2015



Programs in Delaware County reported the highest recovery rates per household, while those with subscription service had some of the lowest rates. The recovery rate for the City of Mount Vernon in 2015 could be related to inadequate education and/or enforcement, and the presence of a drop-off (which is no longer available).

8. Summary of Curbside Recycling Program Findings and Challenges

As shown in the map for this section, curbside collection programs are offered throughout much of Delaware County, and the major cities and villages in the other three counties. Ten communities provided non-subscription recycling in 2015. The following challenges have been identified by the District during the analysis of this program:

Curbside Recycling Program

- Some of the townships currently with drop-off recycling only, may be better served with a non-subscription curbside program based upon the number of households in their jurisdictions.
- Joint contracting through the formation of consortiums to obtain better pricing and contract terms may be helpful in some areas of the District.
- Recycling data is not available for all of the curbside programs.
- In general, economic incentives (such as volume-based rates structures) are not included as part of the Districts curbside programs.
- The District or local organizations/municipal jurisdictions within a county have conducted surveys to obtain current information regarding curbside programs. Participation and performance data was not obtained in the surveying effort.
- Some residents object to franchise agreements because they want to retain the ability to obtain services from any hauler.
- Municipalities are hesitant to move forward with franchise agreements for fear of putting small haulers out of business.

C. Special Events

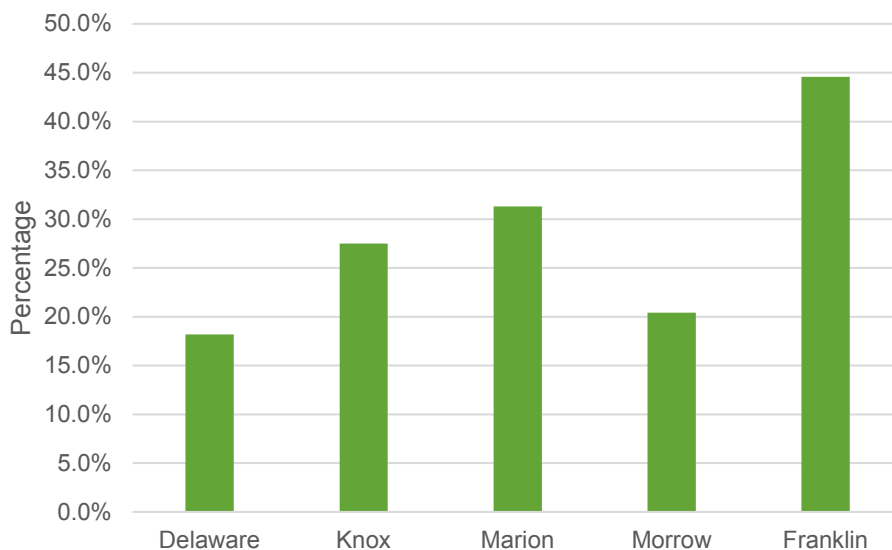
The District participates in a number of special events each year for collecting household hazardous wastes, scrap tires, and electronics. More information regarding these events are provided in Section 6 in this appendix. In addition, DKMM-contracted staff participated in a total of 36 fairs, festivals, etc. during 2015 with displays and/or recycling assistance.

D. Multi-Family Housing

In many areas of the District, residents in multi-family housing units that typically do not have access to curbside recycling have access to a drop-off recycling site. As discussed above, drop-offs are located in cities, villages, and townships throughout the District.

To some extent, it appears that the provision of recycling services for multi-family housing may not be as important for the District compared more urbanized regions of Ohio. For example, data from the 2010 Census provides the number of housing units categorized by owner-occupied, rented, and vacant. Using the data for owner-occupied and rented housing units, the percent of housing units rented is depicted for each county in the District, and Franklin County, Ohio in the following figure.

Figure H-12. Percent of Rented Housing Units in the District vs. Franklin County: 2010 Census Data



The percent of rental housing units in each county within the District is substantially lower than Franklin County's percentage. Although this metric is admittedly not precise, the District believes that it does provide an indication of the magnitude of the multi-family recycling importance within the District.

The District promotes its drop-off recycling opportunities to residents but does not specifically target residents in multi-family housing units, unless a MFH unit residents calls the District and requests assistance towards increasing recycling. The District could work more closely with property managers of multi-family housing units by compiling a list of apartment complexes and developing printed materials identifying drop-off site locations nearby to each apartment building. This information could be distributed to new residents upon moving-in.

SECTION 2: COMMERCIAL/INSTITUTIONAL SECTOR ANALYSIS

The District does not have data to determine the amount of commercial waste which is disposed since landfills only characterize waste disposed in terms of residential plus commercial waste. However, the District estimated commercial disposal using two separate sources of information. The Solid Waste Authority of Central Ohio (SWACO) included estimates of their district's commercial generation, disposal, and recycling in the current plan update. Percentages from the SWACO plan update are included in Table H-7 below. For example, SWACO estimated that 59.3 percent of total residential/commercial generation was comprised of waste from commercial sources. Likewise, SWACO estimated that 59 percent of the residential/commercial waste disposed consisted of commercial waste.

Table H-7. Estimates of District Commercial Waste using percentages from SWACO and U.S. EPA Estimates

Category	Percent Estimates		District Tonnage Estimates	
	SWACO	U.S. EPA	SWACO	U.S. EPA
Generation	59.3%	54.0%	191,549	174,540
Disposal	59.0%	49.0%	140,506	116,691
Recycling	60.3%	--	51,344	--

Table H-7 also includes commercial percentages for generation and disposal based upon a study published by U.S. EPA.⁹ This study estimated slightly lower contributions from the commercial sector for both generation and disposal. (The study did not estimate recycling percentages.) Applying the SWACO and U.S. EPA percentages results in commercial generation ranging from 175,000 to 192,000 tons for the District. Disposal ranges from 117,000 tons to 141,000 tons.

Although the estimates for commercial sector provided above are admittedly very rough estimates, the District believes that this analysis shows the magnitude of the materials continuing to be disposed. The tons recycled in the commercial sector were determined by first summing the recycling amounts which were clearly (or thought to be primarily) generated in the residential sector, such as yard trimmings, curbside recyclables, scrap tires, and drop-off recyclables. This sum (approximately 33,000 tons) was then subtracted from the total residential/commercial recycling to obtain an estimate of approximately 52,000 tons for commercial sector recycling, or 61 percent of total R/C recycling. (This percent estimate is very similar to the percentage of commercial recycling from the SWACO Plan Update.)

⁹ "MSW Residential/Commercial Percentage Allocation – Data Availability", U.S. Environmental Protection Agency, Office of Resource Conservation and Recovery, July 2013.

One of the conclusions of this analysis shows that substantial amounts of materials from the commercial sector continue to be sent for disposal. At least some of these materials could potentially be recovered for recycling.

The District includes a number of large commercial businesses and institutions which could potentially be the focus of greater recycling within the District. Table H-8 lists the larger companies and institutions, with the number of employees.¹⁰

Table H-8. Largest Commercial and Institutional Employers

County	Company/Institution	Number of Employees	Type of Business/Organization
Delaware	Ohio Health (Grady Memorial Hospital)	1,500	Healthcare
Delaware	Delaware County	1,091	Government
Delaware	Kroger	1,086	Logistics
Delaware	Pcm/Sarcom Inc	1,001	Information Technology Services
Marion	OhioHealth Marion General Hospital	989	Healthcare
Knox	Knox Community Hospital	900	Hospitals
Marion	Marion City Schools	769	Education
Delaware	Delaware City Schools	646	Education
Marion	Frontier Communications	597	Communication Services
Marion	Ohio Heartland Community Action Commission	596	Governmental Services
Delaware	Ohio Wesleyan University	576	Education
Knox	Kenyon College	575	Schools-Universities & Colleges
Delaware	Cigna	550	Insurance
Delaware	Veeam Software	501	Information & Referral Svcs
Delaware	Exel Inc	500	Freight-Forwarding
Delaware	Meijer	500	Grocers-Retail
Knox	Kokosing Construction Company	450	Construction
Delaware	Kroger Great Lakes Distribution Center	446	Distribution Centers (Whls)
Delaware	Advance Auto Parts Distr Ctr	446	Distribution Centers (Whls)
Knox	Knox County	425	Government
Delaware	Advance Auto Parts Distribution	406	Logistics

¹⁰ The sources of this information include the ReferenceUSA online database, the City of Delaware's Economic Development and Entrepreneur Center, and the Knox County-Area Development Foundation, and the Marion Area Chamber of Commerce.

County	Company/Institution	Number of Employees	Type of Business/Organization
Marion	OhioHealth Marion Area Physicians	405	Healthcare
Delaware	Cheesecake Factory	400	Restaurants
Delaware	GSW Worldwide	400	Advertising-Agencies & Counselors
Delaware	In Ventiv Health Inc	400	Business Management Consultants
Knox	Mount Vernon City Schools	400	Education
Knox	Mount Vernon Nazarene University	370	Schools-Universities & Colleges
Marion	MTC/North Central Correctional Complex	350	Government - Prison
Knox	Walmart	325	Department Stores
Marion	WalMart	318	Department Stores
Marion	The Kroger Co.	314	Grocery/Food Distribution
Knox	Mount Vernon Developmental Center	300	Rehabilitation Services
Knox	Sanoh America	300	Automotive repairs
Marion	OhioHealth Marion Medical Campus	260	Healthcare
Marion	Ohio State University at Marion	205	Schools-Universities & Colleges
Marion	River Valley Local Schools	201	Education
Knox	First Knox National Bank	200	Financial Services
Marion	Meijer	200	Grocery/Food Distribution
Morrow	Mt Gilead Exempted Village School	200	Schools
Marion	Heartland of Marion	170	Nursing Care & Rehabilitation
Morrow	Morrow County Hospital	170	Hospitals
Knox	City of Mount Vernon	165	Government
Marion	Tri-Rivers Career Center	147	Schools-Universities & Colleges
Marion	Marion Technical College	147	Schools-Universities & Colleges
Marion	Lowe's	141	Lumber and Building Materials Dealers
Marion	Cummins Facility Services	130	Cleaning Services
Marion	Kindred Nursing and Rehabilitation Community	122	Nursing Care & Rehabilitation
Marion	Marion Family YMCA	110	Civic Association

Existing Programs

The District maintains several existing programs designed to benefit both the commercial and industrial sectors. The table below lists those programs.

Existing Program Type	Existing Program IDs
Business Recycling, Waste and Disposal Service Guide Waste Audits – technical assistance Resources for businesses on District website	Business Waste Guide ¹¹ Tech Assist Waste Audits ¹² Website Resources Business ¹³

The waste audit program provides technical assistance to industries by conducting waste assessments and distributing guidance for performing waste assessments. In 2016, the District hired a consultant to train program managers from each of the four counties with regard to conducting waste audits or waste assessments. The training included conducting an actual waste audit at a business. In an effort to promote this program, the District has begun working more actively with local chambers of commerce to encourage more businesses to take advantage of the District's service.

The District maintains a "Business Recycling, Waste and Disposal Service Guide" which lists local options for dropping off materials and haulers providing collection services. The guide is updated annually.

Summary of Findings and Challenges for the Commercial Sector

The following challenges have been identified by the District during the analysis of this program:

- The District does not have actual disposal data for the commercial sector, and it is likely that the annual surveys capture only a portion of the total recycling occurring.
- The waste audit program needs to expand in participation. The program does not promote financial incentives or District acknowledgement and does not use students from one or more of the colleges and universities which reside within the District to assist with the program.¹⁴
- Businesses are resistant to implement the findings of waste audits.
- Relationships with large retailers also needs improvement.
- In general, businesses are reluctant to pay for recycling.

¹¹ The District's implementation schedule for the Annual District Report identifies this effort as program ID 8687.

¹² The District's implementation schedule for the Annual District Report identifies this effort as program ID 8688.

¹³ The District's implementation schedule for the Annual District Report identifies this effort as program ID 3747.

¹⁴ Students in certain academic programs may be learning skills and knowledge which would be helpful in assessing the operations of a business or industry with respect to waste management, waste reduction, and recycling.

SECTION 3: INDUSTRIAL SECTOR ANALYSIS

In 2015, District industries recycled approximately 161,000 tons of waste, while disposing only 21,400 tons. Although the District's tons of disposal and recycling have fluctuated during the last five years, the percent industrial recycling has remained above 78 percent, and in 2013, increased to more than 95 percent. The tons of industrial waste disposed and recycled, including the types of materials recycling, are discussed in some detail in Section 7, Diversion Analysis.

The District is home to a number of large manufacturers which are listed in Table H-9. Automotive-related manufacturing and appliance manufacturing represent the largest industrial employers in terms of numbers of employees.

Table H-9. Largest Industrial Employers in the District

County	Company	Number of Employees	Type of Industry
Marion	Whirlpool Corp.	2,350	Appliances-Household-Manufacturers
Knox	Ariel Corporation	1,200	Air & Gas Compressors (Mfrs)
Knox	Siemens	750	Gas turbine and compressor manufacturer
Morrow	Cardington Yutaka Technologies	700	Automobile Parts & Supplies-Mfrs
Marion	Andersen Windows (Silver Line Windows & Doors)	600	Manufacturing-Processing, Windows-Repair & Replacement
Knox	Jeld-Wen 500 Mount Vernon	500	Windows
Marion	Sypris Technologies LLC	430	Automobile Parts & Supplies-Mfrs
Marion	Nucor Steel Marion, Inc.	405	Steel Mills (Mfrs)
Delaware	PPG Industries, Inc.	330	Manufacturing - Automotive Aftermarket Paints
Marion	Marion Industries, Inc.	330	Automobile Parts & Supplies-Mfrs
Marion	Wyandot, Inc	325	Potato Chips Corn Chips/Snacks (Mfrs)
Delaware	City of Delaware	301	Government
Knox	F.T. Precision, Inc	300	Automobile Parts & Supplies-Mfrs
Delaware	Domtar/AHP	290	Manufacturing - Diaper and Hygienic Products
Marion	Graphic Packaging International, Inc.	250	Folding box manufacturer
Marion	Swan Products LLC	250	Hose & Tubing-Rubber & Plastic-Mfrs
Marion	General Mills	250	Bread/Other Bakery Prod-Ex Cookies

County	Company	Number of Employees	Type of Industry
Delaware	Liberty Castings	234	Foundry
Delaware	International Paper	175	Manufacturing - Cardboard Containers
Delaware	Midwest Acoust-A-Fiber	150	Manufacturing - Thermal & Acoustical Products
Marion	U.S. Yachiyo	141	Tank Manufacturers
Marion	TODCO Div. of Overhead Door Corp.	140	Metal Door Manufacturers
Knox	Schafer Driveline	125	Motor Vehicle Parts and Accessories
Knox	AMG Industries	125	Motor Vehicle Metal Stamping
Knox	United Precast/Prestress	115	Mfg Precast Concrete Products;
Marion	Union Tank Car Co.	110	Manufacturing - Machining
Marion	International Paper	101	Paper-Manufacturers
Knox	International Paper	100	Paper-Manufacturers

District programs applicable to the industrial sector are described in Section 2, Commercial Sector.

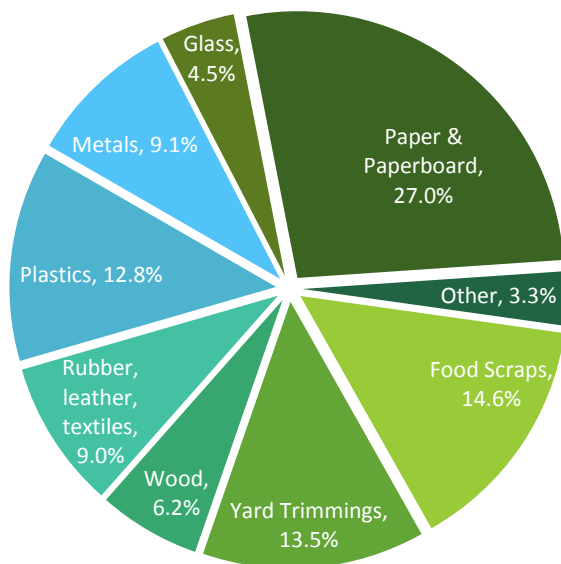
Summary of Findings and Challenges for the Industrial Sector

The District's industrial sector performs at a high level regarding solid waste management and recycling with little involvement from the District. The District has assisted targeted industrial businesses with technical assistance and grant opportunities along with providing the business waste guide as needed. The District does not feel there are any meaningful challenges requiring District initiatives for improvement at this time.

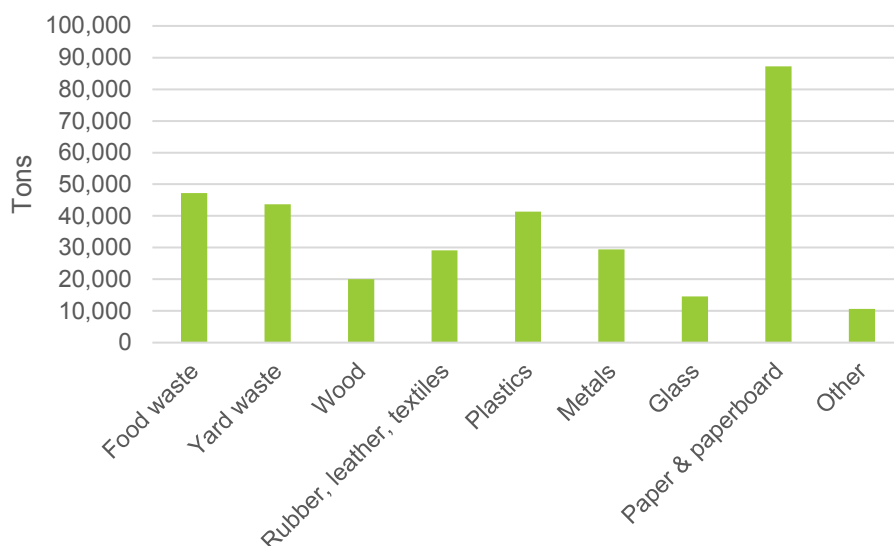
SECTION 4: RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS

According to U.S. EPA, paper (which includes cardboard), food scraps, yard trimmings, and plastics are the categories comprising the highest percentage of the residential/commercial (R/C) waste stream before any recycling takes place (see Figure H-13).

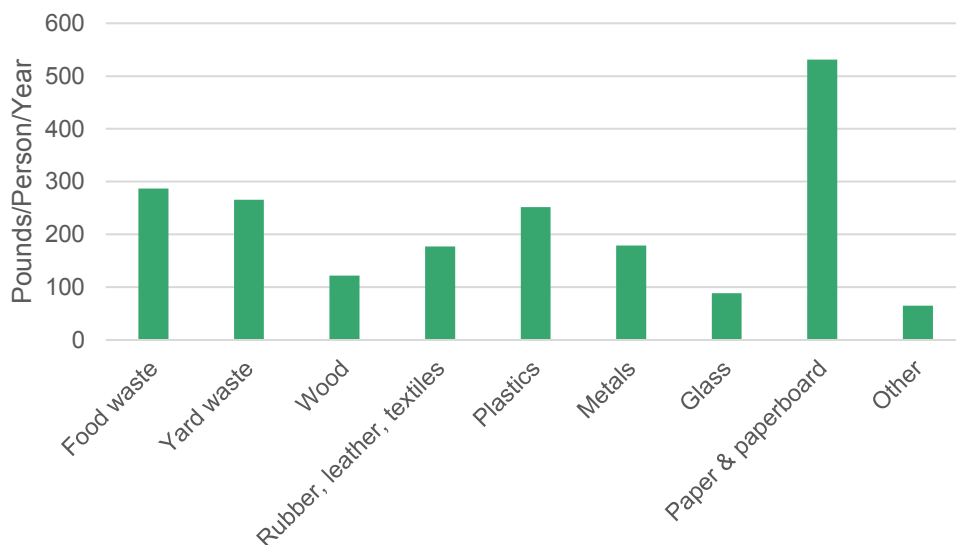
Figure H-13. U.S. Residential/Commercial Waste Composition: 2014



Applying the percentages in Figure H-13 to the total R/C generation for the District results in the tonnages by material type shown in Figure H-14.

Figure H-14. Estimated R/C District Generation by Material Type: 2015

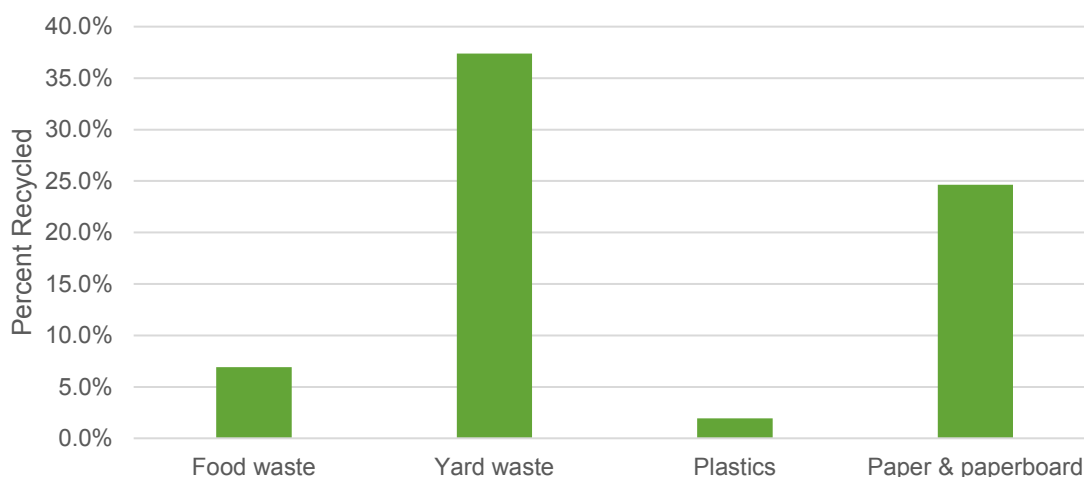
According to this analysis, the District generates nearly twice as much paper and paperboard as the next highest category of material (food scraps). On a per capita basis, generation ranges from 61 pounds per year for “Other” to more than 500 pounds per person for paper and paperboard.

Figure H-15. Per Capita R/C District Generation by Material Type: 2015

The District has the highest recovery rate (or recycling rate) for metals, which is calculated to be 110 percent, suggesting that the relative generation of metals within the four-county

area is higher than the national averages. Yard trimmings and paper & paperboard¹⁵ have the next highest recycling rates at 37 percent and 27 percent, respectively. See Figure H-16 below.

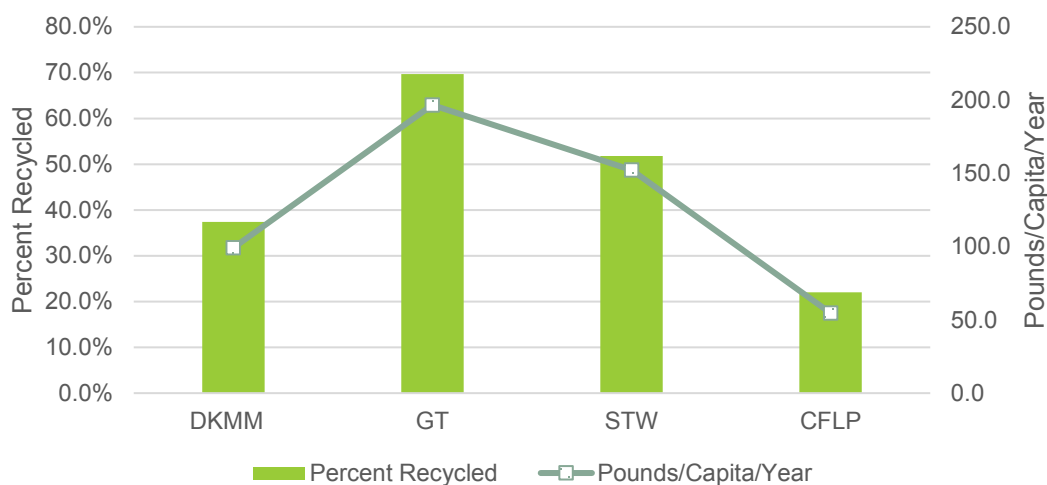
Figure H-16. District Recycling Rates for Food Scraps, Yard Trimmings, Plastics and Paper & Paperboard: 2015



A. Yard Trimmings

The recovery rate for yard trimmings in the District was in the mid-range of the recovery rates for the SWMDs included in this analysis. (See Figure H-17.)

Figure H-17. Recovery Rates of Yard Trimmings for Selected Ohio SWMDs: 2015



¹⁵ This category includes cardboard.

The District supports yard trimmings recovery by providing funding to Price Farm Organics in Delaware County and Park Enterprise in Marion County (“YWFunding”¹⁶). The funding allocated for these composting operations (approximately \$77,000 in 2015) allows residents in these counties to drop-off yard trimmings at no charge. The District also pays for the cost of grinding yard trimmings at sites in Knox and Morrow Counties.

Several communities in the District have yard trimmings collection for residents. (See Table H-10.) In some cases, yard trimmings collection has been included in service contract trash and recyclables collection.

Table H-10. Yard Trimmings Collection in the District

County	Communities	Service Provider	Composting or Land Application
Delaware	Village of Ashley	Ohio Mulch	composting
Delaware	City of Powell	Rumpke	composting
Knox	Village of Danville		land application
Knox	Village of Centerburg		composting
Knox	Village of Martinsburg		land application
Knox	Mount Vernon		land application
Knox	Village of Gambier		land application
Marion	Village of Green Camp	Park Enterprise	
Marion	Village of LaRue		land application
Morrow	Village of Cardington		land application

Source: 2015 Annual District Report for the District

The District’s recovery rate for yard trimmings in 2015 was approximately 99 pounds per person per year, which is much lower than some urban SWMDs such as SWACO which has more widespread collection of yard trimmings.

1. Summary of Yard Trimmings Program Findings and Challenges

Using national composition percentages, it appears that roughly one-third of the yard trimmings generated in the District is currently being recovered. Several communities have existing collection programs and a number composting facilities report to Ohio EPA each year, providing the tons of yard trimmings processed. The following challenges have been identified by the District during the analysis of this program:

- Many communities do not offer yard trimmings collection, and recovery rates could be increased by greater collection.

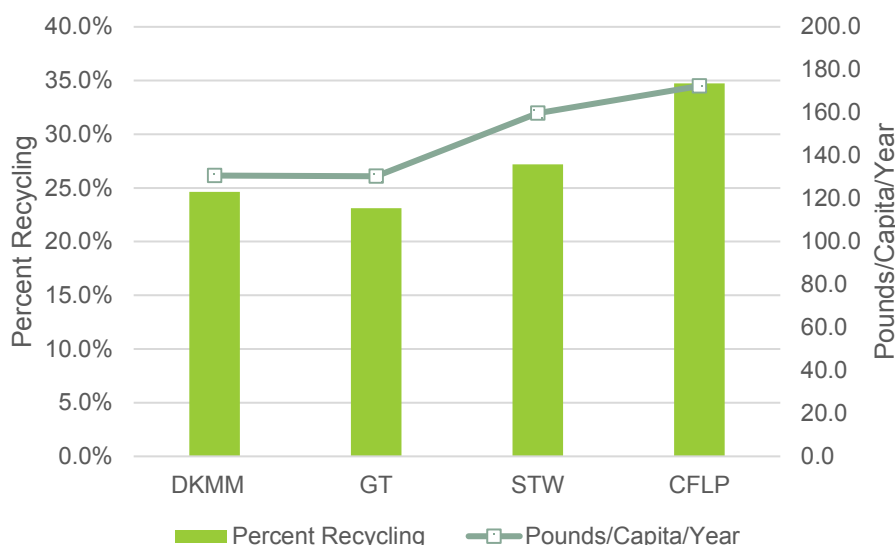
¹⁶ The District’s implementation schedule for the Annual District Report identifies this effort as program ID 3749.

- Illegal dumping of trash at the yard trimmings facility in Knox County is a problem.

B. Cardboard and Paper

In terms of the recovery rate for paper & paperboard (including cardboard), DKMM experienced a recovery rate in 2015 similar to the other SWMDs in Ohio being used for comparison. (See Figure H-18 below.) As stated above, only metals and yard trimmings have higher recycling rates than paper & paperboard in DKMM.

Figure H-18. Recovery Rates of Paper & Paperboard for selected Ohio SWMDs: 2015



The following challenges have been identified by the District during the analysis of this program:

- The District does not have any programs which specifically target this waste stream for commercial and institutional entities.

C. Food Scraps

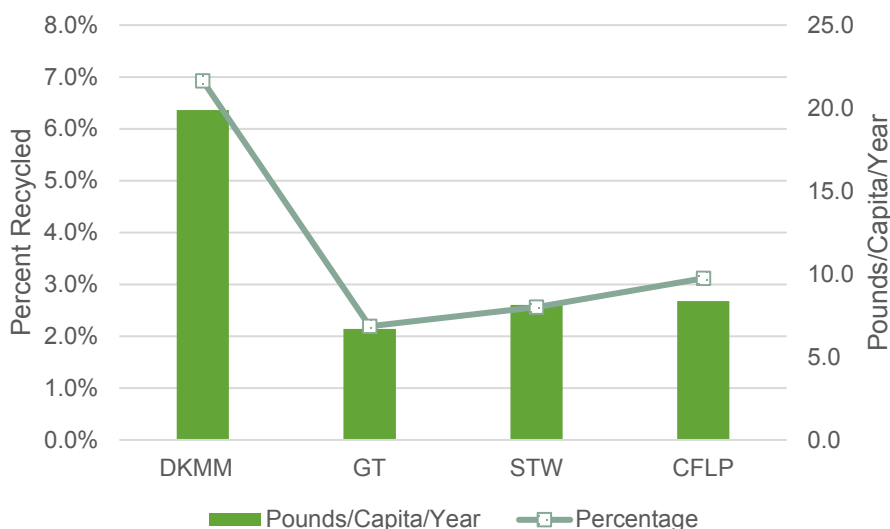
DKMM generators from the residential/commercial sector reported recycling approximately 3,300 tons of food scraps in 2015, which is estimated to be 6.9 percent of the total amount of food scraps available for recovery in the waste stream. Obviously, food scraps represent a large potential for additional recycling or waste recovery.

The District does not currently have any programs which target food scraps. However, the Price Farms Organics compost facility in Delaware County receives food scraps for composting, and Kenyon College in Knox County also operates a

compost facility which processes food scraps from their institution. The Marion Correctional Institution in Marion County is currently developing a pilot project to compost food scraps generated from their operations, and the District purchased a food pulper to support this effort. (Park Enterprises operated a Class II compost facility which received food scraps from the Marion Correctional Institution prior to its closing in 2016 due to permit issues with Ohio EPA.)

Although the District's food scrap recycling percentage is low compared to the potential for recovery, it is higher than other solid waste districts in Ohio. (See Figure H-19 below.) Several companies and institutions within the District may be good candidates for sources of food scraps if greater food scrap recovery is pursued in DKMM. (See Tables H-8 and H-9 in sections 2 and 3 of this appendix.)

Figure H-19. Recovery Rates of Food Scraps for Selected Ohio SWMDs: 2015

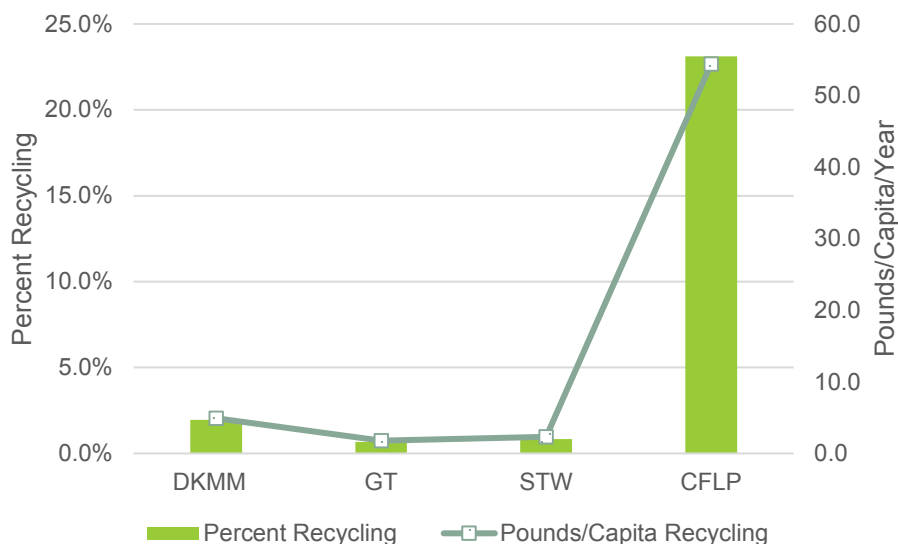


The following challenges have been identified by the District during the analysis of this program:

- The District does not have any programs targeted for food scraps collection and processing.

D. Plastics

The District currently recycles a small amount of plastics from the residential/commercial sector. In 2015, 1,098 tons were recovered while the estimated tons available for recycling is more than 41,000 tons. Figure H-20 shows that DKMM's recovery rate for plastics is higher than Geauga-Trumbull's and Stark-Tuscarawas-Wayne's, but is much lower than the recycling rate for Coshocton-Fairfield-Licking-Perry.

Figure H-20. Recovery Rates of Plastics for Selected Ohio SWMDs: 2015

The following challenges have been identified by the District during the analysis of this program:

- The District does not have any programs targeted for plastic recycling other than the drop-off program. Since the District's policy is to not compete with the private sector on recycling, the District produces a recyclers list on the District's web site that includes many locations that accept plastics as well as other materials.

SECTION 5: ECONOMIC INCENTIVES ANALYSIS

Existing Program Type	Existing Program IDs
Alternate Fee Structures – information and technical assistance	IncentivesPAYT
Recycling Grant program	GrantsRecycling
Market Development	MktDevelopmt ¹⁷

The District currently offers two programs which directly or indirectly provide economic incentives for greater recycling or waste reduction. Information and technical assistance is provided to communities and haulers for implementing volume-based rates. During 2015, the District worked with Mid-Ohio Sanitation and Recycling to improve their existing rate structure, and switch from a sticker-based system to a colored-bag collection system for their PAYT customers (program “IncentivesPAYT”).

The Recycling Grant Program (“GrantsFunding”) focuses on promoting curbside recycling, with an emphasis on public/private partnerships for recycling activities, volume-based rates, upgrading equipment for recycling collection and processing, start-up or expansion of recycling programs, and outreach programs to provide education and technical assistance for expansion of recycling. Grants are available to schools, colleges, universities, non-profit organizations, institutions, municipal jurisdictions, and businesses located in Delaware, Knox, Marion, and Morrow Counties.

The District considers grant applications for residential recycling collection, material recovery facilities, recycling and waste reduction activities at public and private commercial facilities, and market development projects. The maximum grant funds request is \$20,000, and any project requesting more than \$10,000 must provide 25 percent matching funds.

The District administers the Recycling Grant Program through an application process which requires each entity requesting funds to answer several questions. Applications are evaluated based upon the considerations and criteria in the following table.

Considerations and Evaluation Criteria
Contribution to the plan
Was the application timely?
Was the application responsive to all of the applicable questions?
Will the cost of equipment include recycled/reused products?
Have they been a DKMM Grant recipient in the past? If “yes”, did they follow through with the grant as requested?

¹⁷ The District’s implementation schedule for the Annual District Report identifies these efforts as program IDs 8701, 8702, 8699, and 8700.

Considerations and Evaluation Criteria
Is this project innovative to DKMM?
Does the project address at least one of the targeted recyclables materials (i.e, cardboard, plastic, glass, etc.)?
Does the application provide assurances that the stated goals will be accomplished and the established methods proposed can be used as a standard for similar projects?
Does the project demonstrate positive economic and environmental impacts on regional audiences and/or targeted material markets?
Does the project show a potential for evolution into a permanent service or program without future DKMM funding?
Applicant's past performance in grant administration and project management, if applicable.
Financial need of the applicant.

During 2015, the District funded eleven grants totaling \$96,952.

The District promotes the purchase of recycled-content products through its education programs in each county. The District has also provided funding for the purchase of recycled-content products such as park benches.

The Recycling Grant Program will be discontinued, and funds will go towards the new MRF Grant to help meet the District's recycling infrastructure needs and priorities.

Summary of Economic Incentive Programs Findings and Challenges

Each of the programs discussed above in this section have the potential to improve recycling and waste reduction within the District. The following challenges have been identified by the District during the analysis of this program:

- The District's Recycling Grant Program does not focus on materials with low recovery rates.
- The District's reporting requirements for grants does not include enough required details to evaluate the results of the grant program for the possibility of using the evaluations to make improvements.
- The District has difficulty getting haulers to offer PAYT as a collection option.

SECTION 6: RESTRICTED AND DIFFICULT TO MANAGE WASTE STREAMS ANALYSIS

A number of materials, while not typically found in solid waste in large quantities, are not desired in a landfill. These materials include scrap tires, household hazardous wastes, lead-acid batteries, E-waste (or electronics), appliances, and household batteries. The District or local communities have programs designed to address each of these materials.

A. Scrap Tires

Existing Program Type	Existing Program IDs
Scrap Tire recycling information and education	Scrap Tire Educ ¹⁸
Tire Amnesty Program	Scrap Tire Collection ¹⁹
Municipal Jurisdictions Tire Program	Scrap Tire Drop Offs ²⁰

The District maintains several programs to help manage scrap tires generated within the four-county area. Recycling information and education which addresses proper handling and disposal of tires is provided through the county education staff and local health departments. The District also maintains information regarding management of scrap tires on its website for residents, businesses, and other generators. Additional discussion of District educational efforts for proper scrap tire management can be found in **Appendix L**.

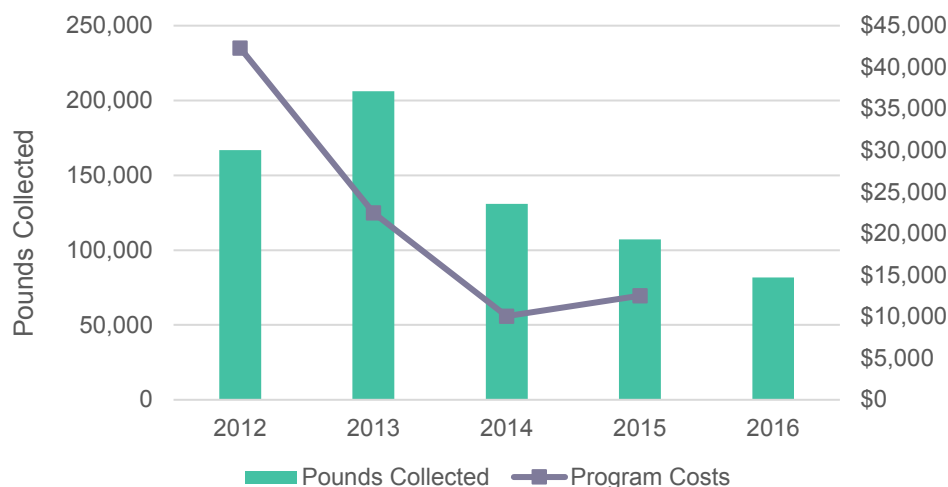
Prior to 2015, the District sponsored a scrap tire collection event in each county once every year. Beginning in 2015, scrap tire collection has been provided in two counties each year in order to reduce expenditures, since increased costs for the collection of paint (which also began in 2015) was unknown. For example, a collection event for tires was held in Delaware and Morrow Counties in 2015, Knox and Marion Counties in 2016, and again in Delaware and Morrow Counties in 2017.

The change in the scrap tire program is reflected in Figure H-21 which indicates a reduction in the pounds of tires received at collection events. The costs for sponsoring collection events has also decreased. (Cost data for 2016 was not available at the time this section was drafted.)

¹⁸ The District's implementation schedule for the Annual District Report identifies this effort as program ID 8696.

¹⁹ The District's implementation schedule for the Annual District Report identifies this effort as program ID 3204.

²⁰ The District's implementation schedule for the Annual District Report identifies this effort as program ID 3205.

Figure H-21. Scrap Tire Collections: 2012 – 2016

Municipal jurisdictions within the District collect tires along roadways and in other public areas. The collected tires are temporarily stored in large 40 cubic yard roll-off containers at the county engineer offices, a transfer station, and a recycling center before being shipped off-site for proper disposal.

The District does not typically apply for grants from Ohio EPA to host a scrap tire collection event. However, an Ohio EPA grant was obtained in 2016 for an agricultural tire collection event.

Summary of Scrap Tire Collection Program Findings and Challenges

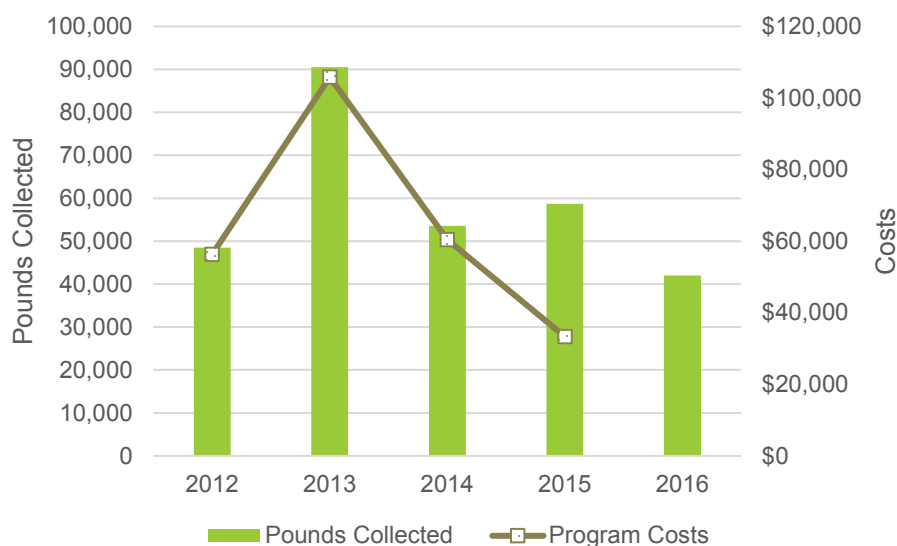
Beginning in 2015, the District curtailed the number of collection events. A total of two events are now held each year in two of the four counties, with the other two counties holding events the following year. The following challenges have been identified by the District during the analysis of this program:

- Scrap tires collection and processing are expensive.
- Residents do not always turn in their old tires at dealers when purchasing new tires.
- It is difficult to negotiate the cleanup of scrap tires on private property.

B. Household Hazardous Wastes (HHW)

Existing Program Type	Existing Program IDs
HHW Education	HHW Educ ²¹
HHW collection program	HHW Collection ²²

When the District began annual collection of scrap tires in only two counties in 2015, it also began collecting HHW and paint in the other two counties within the District. In 2016, the collection of materials was reversed – counties which hosted a scrap tire collection in 2015, now hosted a collection for HHW and paint (and vice versa). Figure H-22 shows both the pounds collected at these events and the program costs. In general, the variation in program costs closely follow the changes in pounds collected, with the exception of 2015. With the redesign of this program in 2015, the District began accepting latex paint at HHW collection events, charging residents \$2 per can.²³ In 2013, the HHW collection started taking televisions and costs for collection events became high. Since then, the number of tv's decreased and the District has a more cost-effective contractor.

Figure H-22. HHW Collections: 2012 – 2016

The District provides education addressing management of HHW through its brochure and by encouraging high schools to include this topic as part of their curriculum. HHW information is also available in the District's Residential Recycling Guide on its website. Further discussion of HHW education can be found in **Appendix L**.

²¹ The District's implementation schedule for the Annual District Report identifies this effort as program ID 3208.

²² The District's implementation schedule for the Annual District Report identifies this effort as program ID 3207.

²³ The pounds shown in Figure H-22 for 2015 and 2016 include paint.

Summary of HHW Program Findings and Challenges

The following challenges have been identified by the District during the analysis of this program:

- HHW collections are only held every other year for each county in the District.
- No permanent HHW collection opportunities are available in the District.
- The cost of the HHW events is very high, however, the paint fee collected does cover the cost of managing the paint.

C. Lead-Acid Batteries

Existing Program Type	Existing Program IDs
Lead-Acid Battery Program	LAB ²⁴

The District provides information on its website and in the Recycling Guides prepared for each county, listing businesses that accept lead-acid batteries. U.S. EPA estimates that 99 percent of lead-acid batteries are recycled, and the District is not aware of any problems with recovery of these batteries in the four-county area.

Summary of Lead-Acid Battery Program Findings and Challenges

The District believes that the opportunities for lead acid battery management are generally sufficient.

D. E-Waste

Several opportunities exist in each county within the District for residents to dispose of electronics (or e-waste), and these businesses and organizations are listed on the District's website and in the Recycling Guide for each county. The District also provides an E-waste drop-off option for residents at local collection events. Prior to 2015, the District collected E-waste at collection events with HHW and scrap tires. Beginning in 2015, District collection of E-waste was combined with scrap tires, and therefore, now occurs once every two years in each county.²⁵

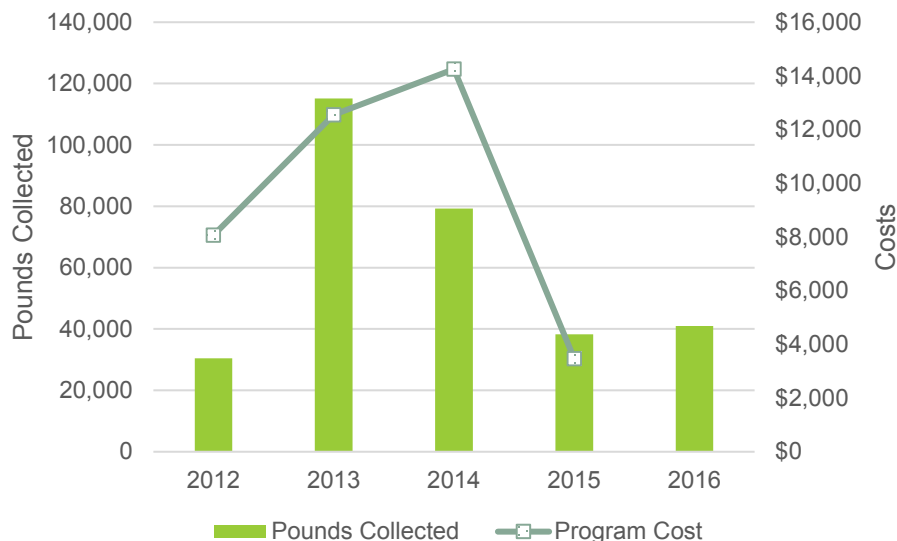
The pounds collected through District-sponsored programs peaked in 2013 and remained relatively consistent from 2015 to 2016. The District began collecting old televisions in 2013, which comprised more than one-half of the total E-waste in that year. In 2017, the District charged residents \$10 per television at drop-offs

²⁴ The District's implementation schedule for the Annual District Report identifies this effort as program ID 3214.

²⁵ Paper shredding is also available at special collection events sponsored by the District.

due to the difficulty in recycling old TV sets containing vacuum tubes. In general, the variation in E-waste program costs follows the changes in pounds collected.

Figure H-23. E-Waste Collections: 2012 – 2016



Summary of E-Waste Program Findings and Challenges

The District believes that the opportunities for e-waste disposal generally are sufficient. The following challenges have been identified by the District during the analysis of this program:

- Adequate options for year-round collection of TVs do not currently exist within Delaware County.
- The cost of television recycling continues to increase.

E. Appliances

The District does not have a program which specifically targets the collection of appliances. However, the District maintains a list of companies which accept small appliances on their website and in the Recycling Guide for each county.

Summary of Appliance Program Findings and Challenges

The District believes that the opportunities for appliance management are generally sufficient. Delaware and Marion counties offer appliance and electronic pick-up for seniors which is funded through the County aging agencies. However, it is sometimes difficult to identify companies or individuals who can remove Freon from appliances.

F. Household Batteries

Two of the District's county recycling offices collect household batteries and delivers them to their HHW event. The other counties do not have a program which collects household batteries. However, the District maintains a list of companies which accept household batteries on their website and in the Recycling Guide for each county. One ton of household batteries were reported recycled from residential/commercial sources in 2015.

Summary of Household Battery Program Findings and Challenges

The District believes that the opportunities for household battery management are generally sufficient.

SECTION 7: DIVERSION ANALYSIS

The table below shows the amounts which were disposed and diverted from disposal through recycling from 2011 to 2015. Overall, diversion in the residential/commercial (R/C) sector has remained relatively consistent since 2011, with the exception of 2013 when it was much higher. Recycling in the industrial sector has been much more variable, with the largest amount reported recycled in 2013.

Table H-11. Disposal and Recycling in the DKMM SWMD: 2011 – 2015

Year	Population	Residential/ Commercial		Industrial		Total	Per Capita Generation (ppd)	Annual % Change in Total Tons
		Disposal	Recycled	Disposal	Recycled			
2011	317,392	237,710	88,419	25,974	92,361	490,923	8.48	-
2012	317,392	231,004	87,422	18,002	94,846	462,444	7.98	-0.06
2013	317,392	218,630	125,037	16,768	394,609	789,324	13.63	70.7%
2014	331,142	239,479	82,011	23,772	179,462	580,040	9.60	-26.5%
2015	328,674	238,145	85,077	21,376	161,065	543,857	9.07	-6.2%

A. Residential/Commercial Sector

The District's R/C recycling (or diversion) rate during the past five years has fluctuated between 26 and 36 percent. (See Table H-12.) The District has consistently exceeded Goal #2 for 25 percent recycling in the R/C sector. The per capita diversion rate as measured in terms of pounds per person per day (PPD) decreased slightly from 2011 to 2015.

Table H-12. R/C Diversion Rates: 2011 – 2015

Year	Diversion Rate	
	Percent (%)	Per Capita
2011	27.11%	1.53
2012	27.45%	1.51
2013	36.38%	2.16
2014	25.51%	1.36
2015	26.32%	1.42

Compared to other SWMDs in Ohio, the diversion rate for the DKMM Solid Waste District is very similar for both the percentage recycled and per capita recycled. (See Table H-13.) The Geauga-Trumbull SWMD (GT) has a slightly higher per capita recycling rate, however, the DKMM District has a slightly higher percentage recycling rate. From 2011 through 2015, the statewide R/C percentage recycling

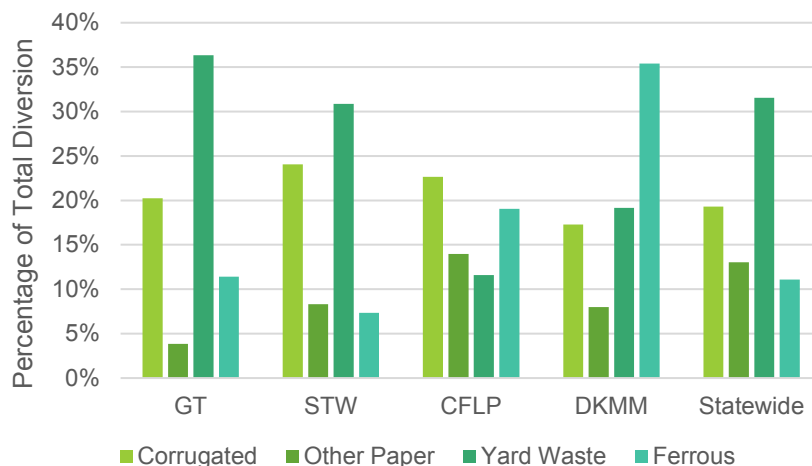
rate hovered around 28 percent, while the per capita recycling rate increased slightly to 1.74 PPD, so DKMM is slightly below the statewide averages.

Table H-13. R/C Diversion Rates for Other Ohio SWMDs: 2015

SWMD Name	Res/Com Diversion Rate	
	Percent (%)	Per Capita
GT	25.90%	1.48
STW	22.68%	1.35
CFLP	25.62%	1.29
DKMM	26.3%	1.42

The types of materials which are generally recovered for recycling from the R/C sector in Ohio's SWMDs are illustrated in Figure H-24 below. The chart shows that yard trimmings comprise a very significant percentage of total diversion for all of these solid waste districts, especially in GT and Stark-Tuscarawas-Wayne (STW). The statewide average yard trimmings percentage of total diversion is also consistent with the diversion in the GT and STW SWMDs. To a lesser extent, corrugated and ferrous metals make up a substantial portion of total diversion for most of these districts. For DKMM, the majority of materials recycled was ferrous metals (slightly more than 35 percent), which is substantially higher than the statewide average.

Figure H-24. Types of R/C Materials Recycled in Other SWMDs: 2015



While the DKMM District experienced a slight decrease in the R/C tonnage recycled in 2015 compared to 2011, the disposal tonnage increased slightly. (This dataset contains too few data points to determine a statistically significant relationship between recycling and disposal.)

The current Plan projected 73,501 tons of R/C recycling and 27,157 tons of composting and land-spreading of leaves for 2015, for a total of 100,658 tons. The R/C rates projected in the current plan for 2015 were 28.2 percent and 1.65 PPD. As shown above, the actual percentage diversion rate is slightly lower than the projected value, and the actual per capita rate is considerably lower. The actual diversion tonnages for both yard trimmings and all other recycling are lower than those projected in the current plan. Yard trimmings diversion in the current plan includes land-spreading of leaves which is not included in the 2015 actual yard trimmings composting estimate. In addition, projections for total R/C diversion minus yard trimmings composting and land-spreading in the current plan could have been influenced by much higher actual tonnages reported for years 2007 through 2009.

B. Industrial Sector

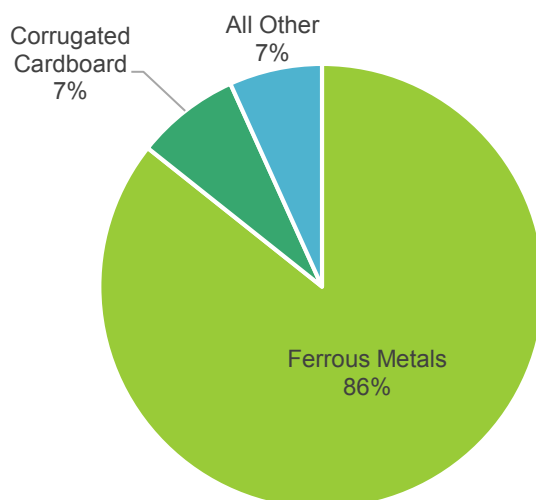
The industrial recycling rates in the District for 2011 through 2015 is shown in Table H-14. The District has consistently achieved an industrial recycling rate well above the percentage goal for the industrial recycling established in the *State Solid Waste Management Plan*.

Table H-14. Industrial Recycling Rates for DKMM: 2011 – 2015

Year	Diversion Rate	
	Percent (%)	Per Capita
2011	78.05%	1.59
2012	84.05%	1.64
2013	95.92%	6.81
2014	88.30%	2.97
2015	88.28%	2.69

Compared to the current Plan which projected 173,697 tons of industrial recycling for 2015, the actual amount diverted in the reference year is somewhat lower (approximately 161,000 tons). The current plan also projected an industrial recycling rate of 87.4% for 2015, which is very similar to the actual estimated recycling rate of 88.3%.

Ferrous metals represent the material type recycled in the greatest amount from industrial sources. (See Figure H-25.) Years 2011 through 2014 show similar relationships concerning the types of materials recycled from the industrial sector. Industries also recycle substantial amounts of cardboard.

Figure H-25. Industrial Material Types Recycled in DKMM: 2015

The District's industrial recycling rate for 2015 was somewhat higher than other similar SWMDs as shown in Table H-15.

Table H-15. Industrial Diversion Rate Comparison

SWMD Name	Industrial Diversion Rate
	Percent (%)
GT	56.21%
STW	74.77%
CFLP	78.91%
DKMM	88.3%

Summary of Diversion Analysis Findings and Challenges

The District's performance for the residential/commercial sector and industrial sector currently exceed the State Plan goals. Challenges for improving waste diversion are addressed in the other analyses conducted in this appendix. Therefore, no direct challenges are provided in this analysis.

SECTION 8: SPECIAL PROGRAM NEEDS ANALYSIS

Format v4.0 defines Section 8 as programs which are specifically funded under the authority granted in Ohio Revised Code Section 3734.57(G)(3) through (9). These program areas of allowable uses for SWMD funds collected under ORC Section 3734.57 are as follows:

- Section 3734.57(G)(3). Boards of Health, Solid Waste Enforcement
- Section 3734.57(G)(4). Counties, Road/Facility Maintenance
- Section 3734.57(G)(5). Boards of Health, Water Well Sampling
- Section 3734.57(G)(6). Out-of-state Waste Inspection
- Section 3734.57(G)(7). Enforcement of Anti-littering
- Section 3734.57(G)(8). Boards of Health, Training & Certification
- Section 3734.57(G)(9). Cities and Townships, Road maintenance, public services, etc.

The District has provided funding under allowable use #3 (Boards of Health, Solid Waste Enforcement) to each of the four counties within the District (program “HealthDeptFunding”²⁶) The allocations to health departments are described in the District’s current plan as follows:

“... to fund contracts with the four county health departments for services directly related to the monitoring of solid waste collection services and disposal and transfer facilities, including closed facilities; education about laws and regulations regarding solid waste and tire transportation, storage and disposal, littering, illegal dumping, and solid waste related nuisances; and enforcement of laws and regulations regarding solid waste and tire transportation, storage and disposal, littering, illegal dumping, and solid waste related nuisances.” [page VIII-7]

The actual funding provided to health departments has been somewhat lower than projected in the current plan. (See Figure H-26.) Funding for local health departments has been determined based on a formula which addresses:

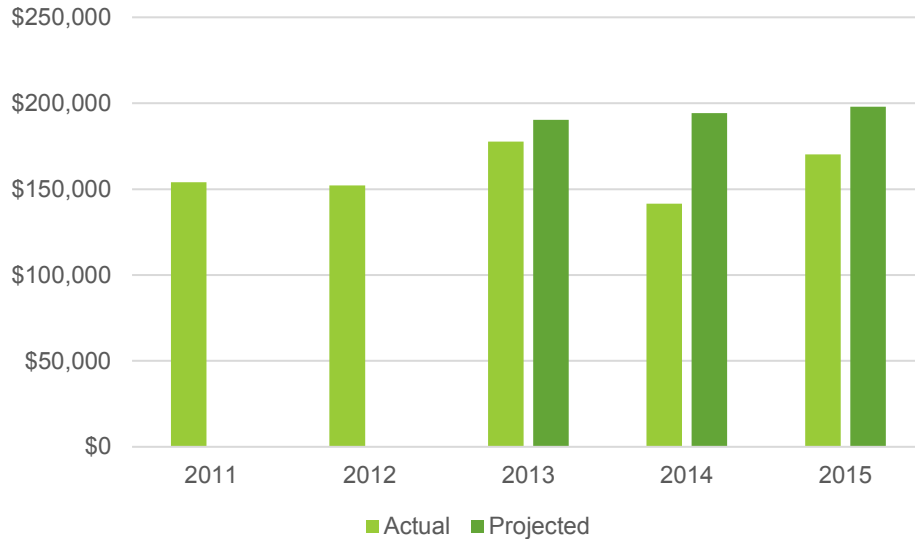
- The number of solid waste facilities;
- The population of the municipal jurisdiction;
- The historical number of nuisance complaints and the resources typically required to resolve the complaints; and
- Other criteria.

The District signs a contract each year with health departments receiving funding, and reports from health departments are required twice per year. The District reviews the reports to help determine performance and compliance with the contract provisions.

²⁶ The District’s implementation schedule for the Annual District Report identifies this effort as program ID 3215.

Continued funding of health departments is considered to be contingent upon the availability of adequate revenue in the District.

Figure H-26. Actual vs. Projected Health Department Funding



Summary of Special Program Needs Analysis Findings and Challenges

The District feels this area of involvement is adequate and therefore has not identified any challenges. However, the District is aware that allocations to health departments do not cover 100 percent of the costs for programs serving the District.

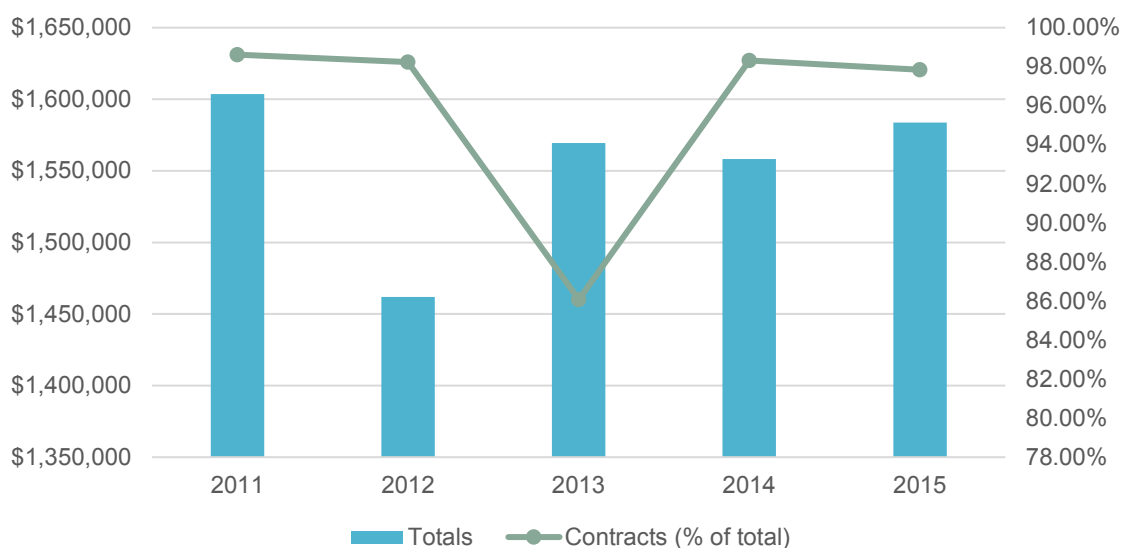
SECTION 9: FINANCIAL ANALYSIS

The financial analysis has been divided into three parts: Revenues, Expenses, and District Fund Balances.

A. Revenues

From 2011 through 2015, the source of the majority of District revenue has been contracts negotiated with solid waste facilities which remit fees in exchange for the right to receive District waste through designation agreements. Figure H-27 shown below illustrates that contracts have provided approximately 98 percent of total District funding since 2011, with the exception of year 2013 when the contracts' portion dropped to approximately 86 percent. In terms of dollars, the contract revenue has fluctuated between \$1,351,000 and \$1,582,000 during the five-year period depicted in the figure.

Figure H-27. Revenue for the District: 2011 – 2015



On a per person basis, the District collected an average of \$4.83 per capita during 2011 through 2015, ranging from \$4.59 to \$5.01 per capita. Compared to selected other SWMDs in Ohio, DKMM collects less money per person. (See Figure H-28.) In addition, DKMM's revenue per person is lower than the statewide average of \$6.80 per capita.

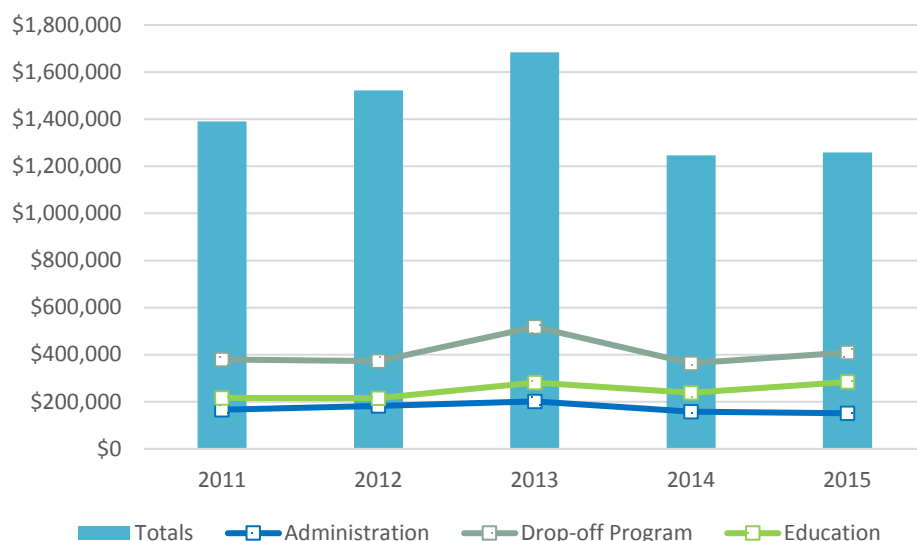
Figure H-28. Comparison of Revenues Collected Among SWMDs

The District's current Plan projected that approximately \$1,705,000 would be collected in revenues during 2015. The actual amount collected, \$1,583,681, is somewhat less than projected. The lower actual revenues are the result of lower landfilled tonnage subject to the contract fee compared to projected landfilled amount.

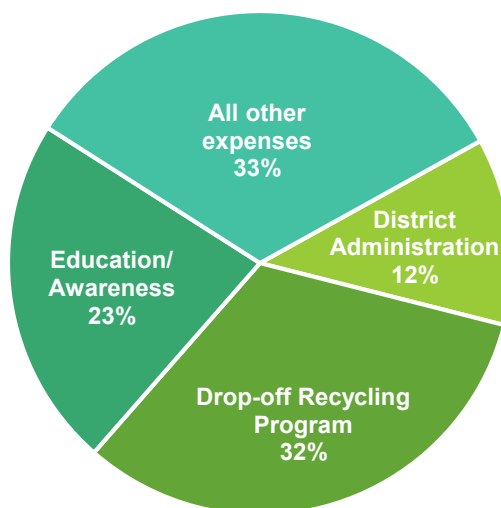
In summary, the District's major revenue streams appear to be very stable and should continue to provide sufficient money for operations. In addition, the solid waste facilities providing most of the contract fee revenue are expected to continue operating and receiving District waste for many years.

B. Expenditures

The major categories of expenditures for the District since 2011 have been administrative costs, the drop-off recycling program, and the costs for education/awareness. (See Figure H-29 below.) Total District expenditures were actually lower in 2015 compared to five years earlier. The increase in costs in 2013 can be primarily attributed to an increase in the cost of the drop-off program. However, other program expenses increased from 2012 through 2013 as well.

Figure H-29. District Expenditures: 2011 – 2015

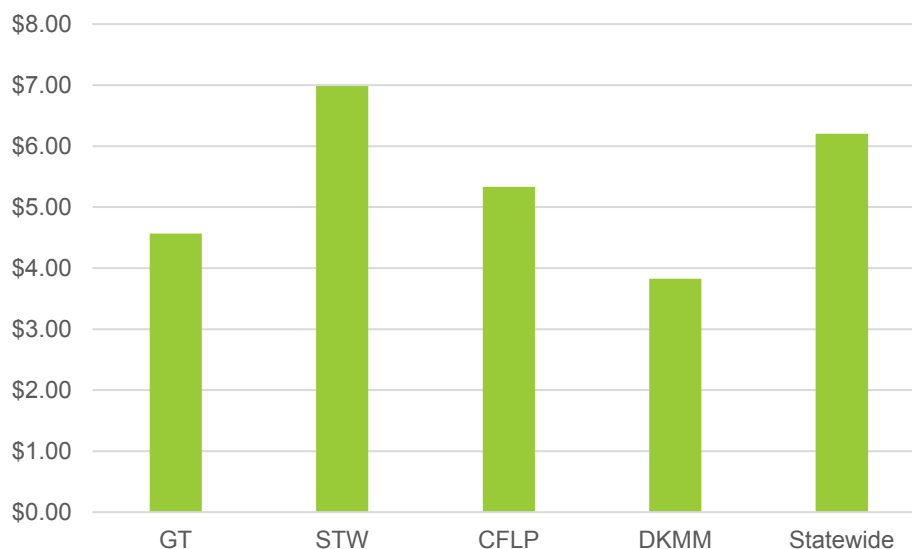
The drop-off program comprised approximately 32 percent of total expenditures during 2015, with 23 percent of costs directed towards education and awareness programs. (See Figure H-30.) The combined percentage of the three categories having the highest percent expenditures has been rising from 2011 through 2015, with the overall five-year average at approximately 59 percent.

Figure H-30. Types of Expenditures in 2015

Compared to total expenditure projections in the current plan for 2015 (\$1,726,393), the actual expenditures were considerably lower. Actual costs for administration, drop-off recycling, and the costs for education/awareness were also lower than projected in the current plan.

District expenditures per person have fluctuated in recent years, but overall, the 2015 estimate is lower than the amount calculated for 2011. The average expenditure per capita from 2011 through 2015 is \$4.42 per person. Compared to other Ohio SWMDs and the statewide average for 2015, DKMM spent less money, or \$3.83 per person. See Figure H-31.

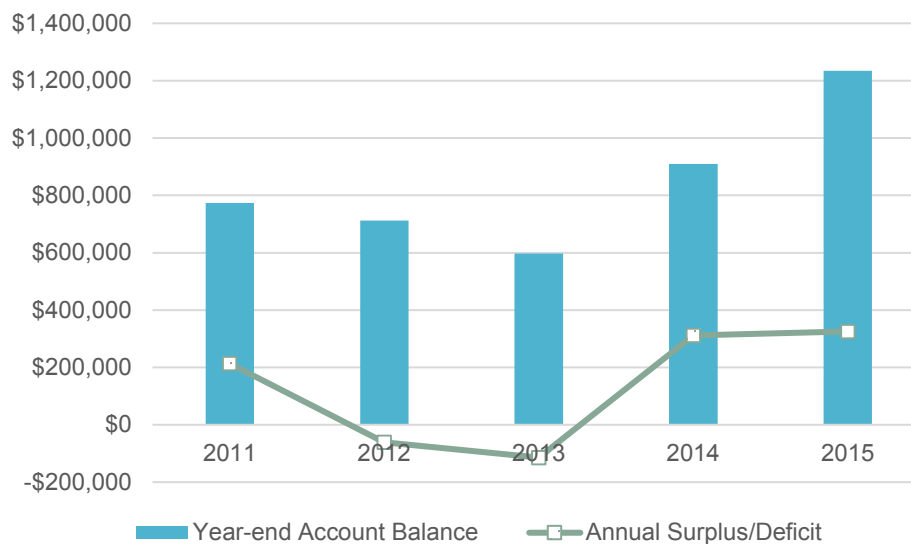
Figure H-31. Expenditures Per Capita



C. Balances

For the 2012 and 2013 five-year period, the District's expenditures were higher than revenues, and the District's account balance dropped accordingly. (See Figure H-32.) The deficits during 2012 and 2013 were primarily due to increased costs in those years. In 2014 and 2015, expenditures lessened, District revenues exceeded expenses, and year-end balances began to increase.

Figure H-32. District Annual Surplus/Deficit and Year-End Balances



The current plan projected a carry-over or year-end balance for 2015 of approximately \$522,000, which is much lower than the actual balance. The actual balance has grown substantially since 2013, primarily due to lower expenses than anticipated.

Summary of Financial Analysis Findings and Challenges

The District's financial position is currently stable with growing fund balances. The District will need to address the challenges articulated in other analyses in this appendix that require financial contribution especially with regard to the material recovery facility infrastructure. Also, the District will need to consider increasing revenue if expenditures increase.

SECTION 10: REGIONAL ANALYSIS

The regional analysis is to consider regional opportunities for collaboration and partnerships, and to consider how the District's decisions may affect 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. The District does not currently participate in organized regional partnerships or collaborations with other SWMDs or other organizations in Central Ohio.

The District considers recycling collection by default as regional. For example, the District has a large drop-off program which effects most if not all municipalities for recycling access. Also, some yard trimming and food waste is composted at facilities inside and outside of the District, but still within the region.

1. *Analysis and Evaluation*

A. **Identify Regional Stakeholders**

Regional stakeholders for the District include surrounding solid waste districts, private and public haulers and landfills, and municipalities in the District. The District has many drop-off programs which effects residing and surrounding municipalities.

B. **Regional Partnerships & Communication and Collaboration**

The District has used its resources in the region for communication and collaboration regarding solid waste management. The following section encapsulates the District's efforts to work with other interested parties for the management of solid waste and/or the sharing of expertise. These are categorized below to describe efforts within the District:

- The District has worked with many compost facilities to allow residents to drop-off yard trimmings for free.
- The District works with many institutions and municipalities to set up and maintain drop-offs.

The District is considering performing a study on HHW options. An option could include a partnership with SWACO and EEI, a hazardous waste management company which accepts paint at their facility in Columbus, OH. Creating opportunities for options to reduce the fee or make free for DKMM residents would increase regional infrastructure usage.

C. Regional Impact

The District is reliant on facilities located inside and outside the District for recycling processing. Many of the recyclables are taken to in-District facilities; however, some of the recyclables are then transferred to out-of-District facilities. There are no landfills inside of the District. As a result, the activities and decisions of these facilities and neighboring solid waste districts can affect the availability and capacity of these facilities for the four-county waste generators. The District acknowledges the fact that its waste imports and recycling exports generates both opportunities and impacts for other solid waste districts.

The District has not identified any needed changes to this style and all existing strategies and approaches regarding engagement with regional stakeholders and solid waste management will continue in the next planning period where appropriate.

2. Conclusions, Strengths, and Challenges

The District's resource position allows the District to sustain the current services for the region. The District will continue to work within the region regarding solid waste issues, disposal impacts, and recycling impacts as the largest contributor to the region.

Strengths of the program include:

- Drop-off program positively impacts residing and surrounding municipalities.
- Efforts to provide low-cost to free compost opportunities for residents in the four counties.
- Brings recyclables to neighboring MRFs for greater waste reduction and consistent stream of materials to be recovered for the region.

Challenges of the program include:

- None identified.

SECTION 11: POPULATION ANALYSIS

As discussed in Appendix C, population projections for this Plan Update were developed using documents published by the Ohio Development Services Agency and the Mid-Ohio Regional Planning Commission. The District believes that the projections from the Mid-Ohio Regional Planning Commission, which include the Delaware County Planning Commission data, are more reflective of actual changes occurring in Delaware County than the estimates from ODSA. (See Appendix C for further discussion regarding specific documents and assumptions used for the projections.)

SECTION 12: DATA COLLECTION ANALYSIS

Existing Program Type	Existing Program IDs
Annual Survey of Scrap Yards	Annual Survey SY ²⁷
Industrial Survey	Annual Survey Indust ²⁸

The District collects data each year from entities located within each of the four counties. Disposal data is reported to the District by solid waste facilities which are under contract to the District, including tons received, the type of waste, and also remit the required amount of money.

Each year the District also conducts a survey to obtain recycling data, composting data, and hauling information as a part of preparing the annual district report to be submitted to Ohio EPA. Some of the details of collecting this information are listed in Table H-16 shown below.

Entities in the commercial and industrial sectors are sent paper surveys using U.S. mail. Most recently, the District utilized the services of a private company to develop and compile the mailing lists. In 2015, the District mailed survey forms to 1,100 manufacturing industries and commercial establishments.

Follow-up emails and phone calls are made as needed to businesses which do not return a survey. For example, one or more follow-up emails would be sent initially to large companies, businesses which responded to previous surveys, or companies whose returned survey was incomplete or not clear. Emails are followed by phone calls to companies who continue to be non-responsive to requests for information.

The District also encourages participation in survey efforts through local chamber of commerce. Three of the four program managers in each county are members of the local chamber of commerce. These program managers discuss the surveys at meetings, encourage members to return completed surveys, and ensure that the survey effort is discussed in the chamber's newsletter.

The response rate for industries in 2015 was 21.4 percent. The overall response rate for the 2015 survey effort was approximately 11 percent.

²⁷ The District's implementation schedule for the Annual District Report identifies this effort as program ID 8692.

²⁸ The District's implementation schedule for the Annual District Report identifies this effort as program ID 3748.

Table H-16. Data Collection Methods Used by the District

Methods Used to Obtain Data	Sector		
	Residential	Commercial	Industrial
<i>Paper Survey</i>	Mostly informal contact via phone, etc.	yes	yes
Type of entities surveyed	haulers, entities w/ curbside contracts	haulers, processors, MRFs, compost facilities, other commercial enterprises	manufacturing enterprises
How are entities to be surveyed identified?	District information, private company	District information, private company	online database
Follow-up	yes, emails and phone calls as needed	yes, emails and phone calls as needed	yes, emails and phone calls as needed
<i>Published Reports</i>	no	yes; Ohio EPA documents	no
<i>Websites</i>	check as needed to verify addresses, or to ensure that hauler is still in business.	check as needed to verify addresses, or NAICS/SIC code, or to ensure that entity is still in business.	check as needed to verify addresses, or NAICS/SIC code, or to ensure that entity is still in business.

The potential for double-counting materials is addressed by comparing responses from generators with processors and material recovery facilities. Each commercial business and industry is asked to provide the processor receiving their materials. Assuming that a business reports its recycling 200 tons of cardboard and also reports that this material was sent to ABC Processor. Assume as well that ABC Processor responded to the survey and reported received 1000 tons of cardboard from the District. In this case, only the amount reported by ABC Processor would be included in the District's recycling totals, and not the 200 tons from the business.

The District uses Ohio EPA's Material Recovery Facility and Commercial Recycling Data Report, Compost Facility Report Data Report, and Scrap Tire Data Report that are published annually. Data in these reports is cross-referenced with data reported through District surveys (when possible). Discrepancies between Ohio EPA's data and data reported from other sources has been identified on occasion. When issues are identified, they are addressed with Ohio EPA and resolved.

Summary of Program Findings and Challenges

The District has a relatively successful data collection program, including survey response rates which are very respectable for efforts of this type. Data is collected from entities within the four-county area each year so businesses can expect to receive survey forms in the early part of every calendar year. The following challenges have been identified by the District during the analysis of this program:

- The District has identified data improvement challenges to be low response rates and accuracy of data.
- Evaluating annual survey data consumes a significant amount of District staff time.

SECTION 13: EDUCATION/OUTREACH ANALYSIS

The education and outreach program allow the District to reach their audiences by means of presentations, newsletters, and an informative website. Further information on the Outreach and Marketing Plan is in Appendix L.

A. Comprehensive Resource Guide

The Residential Recycling Guide provides the how, where, when and what to recycle for each county. The guide is available as a hardcopy and is also on the District's website. The guides contain useful information on:

- Drop-off locations
- Businesses which accept:
 - ✓ Lead-acid batteries
 - ✓ Scrap tires
 - ✓ Anti-freeze
- Compost facilities
- Solid waste transfer stations
- Scrap yards
- Material processing facilities

A Business Recycling, Waste and Disposal Service Guide is available on the District website. This document includes a list of Ohio commercial facilities accepting various types of materials.

Strengths of the program include:

- A great resource to host information on recycling options in the District.
- Newsletter is good source of information for communities

Challenges of the program include:

- The guide uploaded on the website is not searchable.
- Mailing inserts would be a great way to expand on the business recycling guide. The District could explore the possibility of including inserts with mailings. For example, an insert could be developed explaining the waste audit program and its benefits, then the insert could be included in the annual survey mailing to businesses, institutions, and industries. The District could use this approach for two to three years and then determine if requests for waste audits have increased due to the mailing inserts.
- Lack of data to measure effectiveness.

B. County Outreach and Marketing Plans

Each county Recycling Program developed one as well as the District in January. Plans include specific programs and activities with clearly defined objectives and measurable outcomes when appropriate. Each Recycling Program will be responsible for documenting how the Marketing Plan is implemented. The plans are implemented through education personnel, education programming and the Administrative/District Office. The Marketing and Outreach Plan for each county will be tailored to the needs of the county and will change from year to year as conditions change or new opportunities arise, it is difficult to create a comprehensive list of required activities in addition to the Marketing Plan. Common elements will be required of all programs each year:

- Web site
- Comprehensive Resource Guide
- Infrastructure Inventory
- Speaker/Presenter

Strengths of the program include:

- Having a plan to develop outreach and marketing plans for the District and each county is useful for producing goals and objectives for the year.

Challenges of the program include:

- The District does not have a strong presence in social marketing. The District could develop a comprehensive plan for improving social marketing to all target audiences.
- Additional exposure for various programs and topics may improve participation within the four-county area (e.g. press releases).
- Additional efforts by regulators and the health departments to provide outreach regarding events like the clean-up days and other solid waste programs/events and/or issues.

C. District Web Site

The District's website address is easy to remember (<https://www.dkmm.org/>) and is updated regularly. The website includes drop-down menus for recycling, yard trimmings composting, special collection events, and education.

The District's website also includes a drop-down menu which provides links to useful publications, resources, and other information. The subjects incorporated in this menu include:

- Agricultural plastics recycling

- The annual report for the District
- Bi-laws for the District
- Newsletter
- The current DKMM plan
- District rules
- Grant opportunities
- Press releases

Maintaining and updating the District website is the responsibility of the District. Each County within the District is also required to have an active website as well.

Strengths of the program include:

- Website provides good information and resources.
- Contain information for all 4 counties and can link to individual county websites.

Challenges of the program include:

- The current layout of the website can make it difficult to find specific information. An updated design may improve the efficiency of locating the desired information.
- Very limited information available regarding how many industries use educational resources
- Does not have a tracker available regarding how many individuals are reached
- Does not contain a search feature for website.
- Identification of additional resources. The District provides links for obtaining information on its website. This listing could be expanded and organized by target audience to improve user friendliness.

D. Education and information on yard trimmings reduction, backyard composting, etc.

In the Residential Recycling Guide and on the District's website, as well as in educational programing.

Strengths of the program include:

- Useful information on yard trimmings and composting is readily available for residents.

Challenges of the program include:

- The District has found that circumstances change so rapidly that guide and resource lists are often out-of-date soon after a revision is completed.

- The District could explore the possibility of promoting backyard composting for residents in conjunction with the master gardener program

E. School Presentations and Programs

The program managers of each county give presentations to schools within the District. During 2015, the District program managers provided 50 classroom presentations, reaching 3,811 students. District hosted many displays and activities at fairs and festivals as well.

Strengths of the program include:

- Presentations reach many students.
- Each program manager can focus on the needs of their county.

Challenges of the program include:

- A complete list of schools with and without recycling containers has not been developed.

F. Speakers/Presenters - Community Presentations

Community presentations are provided by the program managers of each county in the District. A wide range of environmental and solid waste topics are available for both youth and adult settings.

During 2015, the District program managers provided 13 adult programs reaching 1,171 individuals.

Strengths of the program include:

- Presentations reach many residents in the District.

Challenges of the program include:

- There could be a greater audience met if webinars were developed and recorded.

SECTION 14: RECYCLABLE MATERIAL PROCESSING CAPACITY ANALYSIS

Several facilities operate within the District to process recyclables. These facilities are listed in Appendix B. During the reference year of 2015, the District concluded that adequate processing capacity existed in all four counties, or was accessible in each county.

Since 2015, processing capacity has decreased based on the closure of the material recovery facility (MRF) in Mount Vernon.

Summary of Program Findings and Challenges

The District is exploring options to provide a lower-cost solution to Knox County MRF closure. Numerous meetings have occurred at the Board level as well as at the District to develop possible solutions. The following challenges have been identified by the District during the analysis of this program:

- Increased costs for the drop-off recycling contract in Knox County because of the closure of the MRF in Mount Vernon.
- The District has a long-standing policy to not enter into the business of operating MRFs or facilities.
- Although the District's fund balance has increased over the years, the District is not in a position to fully fund any MRF in the District or build its own facility.
- The District does not have a specific grant program dedicated to MRFs.
- Haulers operating near the Mt. Vernon area where the MRF closed may not provide recycling services as they will have no place to deliver collected recyclables.

Appendix I will include the possible solutions that either will be implemented in the new planning period or before as determined by the Board.

Attachment A. Drop-off Site Agreement**Delaware, Knox, Marion, Morrow Solid Waste District
Residential Recycling Drop-Off Site Host Agreement**

The Delaware, Knox, Marion, Morrow Solid Waste Management District (DKMM) has established residential recycling drop-off programs to provide DKMM residents the opportunity to reduce their waste stream. These recycling collection programs help DKMM meet the waste management goals established by the Ohio EPA.

By the signature witnessed below your Business, Agency, Institution has agreed to become a Site Host for our residential drop-off program. This Agreement allows DKMM to place recycling collection containers on your property to be used, by DKMM residents, for the purpose of recycling. All DKMM recycling drop-off sites are full-time with access 24 hours per day, seven days per week. DKMM contracts with private service providers to empty these containers on a regular schedule. DKMM's local Program Managers and in some cases Site Adopting Groups are responsible to maintain the site and assure that it is safe, clean and accessible.

As a Site Host you will be included as a Covered Party under DKMM's liability insurance with minimum limits of \$2 million. DKMM's liability insurance coverage protects the site host, identified in this Agreement, against such claims for theft, vandalism, accident or injury that may occur related to the use of these containers, for their intended purpose.

DKMM will not be responsible/liable for theft, vandalism, accident or injury that may occur related to the Site Host's regular business operations/customer traffic.

DKMM values the partnership we have with our Site Hosts and recognizes your help and contribution to this valuable community program. DKMM will seek to resolve any issues that may be identified by the Site Host, related to the recycling drop-off program's impact to property and/or business. If issues can't be resolved to the satisfaction of both parties then DKMM can be asked to remove the collection program within 30 days.

Site Location/Address: _____

Participating Business/Agency/Institution: _____

Representative Signature: _____ Date: _____

Representative Name (print): _____ Date: _____

DKMM District Director: _____ Date: _____

Attachment B. District Outreach and Marketing Plan for 2017

The first table shown below indicates the activities planned by the District for 2017 and the audience served by the activity. The second table in this attachment shows each activity with a description of tasks to be undertaken in each quarter of the year.

Activity	Audience					Other
	Residential	Commercial	Institutional	School Age	Government	
Special Collection Events	x					
Residential Recycling Guide Annual Update	x					
Maintain Drop-Off Program	x					
Maintain Compost Program	x					
Program Manager Meetings						x
Municipal jurisdictions Tire Program					x	
Business Communication		x	x			
Encourage Curbside Recycling	x				x	
Ag Plastics Recycling Program	x	x				
Newsletter- Waste Watcher		x	x	x	x	
Regularly Update Website	x	x	x	x	x	
Oversee CRLPO contract						x
Oversee Health Department contract						x
Board and Committee Meetings						x
Annual District Report-EPA						x
Quarterly Financial Report-EPA						x
Annual Board Report					x	
Presentation Opportunities- (County Chamber, Rotary, Twp. Associations)		x	x		x	

Activity	Audience					Other
	Resi- dential	Com- mercial	Insti- tutional	School Age	Govern- ment	
MORPC Meetings						x
EPA Workgroup Meetings						x
Designation Fees						x
Financial Management						x
Maintenance to recycling containers- Morrow and Marion	x					
Hold a joint CRLPO & Health Department Meeting						x
Paper Shredding Events	x					
Solid Waste Management Plan Update						x
Drop-Off Contamination Reduction Effort						x
Recycling Facilities Upgrade Plan						x
EPA Ag Tire Grant Administration		x				
EPA Price Farm Grant Administration		x				
Materials Management Advisory Council						x

Activity	Implementation Timeline			
	1-3 months	4-6 months	7-9 months	10-12 months
Special Collection Events	Finalize dates, develop promo material, post on website	Hold Morrow and Marion events, analyze events, review budget	Hold Knox event, analyze event, review budget	Hold Delaware event, determine program needs for 2018
Residential Recycling Guide Annual Update	Update with CRLPO, post on web and print needed copies			
Maintain Drop-Off Program	Decrease holiday service, keep a close eye on Knox and add service when needed, monthly weight reports and review	Compile drop-off inventory and report needs to haulers, keep a close eye on Knox and add service when needed, monthly weight reports and review	Monthly weight reports and review	Holiday service schedule in place prior to Christmas, monthly weight reports and review
Maintain Compost Program	Compile OEPA compost report due February 1, finalize upgrades Knox Co.	Determine need for spring grinding		Determine need for fall grinding
Program Manager Meetings	February Invoice Marion Twps/ODOT/Morrow Transport service as needed, ensure proper use in Morrow	May Invoice Marion Twps/ODOT/ Morrow Transport, service as needed, ensure proper use in Morrow	August Invoice Marion Twps/ODOT/ Morrow Transport, service as needed	November Invoice Marion Twps/ODOT/ Morrow Transport, service as needed
Political Subdivision Tire Program	Business waste guide-update, post on web			
Business Communication	Work with Mount Vernon on improvements (Grandview Estates, others)	Compile curbside inventory from CRLPO offices		
Encourage Curbside Recycling	Ensure super sacks are available	Ensure super sacks are available	Ensure super sacks are available	Ensure super sacks are available
Ag Plastics Recycling Program				

Activity	Implementation Timeline			
	1-3 months	4-6 months	7-9 months	10-12 months
Newsletter- Waste Watcher	Continue to compile email list	Spring, continue to compile email list	Continue to compile email list	Fall, continue to compile email list
Regularly Update Website	Regular updates	Regular updates	Regular updates	Regular updates
Oversee CRLPO contract	30% payment Jan., reminder that final 2016 report due January 31	25% payment April	25% payment July, half year report due July 31	20% payment October, begin updating contract for 2018
Oversee Health Department contract	30% payment January, reminder final 2016 report due January 31, update reporting forms	25% payment April	20% payment July, half year report due July 31	20% payment October, begin updating contract for 2018
Board and Committee Meetings	Feb. Executive Committee and Board	April Executive Committee, May Board, June Policy	Aug. Executive Committee, Joint and Board, Spet. Policy	Oct. Executive Committee, Nov. Budget, Dec. Executive Committee and Board
Annual District Report-EPA	Update survey forms and mailing lists, mail information out	Condense information weekly into spreadsheet, report due June 1.	Evaluate report forms and system of data collection	
Quarterly Financial Report-EPA	1st quarter	2nd quarter	3rd quarter	4th quarter
Annual Board Report			Finalize for Joint Meeting in August	
Presentation Opportunities (County Chamber, Rotary, Twp. Associations)				
MORPC Meetings	Complete as requested			
EPA Workgroup Meetings	Participate in as scheduled			
	1st quarter	2nd quarter	3rd quarter	4th quarter

Activity	Implementation Timeline			
	1-3 months	4-6 months	7-9 months	10-12 months
Designation Fees		Review halfway through the year and see if any abnormalities		
Financial Management	cash basis, closeout 2018 books, final approval of permanent 2017 budget at Feb. Board Meeting	Review halfway through the year and make changes as necessary		Develop draft 2017 budget, Budget Committee Meeting, finalize 2018 budget at December Board Meeting
Maintenance to recycling containers-Morrow and Marion	Complete as needed			
Hold a joint CRLPO & Health Department Meeting				
Paper Shredding Events	Get quotes, finalize dates and locations		Organize and hold meeting	
Solid Waste Management Plan Update	Kick-off Meeting with Policy Committee, work with consultant on the update	Work with consultant on the update, Policy Committee Meeting	Work with consultant on the update, Policy Committee Meeting	Work with consultant on the update
Drop-Off Contamination Reduction Effort	Perform audit of Delaware, Marion and Morrow containers			
Recycling Facilities Upgrade Plan				
EPA Ag Tire Grant Administration		Develop, print tire handout		Grant Closeout
EPA Price Farm Grant Administration			Grant closeout	
Materials Management Advisory Council	February Meeting	April and June Meetings	August Meeting	October and December Meetings



APPENDIX I

CONCLUSIONS, PRIORITIES, AND PROGRAM DESCRIPTIONS



APPENDIX I Conclusions, Priorities, and Program Descriptions

Making decisions about the Delaware-Knox-Marion-Morrow Joint Solid Waste Management District's programs offered during the planning period required valuable input and analyses depicted in Appendix H. The policy committee used the program evaluations detailed in Appendix H to draw conclusions. These conclusions represent what was learned about the District's structure, abilities, strengths and weaknesses, operations, existing programs, outstanding needs, and available resources. The overall list does not necessarily represent the programs or initiatives which the District will commit to implement during the subsequent planning period.

The District reviewed the list of potential initiatives and programs and prioritized the list focusing on the actions which were determined to be most important and those which would require less 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 least.
- 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 – Possible implementation with direction from Policy Committee
 - ✓ Ranking of 4 – Implement
 - ✓ Ranking of 5 – Implement
- The District then prioritized the results from the above step.
- The list of prioritized possible actions was then presented to the Policy Committee with discussion from District personnel and the District's consultant focusing on the initiatives or programs ranked as a 3 from the criteria above.
- The Policy Committee was then asked to assist the District to decide if the initiatives ranked as a 3 should or should not be implemented in the new Plan Update.
- The Policy Committee was also asked to confirm that all initiative ranked as a 4 or 5 should be implemented as recommended by the District and that initiatives ranked 1 or 2 should not be implemented as recommended by the District.
- The results of this prioritization process and the programs/initiatives developed or continued are detailed in Chapter V of this Plan Update.

The Section B presents the initiatives and programs that will be implemented in the planning period.

From these conclusions, a list of action items was developed that were further refined into priorities to be addressed during the planning period.

A. Conclusions from Appendix H/L and Prioritization of Potential Initiatives

The list of possible actions or programs identified through the evaluations conducted in Appendix H are presented below and are organized per the program categories included in the Format v4.0 under Appendix I.

Table I-1. Summary of Suggestions for Improvement
(Ranking 1 for low through 5 for high priority)

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking	Policy Committee Decision
1	Drop-Off	Perform campaign to reduce drop-off contamination levels. This may include use of social media, print media, signage, etc.	5	<i>Implement</i>
		Work with universities and volunteer programs to staff problem drop-off sites to be able to education residents and reduce contamination.	5	<i>Implement</i>
		Work with political subdivisions to educate their residents about drop-off program and best practices.	4	<i>Implement</i>
		Evaluate the drop-off program to determine cost efficiencies to incorporate in future bidding documents (ie. MRF processing, container systems, compaction, number of sites, materials collected, etc.)	2	<i>Do Not Implement</i>
1	Curbside	Target at least two communities each year to work on improving recovery rates and participation.	2	<i>Do Not Implement</i>
		Conduct a curbside trash and recycling workshop with targeted communities in each county of the District to determine level of interest with communities on developing consortiums for contracting for curbside services.	2	<i>Do Not Implement</i>
		Work with political subdivisions when contracts are nearing renewal time to make contract adjustments that will maximize recycling collected, such as adding a Pay-As-You-Throw element, increasing recycling container size, and/or requiring the hauler to provide ongoing education, such as a quarterly direct mailer to residents.	5	<i>Implement</i>
		Perform a study to survey local organizations/political jurisdictions to obtain curbside program participation and performance data.	4	<i>Implement</i>

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking	Policy Committee Decision
2	Commercial	Create small economic implementation incentives for business who perform the waste audit.	1	<i>Do Not Implement</i>
		Create an awards program for commercial businesses that conduct a waste assessment and then implement initiatives that demonstrate success.	4	<i>Implement</i>
		Develop a targeted list of large retailers and box stores and then engage through round table discussions, meetings or other method to build relationships and to obtain better recycling data and/or create new programs.	2	<i>Do Not Implement</i>
		Assistance with Materials Marketplace	5	<i>Implement</i>
		Partner with local colleges and universities to assist in the Business Waste Audits program.	2	<i>Do Not Implement</i>
4	Yard Trimmings and Food Scraps	Create plan to reduce contamination rate at yard trimmings facility in Knox County	5	<i>Implement</i>
		Survey and or engage local and regional haulers and compost facilities to determine the ability and/or desire to accept yard trimmings and other organics from curbside contracts.	2	<i>Do Not Implement</i>
		Access options for yard trimmings and other organics collection at the curb when communities re-bid their trash and recycling contracts.	4	<i>Implement</i>
	Cardboard and Plastics	As discussed in the commercial section, engage with commercial and institutional entities to grow and create recycling programs including those that divert cardboard. Discussions on commercial consortiums should also be explored.	2	<i>Do Not Implement</i>
5	Economic Incentive	Update District grant program to include funds for communities that target and promote diversion for materials with low recovery rates.	2	<i>Do Not Implement</i>
		District to require reporting details for grants to be able to evaluate the results of the grant program for the possibility of using the evaluations to make improvements.	2	<i>Do Not Implement</i>
		Create grant incentive to start PAYT collection options.	2	<i>Do Not Implement</i>
6	Scrap Tires	Continue to apply for tire amnesty grants from OEPA for agricultural tire collection events.	4	<i>Implement</i>

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking	Policy Committee Decision
		Develop awareness campaign for proper scrap tire management stressing the use of existing tire dealer infrastructure.	5	<i>Implement</i>
	HHW	Evaluate the opportunity for permanent HHW collection at District MRF partner locations using the appointment and user fee system used by other districts in Ohio.	5	<i>Implement</i>
	E-Waste	Analysis for year-round e-waste options in Delaware County and cost. Include possible inclusion of electronics in permanent HHW evaluation.	5	<i>Implement</i>
	Appliances	Create and promote a list of companies or individuals who can remove Freon from appliances.	5	<i>Implement</i>
8	Special Program Needs	Evaluate Districts allocations to Health Departments compared to the costs for programs serving the District.	3	<i>Implement</i>
12	Data Collection	Develop a new mailing list for annual surveys and then improve list over time for businesses survey contact.	5	<i>Implement</i>
		Consider web-based survey system to reduce staff time on data collection.	2	<i>Do Not Implement</i>
		Annually target high recyclable diversion potential businesses for active engagement and relationship building to obtain better data.	5	<i>Implement</i>
13	Education	Webinars. Many organizations have developed and recorded webinars to help educate the public on a wide variety of environmental topics. In some cases, a recorded webinar may be preferable to a teacher, company environmental manager, or a resident simply because it can be “consumed” at any time based on convenience. The District could identify useful webinars online, organize them according to topic area and target audience, then create links to the webinars on the website. Printed brochures could also be developed showing this information.	2	<i>Do Not Implement</i>
		Mailing inserts. The District could explore the possibility of including inserts with mailings. For example, an insert could be developed explaining the waste audit program and its benefits, then the insert could be included in the annual survey mailing to businesses, institutions, and	4	<i>Implement</i>

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking	Policy Committee Decision
		industries. The District could use this approach for two to three years and then determine if requests for waste audits have increased due to the mailing inserts.		
		Data to measure effectiveness. The District currently has very limited data to measure the effectiveness of education and outreach programs. Each program could be examined to determine the types of data necessary to evaluate the program, take steps to collect the data, and then evaluate it. The District could also undertake survey efforts to determine if the educational imperative of recycling, waste reduction, etc. is being adequately delivered to the five target audiences. If the answer to this question is “no”, changes could be made to existing programs (or new programs could be created) to address the deficiency(ies).	4	<i>Implement</i>
		Social marketing. The District could develop a comprehensive plan for improving social marketing to all target audiences.	5	<i>Implement</i>
		Backyard composting. The District could explore the possibility of promoting backyard composting for residents in conjunction with the master gardener program available through county extension service offices. Producing compost from yard trimmings (and other organics) is certainly compatible with improving landscaping and growing healthier plants associated with the master gardener program.	4	<i>Implement</i>
		Identification of additional resources. The District provides links for obtaining information on its website. This listing could be expanded and organized by target audience to improve user friendliness. Printed lists of additional resources could also be compiled. In conjunction with developing lists of additional resources, the District conduct random surveys of the target audiences to better understand their needs in terms of waste reduction and recycling information. Teachers may want easy and quick	4	<i>Implement</i>

Section in App. H	Program Category	Suggested Action or Program Name	District Ranking	Policy Committee Decision
		access to curriculum guides, and many websites provide useful classroom exercises, projects, and courses.		
		Press releases. The District could devote more efforts towards developing timely press releases and ensure that all local newspapers, radio stations, and other news outlets within the District receive copies. Additional exposure for various programs and topics may improve participation within the four-county area.	4	Implement
		Revamp website to increase user friendliness	5	Implement
14	Recyclable Material Processing Capacity	Create a specific grant program dedicated to the development of a new MRF or assisting existing MRFS in the District.	5	Implement
		Conduct a feasibility analysis for the development of a new MRF in the <u>District with long term financing to fund its development.</u>	1	Do Not Implement
		Conduct a feasibility analysis for the development of a new recycle transfer station in the <u>District with long term financing to fund its development.</u>	2	Do Not Implement
		Perform study on haulers operating near the Mt. Vernon area where the MRF closed on providing recycling services.	2	Do Not Implement

B. Program Descriptions

This section outlines the programs available to residents, communities, businesses, and institutions during the reference year (2015) that are current and to be implemented during the planning period. These are based on the results of the ranking exercise discussed in Section A of this Appendix, as well as from comments received by stakeholders. Please note that some programs were discussed after the ranking was completed and may not appear in the ranking tables above. Descriptions for continuing existing programs are referenced as well as new programs or changes to existing programs are fully described below.

Table I-2. Summary of Programs for Commercial/Institutional Sector

ID	Name	Start Date	End Date	Goal(s)
8687	Identify service providers. Maintain "Business Recycling, Waste and Disposal Service Guide"	2013	Ongoing	Goal 3, 4
3747	Web site section with resources and links for businesses and industry	2013	Ongoing	Goal 3, 4

ID	Name	Start Date	End Date	Goal(s)
8689	Small generator businesses access to residential drop-off program. Periodic survey of businesses	2013	Ongoing	Goal 3,4
8688	Technical Assistance and Education on Guidelines and Methodology for Performing Waste Audits	2013	Ongoing	Goal 3, 4
8692	Annual survey of scrap yards	2013	Ongoing	Goal 1, 2, 3, 4
N/A	Awards program for commercial businesses	2020	2033	Goal 3. 4
N/A	Develop a new mailing list for annual surveys	2019	2033	Goal 2
N/A	Annually target potential high diversion industries	2019	2033	Goal 2

Identify service providers. Maintain “Business Recycling, Waste and Disposal Service Guide”

The Guide includes a comprehensive list of service providers that handle all types of recyclables, including difficult to manage materials. As new markets for commercial and industrial recyclables are identified, they will be added to the “Guide.” The amount recycled is not available as a distinct number. It is included in the amounts reported by waste haulers/recyclers, scrap yards, and material recovery facilities. The guide is provided through staff and support cost budgeted under Administration and Outreach/Education.

Web site section with resources and links for businesses and industry

There are several links to EPA resources for businesses on the District’s website to make the information easier to find.

Small generator businesses access to residential drop-off program. Periodic survey of businesses

Small businesses are able to utilize our drop-off program. Surveys will be conducted in Spring as time allows. Small businesses that generate small quantity of recyclables may use the drop-off recycling locations. The businesses must separate and transport the material, but small businesses may find this preferable to paying for special collection services.

Technical Assistance and Education on Guidelines and Methodology for Performing Waste Audits

The District offers technical assistance to help industrial waste generators identify alternatives to waste generation and methods for the collection and marketing of recyclable materials. In general, it appears that most manufacturers are very comfortable with their ability to implement waste reduction and recycling programs.

Audits will be offered by the District’s county program managers and will be used to help businesses/industries realize the costs savings associated with the specific

recommendations. The waste audits will also include a marketing component to help the business/industries identify outlets for marketing recyclable materials or reusing the materials.

Annual survey of scrap yards

In Spring, mailed hardcopies of surveys are sent to scrap yards to collect data on scrap recycling from the residential and commercial sectors.

Awards Program for Commercial Businesses

An awards program will be organized for commercial businesses that conduct a waste assessment and then implement initiatives that demonstrate success.

Develop A New Mailing List for Annual Surveys

A new mailing list will be developed for annual surveys. The list will be improved over time for businesses survey contact.

Annually Target Potential High Diversion Businesses

The District will target high recyclable diversion potential businesses for active engagement and relationship building to obtain better data. This will be done with research on businesses that have high revenue and manufacturing and contacting the business to inquire about their recycling practices.

2. Industrial Sector Reduction and Recycling Programs

Table I-3. Summary of Programs for Industrial Sector

ID	Name	Start Date	End Date	Goal(s)
3748	Industrial Survey	1995	Ongoing	Goal 3, 4
8688	Technical Assistance and Education on Guidelines and Methodology for Performing Waste Audits	2013	Ongoing	Goal 3, 4
N/A	Annually Target Potential High Diversion Industries	2019	2033	Goal 2
N/A	Assistance with Materials Marketplace	2019	2033	Goal 2, 3, 4

Industrial Survey

In Spring, mailed hardcopies of surveys are sent to industrial businesses in the District.

Technical Assistance and Education on Guidelines and Methodology for Performing Waste Audits

The District offers technical assistance to help industrial waste generators identify alternatives to waste generation and methods for the collection and marketing of recyclable materials. In general, it appears that most manufacturers are very comfortable with their ability to implement waste reduction and recycling programs.

Audits will be offered by the District's county program managers and will be used to help businesses/industries realize the costs savings associated with the specific recommendations. The waste audits will also include a marketing component to help the business/industries identify outlets for marketing recyclable materials or reusing the materials.

Annually Target Potential High Diversion Industries

The District will target high recyclable diversion potential industries for active engagement and relationship building to obtain better data. This will be done with research on businesses that have high revenue and manufacturing and contacting the business to inquire about their recycling practices.

Assistance with Materials Marketplace

This District will offer assistance to businesses to increase usage of the Ohio Materials Market Place. This will help businesses navigate the online platform to connect and find reuse and recycling solutions for waste and by-product materials. The link to the Ohio Material Marketplace website: ohio.materialsmarketplace.org.

3. Special Waste Streams

Table I-4. Summary of Programs for Special Waste Streams

ID	Name	Start Date	End Date	Goal(s)
3207	Household Hazardous Waste Collection Program.	2007	Ongoing	Goal 5
3214	Lead-Acid Battery Program	2007	Ongoing	Goal 5
8683	Delaware County 3 Additional Full-Service Urban Drop-Offs as Needed	2013	Ongoing	Goal 1
3741	Drop-Offs Management and Service Contracts. CRLPO's Drop-Off Advertising Services	2001	Ongoing	Goal 1, 2
8697	Information on Difficult to Recycle Materials - Appliances, Electronics & Others.	2013	Ongoing	Goal 1, 2, 3, 4
8696	Scrap Tire Recycling Information and Education	2013	Ongoing	Goal 5
3219	Scrap Tire/Open Dump Cleanup (In Cooperation with Health Departments)	2007	Ongoing	Goal 5

ID	Name	Start Date	End Date	Goal(s)
3204	Tire Amnesty Program	2007	Ongoing	Goal 5
3205	Tire Drop-Offs by Political Subdivisions	2007	Ongoing	Goal 5
3749	Provide Funding to Yard Trimmings Composting Operations	2007	Ongoing	Goal 1, 2, 3, 4
N/A	Plan to reduce contamination rate at yard trimmings facility in Knox County	2019	2033	N/A
N/A	Access options for yard trimmings and other organics collection at the curb	2019	2033	Goal 1, 2
N/A	Apply for grants for agricultural tire collection events	2019	2033	Goal 2, 5
N/A	Develop awareness campaign for proper scrap tire management	2020	2020	Goal 3, 4, 5
N/A	Evaluate permanent HHW collection opportunity	2020	2020	Goal 2, 5
N/A	Analysis for year-round e-waste options in Delaware County	2019	2019	Goal 2, 5
N/A	Promotion list for Freon removal	2019	2033	Goal 3, 4, 5
N/A	Evaluate District's allocations to Health Departments	2019	2019	N/A

Household Hazardous Waste Collection Program

If funding is available after mandatory programs have been funded, the District plans to continue funding two or more HHW collection events annually. The District may charge a fee to off-set some or all of the cost to collect specifically identified items, if the District decides that the fee is necessary to include selected items in the collection program. The District may expand the program to include additional hazardous or difficult to manage materials and could exclude materials from the collection program as necessary to meet the needs of residents while controlling the cost of the events. The District plans to continue HHW collection if there is a perceived need for special collection and if funds allow.

Lead-Acid Battery Program

The District may continue to include lead-acid batteries in HHW collection events if the District concludes that including lead-acid batteries is of benefit to the District and the public. Daily disposal options are available in the Residential Recycling Guides for each county. The District will encourage the use of private-sector recycling by making information regarding these options available in print and on-line in the District recycling guides.

Delaware County 3 Additional Full-Service Urban/Rural Drop-Offs as Needed

Funds for additional full-service urban or rural drop-offs are added when needed to maintain 90% access. Many communities are going curbside to fill additional

needs. Drop-off additions will depend on population growth and if additional curbside programs are implemented.

Drop-Offs Management and Service Contracts. CRLPO's Drop-Off Advertising Services

The District provides funding through contracts with each of the four counties for a County Recycling and Litter Prevention Office (CRLPO). The CRLPO provides outreach and education programs and accomplishes other tasks related to providing recycling access, special events, and program monitoring in the county it serves. The contracts include funding support for the wages of a full-time employee in all four counties as well as benefits program, supply, and advertising.

Information on Difficult to Recycle Materials - Appliances, Electronics & Others.

Difficult to recycle material information is included in the Comprehensive Resource Guide in print and on-line.

Scrap Tire Recycling Information and Education

Information on proper handling and disposal is provided via CRLPO staff and local health departments.

Scrap Tire/Open Dump Cleanup (in Cooperation with Health Departments)

If funding is available after mandatory programs have been funded, the District may fund the clean-up of illegal tire dumps or other illegal, open dump sites at the request of a county health department if other sources of funding have been exhausted. The District will work with the health department and County Prosecutor for reimbursement of any funds expended to clean-up tires or dump-sites on private property.

Tire Amnesty Program

If funding is available after mandatory programs have been funded, the District will hold a minimum of two waste tire collection events annually to which residents can bring tires for recycling. The District may charge a fee to defray all or part of the cost of collection and processing. The District will hold additional collection events if the District identifies a need for additional events and if funding and/or logistical support is available. Agricultural tire collections occur every 3 to 4 years in the District.

Tire Drop-offs by Political Subdivisions

If funding is available after mandatory programs have been funded, the District will assist local governments with the expense of recycling tires found in public areas (roadsides, parks, etc.). A set amount is allocated. Although the need for this service continues, the number of tires that required disposal is expected to slowly dwindle, with continued public education regarding tire disposal and recycling.

Provide Funding to Yard Trimmings Composting Operations

The DKMM District will continue to provide financial support, if necessary, to assure that at least one facility per county is publicly available to receive yard trimmings from District residents.

Plan to Reduce Contamination Rate at Yard Trimmings Facility in Knox County

The District will create a plan to reduce the contamination rate at the yard trimmings facility in Knox County. This plan will include ways to educate, increase signage, and surveillance at the Yard Trimmings Facility.

Access Options for Yard Trimmings and Other Organics Collection At The Curb

If communities are re-bidding their trash and recycling contracts, the district may help the community to get access to options for yard trimmings and other organics collection at the curb.

Apply for Grants for Agricultural Tire Collection Events

The District will continue to apply to the OEPA grant program to fund agricultural tire collection events.

Develop Awareness Campaign for Proper Scrap Tire Management

The District will develop an awareness campaign for proper scrap tire management with stressing the use of existing tire dealer infrastructure.

Evaluate Permanent HHW Collection Opportunity

An evaluation will be completed for the opportunity of a permanent HHW collection at District MRF partner locations using the appointment and user fee system used by other districts in Ohio.

Analysis for Year-Round E-Waste Options in Delaware County

Analysis will be conducted for year-round electronic waste options and cost in Delaware County. This will contain the possible inclusion of electronics in the permanent HHW evaluation.

Promotion List for Freon Removal

The District will create and promote a list of companies or individuals who can remove Freon from appliances.

Evaluate District's Allocations to Health Departments

Evaluate District's allocations to Health Departments compared to the costs for programs serving the District.

4. Outreach, Education, Awareness

Table I-5. Summary of Outreach, Education, and Awareness Programs

ID	Name	Start Date	End Date	Goal(s)
8694	County Outreach and Marketing Plans	2013	Ongoing	Goal 1, 2, 3, 4
5856	District Website	2007	Ongoing	Goal 3, 4
3744	Comprehensive Resource Guide	2013	Ongoing	Goal 3, 4
8695	Infrastructure Inventory	2013	Ongoing	Goal 1, 2, 3, 4
3746	Speakers/Presenters - Community Presentations	2007	Ongoing	Goal 3, 4
3194	School Presentations and Programs	2007	Ongoing	Goal 3, 4
3208	HHW Education	2013	Ongoing	Goal 5
8701	Include "Buy Recycled" In Education Programs	2013	Ongoing	Goal 7
8702	Integrate "Buy Recycled" Into Industry Education Programs	2013	Ongoing	Goal 7
8699	List of Resources of Recycled Products for Various Applications	2013	Ongoing	Goal 7
8700	Purchasing of Recycled Products	2013	Ongoing	Goal 7
8693	Education and Information on Yard Trimmings Reduction, Backyard Composting, Etc.	2013	Ongoing	Goal 1, 2
N/A	Campaign to reduce drop-off contamination levels	2019	2023	Goal 3, 4
N/A	Collaborate with universities and volunteer programs to staff drop-off sites	2019	2023	Goal 1, 2
N/A	Educate their residents about drop-off program	2019	2033	Goal 3, 4
N/A	Survey local organizations/political jurisdictions	2019	2023	Goal 1, 2
N/A	Evaluate using mailing inserts for waste audit program awareness	2019	2023	Goal 3, 4

ID	Name	Start Date	End Date	Goal(s)
N/A	Evaluate the types of data the District needs to measure program effectiveness.	2019	2023	Goal 3, 4
N/A	Develop social marketing plan	2019	2023	Goal 3, 4
N/A	Promote backyard composting	2019	2033	Goal 2, 3, 4
N/A	Expand and organize identification of additional resources	2019	2023	Goal 3, 4
N/A	Develop 2 press releases per year of the plan	2019	2033	Goal 3, 4

County Outreach and Marketing Plans

Each county CRLPO Program developed one as well as the District in January. Plans include specific programs and activities with clearly defined objectives and measurable outcomes when appropriate. Each Recycling Program will be responsible for documenting how the Marketing Plan is implemented. The plans are implemented through education personnel, education programming and the Administrative/District Office. The Marketing and Outreach Plan for each county will be tailored to the needs of the county and will change from year to year as conditions change or new opportunities arise, it is difficult to create a comprehensive list of required activities in addition to the Marketing Plan. Common elements will be required of all programs each year:

- Website
- Infrastructure Inventory
- Speaker/Presenter
- Comprehensive Resource Guide

District Website

The website will include a comprehensive resource guide and an Infrastructure Inventory. The website will be used to promote all the recycling opportunities in the District and will include information and links useful to residents, business, and industry. The website will be updated regularly. (www.dkmm.org) The CRLPO's each have their own county websites which are linked to DKMM's website.

Revamp District Website

The District may update the website to increase user friendliness and navigation. The website will be used to promote all the recycling opportunities in the District and will include information and links useful to residents, business, and industry.

Comprehensive Resource Guide

The District will prepare, regularly update, and make available a compilation of waste reduction and recycling opportunities to address the recycling of specific

materials including both common recyclables and difficult to manage materials. The District has an individual guide for each county. The Guide includes the how, where, when, and what to recycle for each county. This guide will be available on the web site and as a printable document suitable for distribution.

Infrastructure Inventory

Each county program shall maintain and make available up-to-date information about the solid waste recycling and management infrastructure in the county. This information shall include but is not limited to curbside recycling programs, drop-off recycling locations, composting facilities, yard trimmings collection programs, hauler-provided recycling programs, material recovery facilities, recycling centers and scrap yards. In addition, the District will maintain a directory of recyclers for materials generated by industry.

The recycling infrastructure and services in each county may be updated at the beginning of each year in the planning period and is included in the Residential Recycling Guides for each county.

Speakers/Presenters - Community Presentations

The CRLPO, who are funded by the District, work as Environmental Educators in their communities. The District will work with the county Recycling and Litter Prevention programs to ensure that staff or volunteers are available who can make presentations that provide information on District programs and inform audiences about recycling and waste reduction topics.

School Presentations and Programs

The District provides several methods for schools to obtain information about solid waste management and sustainability. The CRLOP's provide classroom programs on waste management topics throughout the year. Teachers can visit the District website for:

- Suggestions for class projects
- "Fun Facts" about recycling
- Links to other resources

HHW Education

The HHW education programs are focused to educate residents about the problems associated with HHW disposal and encourage residents to find alternatives to using or disposing of products considered to be hazardous. The intended audience for this HHW education program includes all ages from youth in the primary grades to adults. The District's will create a brochure or flyer on

HHW reduction and safe disposal. Information on HHW disposal is included in the Residential Recycling Guide.

Include "Buy Recycled" In Education Programs

The District will encourage all the Recycling and Litter Prevention county programs to continue including "buy-recycled" in public education programs.

Integrate "Buy Recycled" Into Industry Education Programs

"Buy recycled" is integrated into business and industry waste reduction and recycling programs and education materials whenever appropriate.

List or Resources of Recycled Products for Various Applications

The District will maintain and make available links to resources regarding recycled products for various applications. The County education staff work with those interested in purchasing items made of recycled products.

Purchasing of Recycled Products

The District encourages the purchase and use recycled content products whenever suitable products are available at competitive prices and encourage county agencies, local governments and private businesses to buy recycled.

Education and Information on Yard Trimmings Reduction, Backyard Composting, Etc.

Organics information will be included in the Residential Recycling Guide and on the web as well as in educational programing. On the website, information on yard trimmings composting provides residents information on available compost sites, benefits of composting, types of composting, and instructions for composting.

Campaign to Reduce Drop-Off Contamination Levels

Perform a campaign to reduce drop-off contamination levels in recyclables. This may include use of social media, print media, signage, etc.

Collaborate with Universities and Volunteer Programs to Staff Drop-Off Sites

The District will work with universities and volunteer programs to staff problem drop-off sites to be able to educate residents and reduce contamination. Sites would be staffed during high traffic times.

Educate Their Residents About Drop-Off Program

The District will work with political subdivisions to educate their residents about the drop-off program and best practices. This will include awareness of locations and materials accepted.

Survey Local Organizations/Political Jurisdictions

The District will perform a survey of local organizations and political jurisdictions to obtain curbside program participation and performance data.

Evaluate Using Mailing Inserts for Waste Audit Program Awareness

The District may explore the possibility of including inserts with mailings. For example, an insert could be developed explaining the waste audit program and its benefits, then the insert could be included in the annual survey mailing to businesses, institutions, and industries. The District could use this approach for two to three years and then determine if requests for waste audits have increased due to the mailing inserts.

Evaluate the Types of Data the District Needs to Measure Program Effectiveness.

The District currently has very limited data to measure the effectiveness of education and outreach programs. Each program may be examined to determine the types of data necessary to evaluate the program, take steps to collect the data, and then evaluate it. The District could also undertake survey efforts to determine if the educational imperative of recycling, waste reduction, etc. is being adequately delivered to the five target audiences. If the answer to this question is “no”, changes could be made to existing programs (or new programs could be created) to address the deficiency(ies).

Develop Social Marketing Plan

The District may develop a comprehensive plan for improving social marketing to all target audiences.

Promote Backyard Composting in Conjunction with Master Gardeners

The District may explore the possibility of promoting backyard composting for residents in conjunction with the master gardener program available through county extension service offices. Producing compost from yard trimmings (and other organics) is certainly compatible with improving landscaping and growing healthier plants associated with the master gardener program.

Expand and Organize Identification of Additional Resources

The District provides links for obtaining information on its website. This listing can be expanded and organized by target audience to improve user friendliness. Printed lists of additional resources could also be compiled. In conjunction with developing lists of additional resources, the District will conduct random surveys of the target audiences to better understand their needs in terms of waste reduction and recycling information as time and resources allow. Teachers may want easy and quick access to curriculum guides, and many websites provide useful classroom exercises, projects, and courses.

Develop 2 Press Releases Per Year of The Plan

The District will devote more efforts as time and resources allow towards developing timely press releases and ensure that all local newspapers, radio stations, and other news outlets within the District receive copies. Additional exposure for various programs and topics may improve participation within the four-county area.

5. Economic Incentives

Table I-6. Summary of Economic Incentive Programs

ID	Name	Start Date	End Date	Goal(s)
8698	Provide Information and Technical Assistance on Alternate Fee Structures (volume-based rates)	2013	Ongoing	Goal 1, 2, 6
8691	Assistance to Local Governments to Ensure Contracts Include Mandatory Recycling Reporting	2013	Ongoing	Goal 1,2
8685	Contact Communities Likely Candidates for Non-Subscription Curbside Programs	2013	Ongoing	Goal 1
8686	Delaware & Knox Counties Royal Oak Paper Retriever Program	2013	Ongoing	Goal 1
N/A	Assist contract renewals to adjust for optimize recycling collected	2019	2023	Goal 1, 2
N/A	Recycling Program Grant	2021	2033	Goal 2

Provide Information and Technical Assistance on Alternate Fee Structures (volume-based rates)

The District is prepared to provide information and technical assistance to municipalities, townships or private haulers who voluntarily initiate studies or implement alternate fee structures like volume or weight-based rates. The waste collection in the District is accomplished by municipal governments or private

haulers, so the District has no direct authority to mandate financial incentives related to residential waste collection.

Assistance to Local Governments to Ensure Contracts Include Mandatory Recycling Reporting

The District works with the prosecutors' office to ensure mandatory recycling reporting is included in all contracts. Some municipalities do not follow up with this provision and it is hard to obtain weight data.

Contact Communities Likely Candidates for Non-Subscription Curbside Programs

The District attends community meetings to encourage moving forward with franchise agreements for non-subscription curbside programs.

Delaware & Knox Counties Royal Oak Paper Retriever Program

There are more than eighty Royal Oak Paper Retriever locations in the three counties. Green and yellow steel bins collect office paper, newspaper, magazines, catalogues, and mail, including envelopes. The District hopes that the habit of recycling paper is well enough established that the amount collected will not be adversely affected by the change.

Assist Contract Renewals to Adjust for Optimize Recycling Collected

The District will work with political subdivisions when contracts are nearing renewal time to make contract adjustments that will maximize recycling collected. These adjustments may include adding a Pay-As-You-Throw element, increasing recycling container size, and/or requiring the hauler to provide ongoing education, such as a quarterly direct mailer to residents.

Recycling Program Grant

A new grant program dedicated to focus on improving recycling rates and accessibility in the District. Grants may be awarded but not limited to MRFs, community recycling, education, or infrastructure improvement in the District (this grant program may not exceed \$250,000 every 3 years during the planning period unless approved by the District Board). A separate grant agreement would be developed by the District along with grant program specifics (application, funding levels, etc.) prior to implementation of the program. This grant may also include match moneys for market development grants from EPA.

The district reserves the right to use funds from the grant program for plan implementation programs or funds from the unencumbered fund balance to fund this program.

6. Special Needs Programs

Table I-7. Summary of Special Needs Programs

ID	Name	Start Date	End Date	Goal(s)
3215	Health Department Funding Solid Waste Enforcement	2007	Ongoing	Goal 1
5860	Environmental Contingency Fund for Natural Disaster	2007	Ongoing	Goal 1, 2, 3, 4

Health Department Funding Solid Waste Enforcement

If funding is available after mandatory programs have been funded, the contract funding with health departments are to be used for solid waste related monitoring and enforcement. The amount listed is to fund contracts with the four county health departments for services directly related to the monitoring of solid waste collection services and disposal and transfer facilities, including closed facilities; education about laws and regulations regarding solid waste and tire transportation, storage and disposal, littering, illegal dumping, and solid waste related nuisances; and enforcement of laws and regulations regarding solid waste and tire transportation, storage and disposal, littering, illegal dumping, and solid waste related nuisances.

Environmental Contingency Fund for Natural Disaster

If funding is available after mandatory programs have been funded, funds are to be used at the request of a local government. The funds of \$50,000 are set aside to be used in the case of an emergency or disaster that results in the need to remove and dispose of large amounts of debris. To the extent possible, the District will seek reimbursement. Unexpended funds will carry-over to be used in the future. If the contingency fund is depleted, the District Board of Directors may replenish the fund if funds are available after the programs that are required by the Plan are funded. The funds are one time set aside at the beginning of the planning period and carried over if not spent. The use of these funds is optional based on need and available funding.



APPENDIX J

REFERENCE YEAR OPPORTUNITY TO RECYCLE AND DEMONSTRATION OF ACHIEVING GOAL I



APPENDIX J Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

Delaware-Knox-Marion-Morrow Joint 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 tables presents the Recycling Curbside and Drop-Off sites in the reference year and year 1, 5, 10, and 15 of the planning period, as well as the population credit received for each location. Some 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%.

All curbside programs for Delaware operating during the reference year (2015) are expected to continue. The following table presents the estimated population with access to curbside and drop-off recycling programs.

Table J-1a. Opportunity to Recycle: Delaware

ID #	Delaware	2015		2019		2023		2028		2033	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit
Non-subscription curbside											
NSC1	Genoa Township	25,860	25,860	27,751	27,751	29,799	29,799	32,481	32,481	35,210	35,210
NSC2	Orange Township	26,586	26,586	28,530	28,530	30,635	30,635	33,393	33,393	36,199	36,199
NSC3	Ashley Village	1,361	1,361	1,461	1,461	1,568	1,568	1,709	1,709	1,853	1,853
NSC4	Delaware City	37,995	37,995	40,773	40,773	43,782	43,782	47,724	47,724	51,733	51,733
NSC5	Galena Village	698	698	749	749	804	804	877	877	950	950
NSC6	Powell City	12,972	12,972	13,921	13,921	14,948	14,948	16,293	16,293	17,662	17,662
NSC7	Liberty Township	16,311	16,311	17,504	17,504	18,795	4,699	20,487	5,122	22,209	5,552
NSC8	Berlin Township	7,213	-	7,740	7,740	8,312	8,312	9,060	9,060	9,821	9,821
NSC9	Berkshire Township	3,407	-	3,656	3,656	3,926	3,926	4,279	4,279	4,639	4,639
NSC10	Delaware Township	2,590	-	2,779	2,779	2,984	2,984	3,253	3,253	3,526	3,526
NSC11	Concord Township	10,205	-	10,951	10,951	11,759	11,759	12,818	12,818	13,895	13,895
NSC12	Shawnee Hills Village	735	-	789	789	847	212	923	231	1,001	250
Subscription curbside											
SC1	Kingston Township	2,402	601	2,578	644	2,768	692	3,017	754	3,271	818
SC2	Sunbury Village	5,097	1,274	5,470	1,367	5,873	1,468	6,402	1,601	6,940	1,735

ID #	Delaware	2015		2019		2023		2028		2033	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit
Full-time, urban drop-off											
FTU1	Berlin Township	7,213	-	7,740	-	8,312	-	9,060	-	9,821	-
FTU2	Genoa Township	25,860	-	27,751	-	29,799	-	32,481	-	35,210	-
FTU3	Liberty Township at Olentangy Liberty HS	16,311	-	17,504	-	18,795	-	20,487	-	22,209	-
FTU4	Liberty Township	16,311	-	17,504	-	18,795	-	20,487	-	22,209	-
FTU5	Orange Township	26,586	-	28,530	-	30,635	-	33,393	-	36,199	-
FTU6	Sims Recycling	37,995	-	40,773	-	43,782	-	47,724	-	51,733	-
FTU7	Sunbury Village	5,097	5,000	5,470	-	5,873	-	6,402	-	6,940	-
Part-time, urban drop-off											
None	None	0	0	0	0	0	0	0	0	0	0
Full-time, rural drop-off											
FTR1	Ashley Village/Oxford Township	1,101	2,500	1,182	2,500	1,269	2,500	1,383	2,500	1,499	2,500
FTR2	Brown Township	1,575	2,500	1,690	2,500	1,815	2,500	1,978	2,500	2,144	2,500
FTR3	Harlem Township	4,382	2,500	4,702	2,500	5,049	5,000	5,504	5,000	5,966	5,000
FTR4	Kingston Township	2,402	2,500	2,578	2,500	2,768	2,500	3,017	2,500	3,271	2,500
FTR5	Porter Township	2,141	2,500	2,298	2,500	2,467	2,500	2,689	2,500	2,915	2,500
FTR6	Radnor Township	1,714	2,500	1,839	2,500	1,975	2,500	2,153	2,500	2,334	2,500
FTR7	Scioto Township / Ostrander Village	3,322	2,500	3,565	2,500	3,828	2,500	4,173	2,500	4,523	2,500
FTR8	Trenton Township	2,444	2,500	2,623	2,500	2,816	2,500	3,070	2,500	3,328	2,500
FTR9	Troy Township	2,328	2,500	2,498	2,500	2,683	2,500	2,924	2,500	3,170	2,500
Part-time, rural drop-off											
None	None	0	0	0	0	0	0	0	0	0	0
Mixed municipal waste material recovery facility											
None	None	0	0	0	0	0	0	0	0	0	0
Total County Population		167,204		179,430		192,671		210,016		227,661	
Total Population Credit		151,158		181,116		180,589		194,596		208,844	
Percent of Population		90%		101%		94%		93%		92%	

Sources of Information: Ohio Development Services Agency, 2015 Population Estimates by County, City, Village, and Township, May 2015.

Notes:

- Ashley Village/Oxford pop only represents Oxford Township due to Ashley's curbside program.
- FTR3 in 2023 becomes an urban drop-off.
- Delaware County Additions will be added on an as needed basis to accommodate the county's great growth rate of approximately 8% per year.

All curbside programs for Knox operating during the reference year (2015) are expected to continue. The following table presents the estimated population with access to curbside and drop-off recycling programs.

Table J-1b. Opportunity to Recycle: Knox

ID #	Knox	2015		2019		2023		2028		2033	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit
Non-subscription curbside											
NSC8	Gambier Village	2,437	2,437	2,424	2,424	2,420	2,420	2,429	2,429	2,461	2,461
NSC9	Mt. Vernon City	16,742	16,742	16,656	16,656	16,623	16,623	16,690	16,690	16,905	16,905
Subscription curbside											
None	None	-	-	-	-	-	-	-	-	-	-
Full-time, urban drop-off											
FTU8	Fredericktown/Wayne, Morris, Middlebury, Berlin Townships	7,213	5,000	7,176	5,000	7,162	5,000	7,190	5,000	7,283	5,000
FTU9	Howard Township	5,727	5,000	5,698	5,000	5,686	5,000	5,709	5,000	5,783	5,000
FTU10	Howard Township (location #2)	5,727	5,000	5,698	5,000	5,686	5,000	5,709	5,000	5,783	5,000
FTU10	Mt. Vernon, Rumpke Recycling Center	16,742	-	16,656	-	16,623	-	16,690	-	16,905	-
Part-time, urban drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Full-time, rural drop-off											
FTR10	Berlin Township	1,716	2,500	1,707	2,500	1,704	2,500	1,711	2,500	1,733	2,500
FTR11	Brown Township	2,040	2,500	2,030	2,500	2,025	2,500	2,034	2,500	2,060	2,500
FTR12	Centerburg Village / Hilliar Township	4,008	2,500	3,987	2,500	3,979	2,500	3,995	2,500	4,047	2,500
FTR13	Danville Village / Union Township	2,483	2,500	2,470	2,500	2,465	2,500	2,475	2,500	2,507	2,500
FTR14	Harrison Township	818	2,500	814	2,500	812	2,500	815	2,500	826	2,500
FTR15	Liberty Township	1,723	2,500	1,714	2,500	1,711	2,500	1,718	2,500	1,740	2,500
FTR16	Martinsburg Village / Clay Township	1,331	2,500	1,324	2,500	1,322	2,500	1,327	2,500	1,344	2,500
FTR17	Miller Township	1,017	2,500	1,012	2,500	1,010	2,500	1,014	2,500	1,027	2,500
FTR18	Monroe Township	2,061	2,500	2,050	2,500	2,046	2,500	2,055	2,500	2,081	2,500
FTR19	Pike Township	1,516	2,500	1,508	2,500	1,505	2,500	1,511	2,500	1,531	2,500
FTR41	Pleasant Township	1,624	-	1,616	2,500	1,612	2,500	1,619	2,500	1,640	2,500
FTR42	Gambier Village	2,437	-	2,424	-	2,420	-	2,429	-	2,461	-
Part-time, rural drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Mixed municipal waste material recovery facility											
None	None	-	-	-	-	-	-	-	-	-	-
Total County Population		61,041		60,727		60,606		60,850		61,635	
Total Population Credit		59,179		61,580		61,542		61,619		61,866	
Percent of Population		97%		101%		102%		101%		100%	

Sources of Information: Ohio Development Services Agency, 2015 Population Estimates by County, City, Village, and Township, May 2015.

All curbside programs for Marion operating during the reference year (2015) are expected to continue. The following table presents the estimated population with access to curbside and drop-off recycling programs.

Table J-1c. Opportunity to Recycle: Marion

ID #	Marion	2015		2019		2023		2028		2033	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit
Non-subscription curbside											
NSC10	Marion City	36,363	36,363	36,047	36,047	35,722	35,722	35,317	35,317	34,968	34,968
Subscription curbside											
None	None	-	-	-	-	-	-	-	-	-	-
Full-time, urban drop-off											
FTU12	Marion City, Sims Bros. Inc.	36,363	-	36,047	-	35,722	-	35,317	-	34,968	-
Part-time, urban drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Full-time, rural drop-off											
FTR20	Prospect Village	1,070	2,500	1,061	2,500	1,051	2,500	1,039	2,500	1,029	2,500
FTR21	Bowling Green & Montgomery Townships/Larue Village	632	2,500	627	2,500	621	2,500	614	2,500	608	2,500
FTR22	Claridon Township/Caledonia	2,788	2,500	2,764	2,500	2,739	2,500	2,708	2,500	2,681	2,500
FTR23	Claridon Township/Caledonia Town Square	2,788	2,500	2,764	2,500	2,739	2,500	2,708	2,500	2,681	2,500
FTR24	Grand Prairie Township	1,537	2,500	1,524	2,500	1,510	2,500	1,493	2,500	1,478	2,500
FTR25	Green Camp Township	1,142	2,500	1,132	2,500	1,122	2,500	1,109	2,500	1,098	2,500
FTR26	New Bloomington Village	496	2,500	492	2,500	487	2,500	482	2,500	477	2,500
FTR27	Pleasant Township	4,643	2,500	4,603	2,500	4,561	2,500	4,509	2,500	4,465	2,500
FTR28	Waldo Township	325	2,500	322	2,500	319	2,500	316	2,500	313	2,500
Part-time, rural drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Mixed municipal waste material recovery facility											
None	None	-	-	-	-	-	-	-	-	-	-
Total County Population		65,355		64,788		64,203		63,476		62,848	
Total Population Credit		58,863		58,547		58,222		57,817		57,468	
Percent of Population		90%		90%		91%		91%		91%	

Sources of Information: Ohio Development Services Agency, 2015 Population Estimates by County, City, Village, and Township, May 2015.

All curbside programs for Morrow operating during the reference year (2015) are expected to continue. The following table presents the estimated population with access to curbside and drop-off recycling programs.

Table J-1d. Opportunity to Recycle: Morrow

ID #	Morrow	2015		2019		2023		2028		2033	
	Name of Community	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit
Non-subscription curbside											
NSC11	Mt. Gilead Village	3,653	3,653	3,647	3,647	3,634	3,634	3,617	3,617	3,604	3,604
Subscription curbside											
SC3	Cardington Village	2,047	512	2,044	511	2,037	509	2,027	507	2,019	505
SC4	Edison Village	435	109	434	109	433	108	431	108	429	107
Full-time, urban drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Part-time, urban drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Full-time, rural drop-off											
FTR29	Peru Township	1,525	2,500	1,523	2,500	1,517	2,500	1,510	2,500	1,504	2,500
FTR30	Bennington Township	2,778	2,500	2,774	2,500	2,764	2,500	2,751	2,500	2,740	2,500
FTR31	Cardington Township	1,081	2,500	1,079	2,500	1,075	2,500	1,070	2,500	1,066	2,500
FTR32	Chester Township at Chesterville	1,671	2,500	1,668	2,500	1,662	2,500	1,655	2,500	1,648	2,500
FTR33	Franklin Township	1,632	2,500	1,629	2,500	1,624	2,500	1,616	2,500	1,610	2,500
FTR34	Fulton Township	261	2,500	261	2,500	260	2,500	258	2,500	257	2,500
FTR35	Perry Township	1,950	2,500	1,947	2,500	1,940	2,500	1,931	2,500	1,924	2,500
FTR36	South Bloomfield Township	1,770	2,500	1,767	2,500	1,761	2,500	1,753	2,500	1,746	2,500
FTR37	Washington Township	1,312	2,500	1,310	2,500	1,305	2,500	1,299	2,500	1,294	2,500
FTR38	Westfield Township	1,205	2,500	1,203	2,500	1,199	2,500	1,193	2,500	1,189	2,500
FTR39	Congress Township	2,732	2,500	2,728	2,500	2,718	2,500	2,705	2,500	2,695	2,500
FTR40	Mt. Gilead, Mid-Ohio Recycling Center	3,653	2,500	3,647	2,500	3,634	2,500	3,617	2,500	3,604	2,500
FTR43	Congress Township	2,732	-	2,728	2,500	2,718	2,500	2,705	2,500	2,695	2,500
Part-time, rural drop-off											
None	None	-	-	-	-	-	-	-	-	-	-
Mixed municipal waste material recovery facility											
None	None	-	-	-	-	-	-	-	-	-	-
Total County Population		35,074		35,018		34,895		34,733		34,600	
Total Population Credit		34,274		36,767		36,752		36,732		36,716	
Percent of Population		98%		100%		100%		100%		100%	

Sources of Information: Ohio Development Services Agency, 2015 Population Estimates by County, City, Village, and Township, May 2015.

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 municipal jurisdiction.

Summary of Recycling Infrastructure

The following table summarizes the percentage of residents with access to recycling opportunities for the reference year and year 1, 5, 10, and 15 of the planning period.

Table J-1e: Summary Table for Opportunity to Recycle

Year	Population Data	County				Total
		Delaware	Knox	Marion	Morrow	
2015	Total County	67,204	61,041	65,355	5,074	328,674
	Credit	51,158	59,179	58,863	34,274	303,473
	% Access	90%	97%	90%	98%	92%
2019 (Year 1)	Total County	179,430	60,727	64,788	35,018	339,963
	Credit	81,116	61,580	58,547	36,767	338,010
	% Access	101%	101%	90%	105%	99%
2023 (Year 5)	Total County	192,671	60,606	64,203	34,895	352,376
	Credit	180,589	61,542	58,222	36,752	337,105
	% Access	94%	102%	91%	105%	96%
2028 (Year 10)	Total County	210,016	60,850	63,476	34,733	369,074
	Credit	197,096	61,619	57,817	36,732	353,264
	% Access	94%	101%	91%	106%	96%
2033 (Year 15)	Total County	227,661	61,635	62,848	34,600	386,743
	Credit	208,844	61,866	57,468	36,716	364,893
	% Access	92%	100%	91%	106%	94%

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
Delaware						
Sims Brother, LLC	Buy Back, Scrap Yard, Hauler Collection	✓	✓	✓	✓	
Rumpke Consolidated Co Inc	Hauler Collection	✓	✓	✓	✓	✓
Waste Management	Hauler Collection	✓	✓	✓	✓	
Republic Services	Hauler Collection	✓	✓	✓	✓	
Capitol Waste and Recycling	Hauler Collection	✓	✓	✓	✓	
Local Waste Services	Hauler Collection	✓	✓	✓	✓	
Delaware City	Hauler Collection	✓	✓	✓	✓	
Knox						
Green Machine Shingle Recycling, LLC	Drop-off, Buy-Back,	✓	✓	✓	✓	✓
Republic Services	Hauler Collection	✓	✓	✓	✓	
Ross Bros Salvage	Buy-Back			✓		
Rumpke Consolidated Co Inc	Hauler Collection	✓	✓	✓	✓	✓
Waste Management	Hauler Collection	✓	✓	✓	✓	
Marion						
Sims Brother, LLC	Buy Back, Scrap Yard, Hauler Collection	✓	✓	✓	✓	
General Recycling of Ohio, LLC	Drop-off, Buy-Back			✓		
Morrow						
Republic Services	Hauler Collection	✓	✓	✓	✓	
Village of Mt. Gilead	Hauler Collection	✓	✓	✓	✓	
Heartland Metal Exchange	Drop-off, Buy-Back			✓		
Mid-Ohio Sanitation	Drop-off, Buy-Back	✓	✓	✓	✓	
Rumpke	Hauler Collection	✓	✓	✓	✓	

CC = corrugated cardboard, MP = mixed paper, SC = steel cans, PL = plastics, W = wood pallets and packaging

*Offers rebate program to customers for metals.

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

DKMM's jurisdiction for five materials designated for the commercial sector to demonstrate compliance with Goal 1 are as follows:

- Corrugated cardboard: 14
- Mixed paper: 14
- Steel cans: 17
- Plastics: 14
- Wood pallets and packaging: 3

C. Demonstration of Meeting Other Requirements for Achieving Goal 1

1. Residential/Commercial Waste Reduction and Recycling Rate

In the reference year, DKMM's R/C sector achieved a 26.3% waste reduction and recycling rate, which exceeds the 25% requirement to achieve Goal 1. The waste reduction and recycling rate for the R/C sector is projected to 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, DKMM's HHW program, DKMM's Recycling Drop-Off Program, curbside recycling programs, and organics diversion facilities.

2. Industrial Waste Reduction and Recycling Rate

In the reference year, DKMM's industrial sector achieved a 88.3% waste reduction and recycling rate, which exceeds the 66% requirement to achieve

Goal 1. The waste reduction and recycling rate for the industrial sector is 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:

- **County Outreach and Marketing Plans:** Each county Recycling Program develops a plan as well as the District in January. Plans include specific programs and activities with clearly defined objectives and measurable outcomes when appropriate.
- **District Web Site:** The web site will include a comprehensive resource guide and an Infrastructure Inventory. The web site is used to promote all the recycling opportunities in the District and will

include information and links useful to residents, business, and industry. The web site will be updated regularly. (www.dkmm.org)

- **Comprehensive Resource Guide:** The District prepares a compilation of waste reduction and recycling opportunities to address the recycling of specific materials including both common recyclables and difficult to manage materials.
- **Business Recycling, Waste and Disposal Service Guide:** The Guide includes a comprehensive list of service providers that handle all types of recyclables, including difficult to manage materials.
- **Infrastructure Inventory:** Each county program maintains and keeps up-to-date information about the solid waste recycling and management infrastructure in the county.
- **Program Managers:** The program managers, who are funded by the District, work as Environmental Educators in their communities. The District works with the county Recycling and Litter Prevention programs to ensure that staff or volunteers are available who can make presentations that provide information on District programs and inform audiences about recycling and waste reduction topics.
- **HHW Education:** The HHW education programs are focused to educate residents about the problems associated with HHW disposal and encourage residents to find alternatives to using or disposing of products considered to be hazardous.

Appendices I and L include detailed information about each program.



APPENDIX K

WASTE REDUCTION AND RECYCLING RATES AND DEMONSTRATION OF ACHIEVING GOAL



APPENDIX K. Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2

Even though the District has chosen to demonstrate compliance with Goal 1 of the *State Plan*, the District does currently and is projected into the planning period, to achieve Goal 2 as well, which states that the District will recycle or reduce 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.

The reason this *Plan Update* is being written as a Goal #1 plan is because the District feels comfortable with the infrastructure in place to meet Goal #1. For Goal #2, the District is always concerned about data collection and the variances that can occur which would directly affect the District's ability to demonstrate compliance with Goal #2.

Table K-1 below shows the waste reduction and recycling rates for the residential/commercial sector in the reference year and projected for the planning period. Slight increases in the waste reduction and recycling rate (WRR) is projected from 2016 through 2033.

Table K-1. Annual Rate of Waste Reduction: Residential/Commercial Solid Waste

	Year	Population	Recycled	Disposed	Total Generated	Waste Reduction & Recycling Rate	Per Capita Waste Reduction & Recycling Rate (ppd)
X First Year of Planning Period ↑	2015	328,674	85,076	238,145	323,222	26.32%	1.4
	2016	331,496	88,792	238,211	327,003	27.15%	1.5
	2017	334,319	88,995	238,259	327,255	27.19%	1.5
	2018	337,141	89,199	238,291	327,490	27.24%	1.4
	2019	339,963	89,403	238,306	327,708	27.28%	1.4
	2020	342,785	89,606	238,304	327,910	27.33%	1.4
	2021	345,982	89,837	238,544	328,381	27.36%	1.4
	2022	349,179	90,067	238,764	328,831	27.39%	1.4
	2023	352,376	90,298	238,965	329,262	27.42%	1.4
	2024	355,572	90,528	241,132	331,661	27.30%	1.4
	2025	358,769	90,759	243,300	334,059	27.17%	1.4
	2026	362,204	91,007	245,630	336,636	27.03%	1.4
	2027	365,639	91,254	247,959	339,214	26.90%	1.4
	2028	369,074	91,502	250,289	341,791	26.77%	1.4
	2029	372,510	91,750	252,619	344,368	26.64%	1.3
	2030	375,945	91,998	254,948	346,946	26.52%	1.3
	2031	379,544	92,257	257,389	349,646	26.39%	1.3
	2032	383,144	92,517	259,830	352,347	26.26%	1.3
	2033	386,743	92,776	262,271	355,048	26.13%	1.3

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:

2015 Waste Reduction & Recycling Rate = (2015 Waste Reduced & Recycled ÷ 2015 Waste Generated) x 100

26.32% = (85,076 tons ÷ 323,222 tons) x 100

2015 Per Capita Waste Reduction and Recycling Rate = ((2015 tons recycled x 2,000) ÷ 365) ÷ population

1.4 ppd = ((323,222 tons x 2,000) ÷ 365 days/year) ÷ 328,674 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 exceeds the requirements of Goal 2 to reduce and recycle at least 66% of the solid waste generated by the industrial during the reference year. The District anticipates slight increases throughout the planning period, surpassing the industrial sector requirements of Goal 2 each year of the planning period.

Table K-2. Annual Rate of Waste Reduction: Industrial Solid Waste

	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
First Year of Planning Period	2015	161,065	21,376	182,441	88.28%
	2016	160,862	21,435	182,297	88.24%
	2017	160,659	21,495	182,154	88.20%
	2018	160,456	21,555	182,011	88.16%
	2019	160,254	21,615	181,869	88.11%
	2020	160,052	21,676	181,727	88.07%
	2021	159,850	21,736	181,586	88.03%
	2022	159,648	21,797	181,445	87.99%
	2023	159,648	21,858	181,506	87.96%
	2024	159,648	21,858	181,506	87.96%
	2025	159,648	21,858	181,506	87.96%
	2026	159,648	21,858	181,506	87.96%

	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
	2015	161,065	21,376	182,441	88.28%
	2016	160,862	21,435	182,297	88.24%
	2017	160,659	21,495	182,154	88.20%
	2018	160,456	21,555	182,011	88.16%
	2027	159,648	21,858	181,506	87.96%
	2028	159,648	21,858	181,506	87.96%
	2029	159,648	21,858	181,506	87.96%
	2030	159,648	21,858	181,506	87.96%
	2031	159,648	21,858	181,506	87.96%
	2032	159,648	21,858	181,506	87.96%
	2033	159,648	21,858	181,506	87.96%

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-7 (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:

2015 Waste Reduction & Recycling Rate = (2015 Waste Reduced & Recycled ÷ 2015 Waste Generated) x 100

88.28% = (161,065 tons ÷ 182,441 tons) x 100

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 47 and 49 percent from 2016 to the end of the planning period.

Table K-3. Annual Rate of Waste Reduction: Total Solid Waste

	Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
X First Year of Planning Period →	2015	246,141	259,521	505,662	48.68%
	2016	249,654	259,646	509,300	49.02%
	2017	249,654	259,755	509,409	49.01%
	2018	249,655	259,846	509,501	49.00%
	2019	249,656	259,921	509,577	48.99%
	2020	249,658	259,979	509,637	48.99%
	2021	249,687	260,280	509,967	48.96%
	2022	249,715	260,561	510,276	48.94%
	2023	249,946	260,822	510,768	48.94%
	2024	250,177	262,990	513,167	48.75%
	2025	250,407	265,158	515,565	48.57%
	2026	250,655	267,487	518,142	48.38%
	2027	250,903	269,817	520,720	48.18%
	2028	251,150	272,147	523,297	47.99%
	2029	251,398	274,476	525,874	47.81%
	2030	251,646	276,806	528,452	47.62%
	2031	251,905	279,247	531,152	47.43%
	2032	252,165	281,688	533,853	47.23%
	2033	252,425	284,129	536,553	47.05%

Sources of Information:

Tables K-1 and K-2

Sample Calculations:

2015 Waste Generated = 2015 Waste reduced and recycled + 2015 waste disposed

505,662 tons = 246,141 tons + 259,521 tons

2015 Waste Reduction & Recycling Rate = (2015 Waste Reduced & Recycled ÷ 2015 Waste Generated) x 100

48.68% = (246,141 tons ÷ 505,662 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 provide assistance in achieving the targeted recycling rates are discussed in Appendix I.



APPENDIX L

MINIMUM REQUIRED EDUCATION PROGRAMS: OUTREACH AND MARKETING PLAN AND GENERAL EDUCATION REQUIREMENTS



APPENDIX L. Outreach and Marketing Analysis

This section discusses State Plan Goals 3 and 4 and the District's strategies to 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

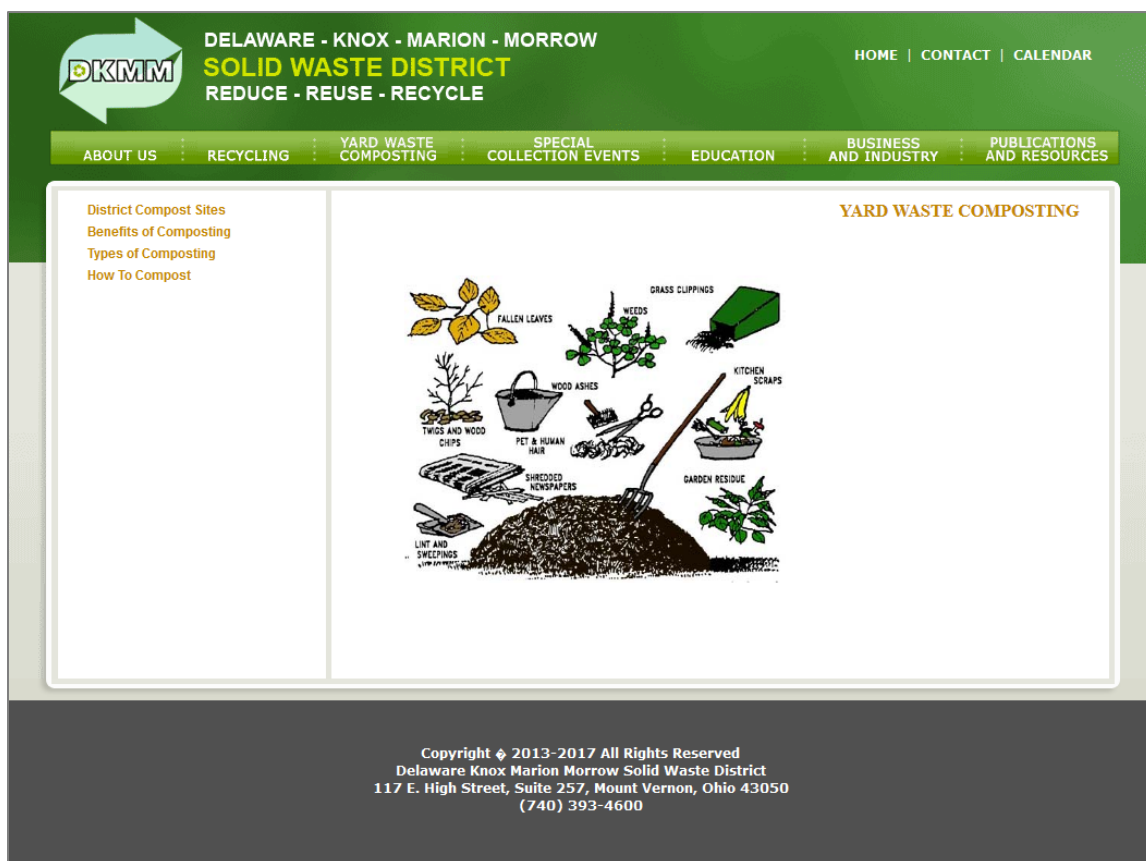
In accordance with Goal 3 of the *2009 State Plan*, the District is required to provide four minimum education programs including: (1) a website, (2) a comprehensive resource list, (3) an inventory of available infrastructure, and (4) a speaker or presenter. The District met these requirements in the reference year.

Website

The District's website address is easy to remember (<https://www.dkmm.org/>) and is updated regularly. The website includes drop-down menus for recycling, yard trimmings composting, special collection events, and education. Figure L-1 shows the webpage for yard trimmings composting, which provides residents information on available compost sites, benefits of composting types of composting, and instructions for composting.

In 2016, the District added a drop-down menu for business and industry to make it easier to find information. This menu provides information on surveys, the District's recycling/waste/disposal service guide for businesses, pollution prevention, and the costs of waste management.

Figure L-1. District's Webpage for Yard Trimmings Composting



The District's website also includes a drop-down menu which provides links to useful publications, resources, and other information. The subjects incorporated in this menu include:

- Agricultural plastics recycling
- The annual report for the District
- Bi-laws for the District
- Newsletter
- The current DKMM plan
- District rules
- Grant opportunities
- Press releases

The District advertises the availability of its website using a variety of mechanisms. The website address appears in the recycling guides developed for each county and in the District newsletter. Links to the District website have also been incorporated into the websites for partners such as health districts in each county and haulers/processors operating in the District.

Websites updates are completed on an ongoing and as-needed basis. Examples of routine updates include adding upcoming events to the calendar, updating the residential recycling guide, and replacing the Solid Waste Plan each time a new update is approved.

Maintaining and updating the District website is the responsibility of the District.

Each County within the District is also required to have an active website as well.

Comprehensive Resource List and Inventory of Available Infrastructure

The District maintains a “Residential Recycling Guide” for each county. These guides identify all the available drop-off locations for typical recyclables (i.e., paper, cardboard, plastic bottles, etc.), and provide a list of businesses which accept items such as lead-acid batteries, scrap tires, anti-freeze, and many other materials. This list is posted on the website for easy accessibility. The recycling guides also identify other solid waste infrastructure within the District, including compost facilities, solid waste transfer stations, scrap yards, and material processing facilities.

The District has also created a “Business Recycling, Waste and Disposal Service Guide” which is available on the District website. This document includes a list of Ohio commercial facilities accepting various types of materials. Users of the guide are encouraged to contact each facility listed for a complete description of services.

Maintaining and updating the residential recycling guides and the guide for businesses is the responsibility of the District, with the assistance of the county-based program managers. This task is typically scheduled for the beginning of each year.

Speaker/Presenter

The District supports an active education program through the Environmental Education Programs in all four of its County Recycling & Litter Prevention offices.¹ The program managers, who are funded by the District, work as Environmental Educators in their communities and have the necessary:

“...experience to lead programs that correlate to Ohio Learning Standards with a fun hands-on approach. Program Managers are also available to participate in community events by having educational displays and hands-on activities.” [from the District’s website]

¹ Local “Keep America Beautiful” affiliates also provide educational assistance in some of the District’s counties.

Program managers can provide presentations on a wide range of environmental and solid waste topics, and are available for both youth and adult settings. (See figure below.) Organizations, institutions, or businesses interested in scheduling a presentation for a particular topic are encouraged to contact the program manager working in their county. During 2015, the District program managers provided:

- 50 classroom presentations, reaching 3,811 students
- 13 adult programs reaching 1,171 individuals
- Displays and activities at several fairs and festivals (as discussed earlier in this appendix)

Figure L-2. Environmental Education Activity in the District



B. Evaluation of Existing Outreach, Education, and Technical Assistance Programs

The District currently has existing programs which address the five required target audiences. (See Table L-1 below.) Some of these programs (Financial Incentives Technical Assistance, Market Development Technical Assistance, and the Waste Audit Program) were described and evaluated in earlier sections of this appendix and will not be discussed here. The following discussion 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
District Website	✓	✓	✓	✓	✓
Distributing Publications at Community Events	✓	✓			✓
Social Networking	✓				
Presentations	✓	✓		✓	✓
County Outreach and Marketing Plans	✓	✓			
Comprehensive Resource Guides	✓	✓	✓	✓	
Financial Incentives Technical Assistance				✓	✓
Market Development Technical Assistance	✓	✓	✓	✓	✓
Waste Audit Program			✓	✓	
School Paper Recycling Program		✓			
District Newsletter	✓	✓	✓	✓	✓
Total Program per Group	7	8	4	6	6

1. Audience: Residents

a. Overview

As shown in Table L-1 above, the District endeavors to educate residents through several existing programs. While the District website is a primary source of information available for residents, other mechanisms are used as well to convey solid waste, recycling, and sustainability practices to the public.

- b. Using Social Marketing.** The District office does not directly use social marketing tools to promote educational information, however, each of the county programs use Facebook to connect with residents. For example, visitors to the county program websites are invited to “Like us on Facebook.”

(<http://www.delawarehealth.org/content.cfm?article=litter-and-recycling>)

- c. Outreach Methodologies.** The District relies on residents visiting their website, distribution of publications at community events, and

presentations to spread the educational messages associated with solid waste management and the infrastructure within the District. Technical assistance is provided to residents upon request through phone calls and in-person meetings. The District could use strategies to inquiry if residents know where recycling drop-offs are and if they use the service when the attending community events. This may remind the residents what services are available to change their behavior to utilize the infrastructure.

The District also periodically writes a newsletter containing information about upcoming events, how to recycle, important contact information, and descriptions of programs which may be useful. The newsletter is available on the District's website and is delivered to all five target audiences through via email.

- d. **Strengths and Challenges.** Table L-2 shows the strengths and challenges associated with the District programs designed to target residents.

Table L-2. Program Strengths and Challenges for Target Audience: Residents

Strengths	Challenges
Website potentially available to wide range of residents	No information available regarding how many individuals are reached
District reaches large number of residents at community events	No information compiled to evaluate effectiveness of programs
County programs use social networking	

2. **Audience: Schools**

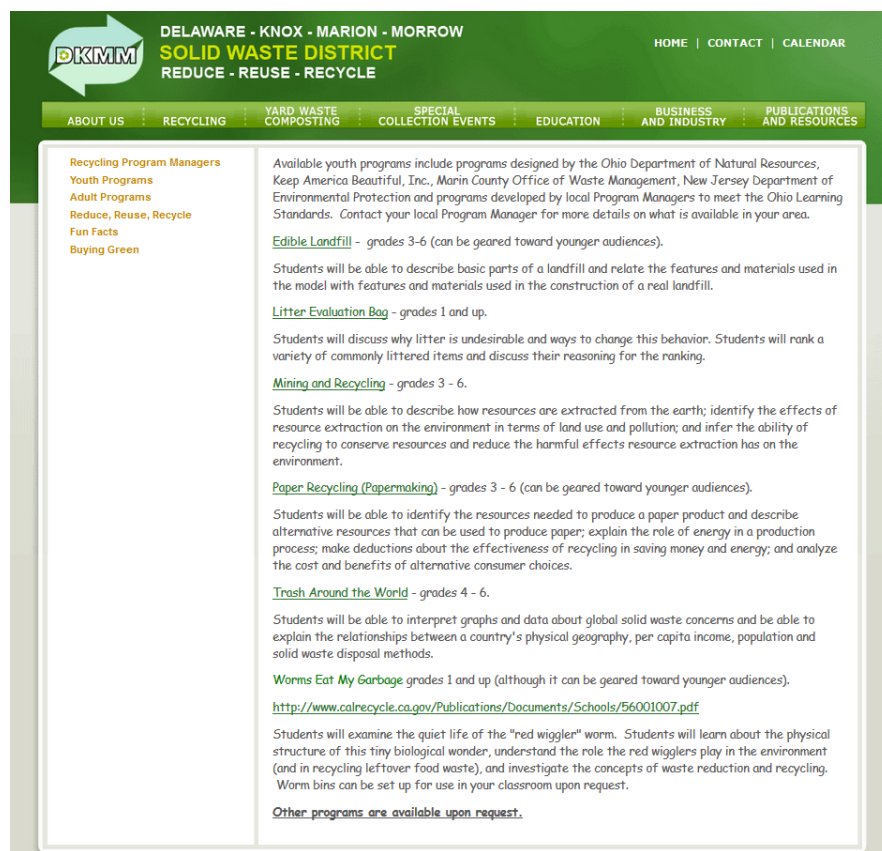
a. **Overview**

The District provides several methods for schools to obtain information about solid waste management and sustainability. Teachers can visit the District's website to:

- find suggestions for class projects (see Figure L-3 below);
- use “fun facts” such as *a used aluminum can is recycled and back on the grocery shelf within just 60 days*; or
- find links to other resources.

Presentations are an important aspect of the District's education program to reach the school audience. Program managers in each county are available to schools to discuss topics including paper recycling, understanding the operation of landfills, learn about material recovery facilities, enviro-shopping, and vermicomposting. The presentation includes where and how students can recycle and can poll participation in using recycling containers. During 2015, program managers provided a total of 50 presentations in school classrooms. Publications, comprehensive resource guides, and technical assistance is available from the District for use in schools as well.

Figure L-3. Educational Programs Available for Schools on District Website



b. Using Social Marketing

As stated above, the District office does not directly use social marketing tools to promote educational information. However, each of the county programs use Facebook and are available to share information in this manner.

c. Outreach Methodologies

The District relies on schools visiting their website, distribution of publications at community events, and presentations to spread the educational messages associated with solid waste management. Through years of service provided, schools and teachers within the schools are also aware of the availability of program managers to assist with solid waste educational efforts.

Further outreach is performed by letters sent to schools annually outlining services offered by the County Recycling & Litter Prevention Office (CRLPO). This outreach method includes a link to the website where educators can find further information on the County's recycling and proper disposal opportunities and events.

d. Strengths and Challenges

Table L-3 shows the strengths and challenges associated with the District programs designed to target schools. One of the challenges identified in the table is information about recycling infrastructure (i.e., recycling containers and dumpsters) in schools. Research has shown that increasing recycling is closely related to the ease of recycling. Teachers and students are much more likely to change behavior and recycle at school if the containers are available, signage is clear, etc.

**L-3. Program Strengths and Challenges for Target Audience:
Schools**

Strengths	Challenges
Classroom presentations provided in each county	No information compiled to evaluate effectiveness of programs
Wide range of topics available for presentations	A complete list of schools with and without recycling containers has not been developed

3. Audience: Industries**a. Overview**

The District maintains offers several programs which have the potential to provide information and education to industries. The

District website includes a drop-down menu on the homepage specifically for business and industry interests. (See Figure L-4.)

Figure L-4. Programs Available for Industries on District Website



The District has contact with hundreds of industries throughout the four-county area each year through its annual survey. Results from surveys are reviewed, and the District may follow-up with certain industries depending upon the information provided. For example, the company may request assistance, or indicate that they would likely recycle if services were available.

b. Using Social Marketing

The District does not currently use social marketing techniques with this audience.

c. Outreach Methodologies

In addition to the District website and the annual survey, the District also provides a comprehensive resource guide, technical assistance for market development of recyclables, waste audits upon request and assistance with grants. These programs and efforts are described and evaluated in Sections 2 and 5 in this appendix.

The District offers assistance to industries for OEPA grant applications to improve recycling rates and infrastructure.

d. Strengths and Challenges

Table L-4 shows the strengths and challenges associated with the District programs designed to target industries.

Table L-4. Programs Strengths and Challenges for Target Audience: Industries

Strengths	Challenges
Website provides good information and resources for industries	Very limited information available regarding how many industries use educational resources
	No information compiled to evaluate effectiveness of programs

4. Audience: Institutions & Commercial Businesses

a. Overview

The District provides information on its website, in its comprehensive resource guide, and in its “Business Recycling, Waste Reduction, and Disposal Service Guide” which can be useful to commercial businesses and institutions. The District conducts an annual survey of commercial businesses which not only collects information about businesses, but also reminds companies that the District is available to provide assistance in solving waste management issues.

b. Using Social Marketing

The District does not currently use social marketing techniques with this audience.

c. Outreach Methodologies

In addition to the District website, the annual survey, and resource guides, the District provides technical assistance for market development of recyclables, and waste audits upon request for this audience, as it does for industries. Commercial businesses and institutions are also eligible to participate in the OEPA Grant Program which is another methodology used by the District to provide education and outreach to this audience. The District offers assistance with OEPA grant applications to improve recycling rates and infrastructure. These programs and efforts are described and evaluated in Sections 2 and 5 in this appendix.

Each county which has a college is connected with the CRLPO. This includes the involvement through sustainability clubs and maintenance staff on campus. The CRLPO could promote a waste audit for the school and have the involvement on the outcome for the students. By focusing on the students and the maintenance staff, the school may choose to have an audit performed by the District.

d. Strengths and Challenges

Table L-5 shows the strengths and challenges associated with the District programs designed to target institutions and commercial businesses.

Table L-5. Program Strengths and Challenges for Target Audience: Institutions and Commercial Businesses

Strengths	Challenges
Website provides good information and resources for institutions and businesses	Very limited information available regarding the use educational resources by the target audience
	No information compiled to evaluate effectiveness of programs

5. Audience – Communities & Elected Officials

a. Overview

The District provides information on its website, in its comprehensive resource guide, through presentations, and events such as fairs and festivals which are all available to communities and elected officials.

b. Using Social Marketing

The District does not currently use social marketing techniques with this audience.

c. Outreach Methodologies

In addition to the description provided above, the District staff typically meets with communities and elected officials in various forums throughout the year. For example, the District sometimes gives presentations at meetings for rotary clubs, chambers of

commerce, and township trustees. This targeted audience also receives the District newsletter. Opportunities to interact with community officials to develop great working relationships and provide educational information can occur through the implementation of programs such as scrap cleanups, technical assistance to improve recycling and hosting the District recycling containers for the drop-off program.

d. Strengths and Challenges

Table L-6 shows the strengths and challenges associated with the District programs designed to target communities & elected officials.

Table L-6. Program Strengths and Challenges for Target Audience: Communities and Elected Officials

Strengths	Challenges
Website provides good information and resources	No information available to evaluate effectiveness of programs for target audience
Newsletter is good source of information for communities	
Meetings and presentations attended by District provide good opportunity to interact with target audience	

C. Tracking Results and Measuring Effectiveness

The number of presentations conducted by representatives at schools and community events are tracked by the District. But data is not compiled which shows the number of individuals or companies reached with other programs, or the effectiveness of reaching other target audiences through the various existing District programs.

1. Measuring Results

Drop-off Sites

If the District identifies any drop-off site which has higher contamination/dumping, steps will be taken to focus education of recycling infrastructure in the area. Education may include adult programs in the area with a handout focused on contamination and dumping for drop-off sites. A measure if contamination/dumping decreased after outreach event(s).

Special Collections

The District has a number of special collection events and has the capacity to improve on the measuring method. Events may include HHW and tire collection events. During the planning period, the District will develop a system for tracking the participation. This can be done by the number of residents which show up or count households/address or the number of vehicles which come to the event. The tonnage for the events can be tracked

2. Measuring Effectiveness

The District can see improvements in program tonnage or the number of participants noted that it may have focused on. For example, tonnage from the HHW collection program may increase after the handouts focused on HHW at an adult recycling program in a county.

Some drop-off sites can be tracked for contamination rates over a period of time. This will allow the District to know if a particular outreach method works and others that may not have responded.

Special collection events participation can be compared year to year and based on tonnage per person or household. This will allow the District to measure effectiveness of the outreach programs which focus on these types of events.

D. Other Suggestions for Improvement

In addition to the challenges identified above for target audiences, the District has identified potential changes to existing programs as well as new programs which could improve the delivery of education and outreach to target audiences.

- Webinars. Many organizations have developed and recorded webinars to help educate the public on a wide variety of environmental topics. In some cases, a recorded webinar may be preferable to a teacher, company environmental manager, or a resident simply because it can be “consumed” at any time based on convenience. The District could identify useful webinars online, organize them according to topic area and target audience, then create links to the webinars on the website. Printed brochures could also be developed showing this information.

- Mailing inserts. The District could explore the possibility of including inserts with mailings. For example, an insert could be developed explaining the waste audit program and its benefits, then the insert could be included in the annual survey mailing to businesses, institutions, and industries. The District could use this approach for two to three years and then determine if requests for waste audits have increased due to the mailing inserts.
- Data to measure effectiveness. The District currently has very limited data to measure the effectiveness of education and outreach programs. Each program could be examined to determine the types of data necessary to evaluate the program, take steps to collect the data, and then evaluate it. The District could also undertake survey efforts to determine if the educational imperative of recycling, waste reduction, etc. is being adequately delivered to the five target audiences. If the answer to this question is “no”, changes could be made to existing programs (or new programs could be created) to address the deficiency(ies).
- Social marketing. The District could develop a comprehensive plan for improving social marketing to all target audiences.
- Backyard composting. The District could explore the possibility of promoting backyard composting for residents in conjunction with the master gardener program available through county extension service offices. Producing compost from yard trimmings (and other organics) is certainly compatible with improving landscaping and growing healthier plants associated with the master gardener program.
- Identification of additional resources. The District provides links for obtaining information on its website. This listing could be expanded and organized by target audience to improve user friendliness. Printed lists of additional resources could also be compiled. In conjunction with developing lists of additional resources, the District conduct random surveys of the target audiences to better understand their needs in terms of waste reduction and recycling information. Teachers may want easy and quick access to curriculum guides, and many websites provide useful classroom exercises, projects, and courses.
- Press releases. The District could devote more efforts towards developing timely press releases and ensure that all local newspapers, radio stations, and other news outlets within the District receive copies. Additional exposure for various programs and topics may improve participation within the four-county area.
- Although the health departments offer education on tire and open dumping regulations, more could be done by regulators and the health departments to provide outreach regarding events like the clean-up days and other solid waste programs/events and/or issues.

E. Outreach and Marketing Plan

The programs described above and the manner in which they are implemented comprise the District's outreach and marketing plan. These programs are designed to provide education of recycling and infrastructure to the five target audiences, and work towards changing behavior to improve waste reduction and recycling efforts. The District and each of the county programs also develop an outreach and marketing implementation plan each year which identifies the specific activities to be undertaken within District programs, and the approximate timelines for completion. Attachment A in this appendix shows the District's outreach and marketing implementation plan for 2017. While the primary purpose of some activities is not necessarily to educate the target audience, each activity includes an educational component.

D. Outreach Priority

The District has selected reducing contamination and illegal dumping in the drop-off recycling program as its outreach priority. Contamination is an ongoing problem at drop-off sites, and the District has a program in place to conduct container audits at sites in Delaware, Marion, and Morrow Counties. The District plans to evaluate the information obtained from these audits to help understand the problem, and then determine steps which will be taken to reduce contamination. Education will necessarily be a major component of this effort, and may include improved signage, participation surveys, news releases focusing on this problem, and direct mail to residents who live near drop-off sites with the worst contamination issues. The District will likely describe to residents the extent of contamination occurring, and emphasize the problems created from this issue (i.e., lower or no value for recyclables, higher processing cost at MRFs, etc.).

Attachment A

Activity	Audience					
	Residential	Commercial	Institutional	School Age	Government	Other
Special Collection Events	x					
Residential Recycling Guide Annual Update	x					
Maintain Drop-Off Program	x					
Maintain Compost Program	x					
Program Manager Meetings						x
Political Subdivision Tire Program					x	
Business Communication		x	x			
Encourage Curbside Recycling	x				x	
Ag Plastics Recycling Program	x	x				
Newsletter- Waste Watcher		x	x	x	x	
Regularly Update Website	x	x	x	x	x	
Oversee CRLPO contract						x
Oversee Health Department contract						x
Board and Committee Meetings						x
Annual District Report-EPA						x
Quarterly Financial Report-EPA						x
Annual Board Report					x	
Presentation Opportunities- (County Chamber, Rotary, Twp. Associations)		x	x		x	
MORCP Meetings						x
EPA Workgroup Meetings						x
Designation Fees						x
Financial Management						x
Maintenance to recycling containers- Morrow and Marion	x					
Hold a joint CRLPO & Health Department Meeting						x

Paper Shredding Events	x					
Solid Waste Management Plan Update						x
Drop-Off Contamination Reduction Effort						x
Recycling Facilities Upgrade Plan						x
EPA Ag Tire Grant Administration		x				
EPA Price Farm Grant Administration		x				
Materials Management Advisory Council						x

Activity	Implementation Timeline			
	1-3 months	4-6 months	7-9 months	10-12 months
Special Collection Events	Finalize dates, develop promo material, post on website	Hold morrow and Marion events, analyze events, review budget	Hold Knox event, analyze event, review budget	Hold Delaware event, determine program needs for 2018
Residential Recycling Guide Annual Update	Update with CRLPO, post on web and print needed copies			
Maintain Drop-Off Program	Decrease holiday service, keep a close eye on Knox and add service when needed, monthly weight reports and review	Compile drop-off inventory and report needs to haulers, keep a close eye on Knox and add service when needed, monthly weight reports and review	Monthly weight reports and review	Holiday service schedule in place prior to Christmas, monthly weight reports and review
Maintain Compost Program	Compile OEPA compost report due February 1, finalize upgrades Knox Co.	Determine need for spring grinding		Determine need for fall grinding
Program Manager Meetings	February	May	August	November
Political Subdivision Tire Program	Invoice Marion Twps/ODOT/Morrow Transport service as needed, ensure proper use in Morrow	Invoice Marion Twps/ODOT/ Morrow Transport, service as needed, ensure proper use in Morrow	Invoice Marion Twps/ODOT/ Morrow Transport, service as needed	Invoice Marion Twps/ODOT/ Morrow Transport, service as needed
Business Communication	Business waste guide-update, post on web			
Encourage Curbside Recycling	Work with Mount Vernon on improvements, Grandview Estates??, others	Compile curbside inventory from CRLPO offices		

Activity	Implementation Timeline			
	1-3 months	4-6 months	7-9 months	10-12 months
Ag Plastics Recycling Program	Ensure super sacks are available	Ensure super sacks are available	Ensure super sacks are available	Ensure super sacks are available
Newsletter-Waste Watcher	Continue to compile email list	Spring, continue to compile email list	Continue to compile email list	Fall, continue to compile email list
Regularly Update Website	Regular updates	Regular updates	Regular updates	Regular updates
Oversee CRLPO contract	30% payment Jan., reminder that final 2016 report due January 31	25% payment April	25% payment July, half year report due July 31	20% payment October, begin updating contract for 2018
Oversee Health Department contract	30% payment January, reminder final 2016 report due January 31, update reporting forms	25% payment April	20% payment July, half year report due July 31	20% payment October, begin updating contract for 2018
Board and Committee Meetings	Feb. Executive Comm and Board	April Exec. Comm., May Board, June Policy	Aug. Exec, Joint and Board, Sept. Policy	Oct. Exec, Nov. Budget, Dec. Exec and Board
Annual District Report- EPA	Update survey forms and mailing lists, mail information out	Condense information weekly into spreadsheet, report due June 1.	Evaluate report forms and system of data collection	
Quarterly Financial Report- EPA	1st quarter	2nd quarter	3rd quarter	4th quarter
Annual Board Report			Finalize for Joint Meeting in August	
Presentation Opportunities- (County Chamber, Rotary, Twp. Associations)	As requested			
MORCP Meetings	As scheduled			
EPA Workgroup Meetings	1st quarter	2nd quarter	3rd quarter	4th quarter
Designation Fees		Review halfway through the year and see if any abnormalities		
Financial Management	Cash basis, closeout 2016 books, final approval of permanent 2017 budget at Feb. Board Meeting	Review halfway through the year and make changes as necessary		Develop draft 2017 budget, Budget Committee Meeting, finalize 2018 budget at December Board Meeting
Maintenance to recycling containers- Morrow and Marion	As needed			

Activity	Implementation Timeline			
	1-3 months	4-6 months	7-9 months	10-12 months
Hold a joint CRLPO & Health Department Meeting			Organize and hold meeting	
Paper Shredding Events	Get quotes, finalize dates and locations			
Solid Waste Management Plan Update	Kick-off Meeting with Policy Committee, work with consultant on the update	Work with consultant on the update, Policy Committee Meeting	Work with consultant on the update, Policy Committee Meeting	Work with consultant on the update
Drop-Off Contamination Reduction Effort	Perform audit of Delaware, Marion and Morrow containers			
Recycling Facilities Upgrade Plan				
EPA Ag Tire Grant Administration		Develop, print tire handout		Grant Closeout
EPA Price Farm Grant Administration			Grant closeout	
Materials Management Advisory Council	February meeting	April and June meetings	August meeting	October and December meetings



APPENDIX M

WASTE MANAGEMENT CAPACITY ANALYSIS



APPENDIX M. Waste Management Capacity Analysis

A. Access to Publicly-Available Landfill Facilities

The Delaware-Knox-Marion-Morrow Joint SWMD (District) has no in-district landfills. The District relies solely on out-of-district landfills for all the solid waste disposal capacity needed each year. In the reference year (2015), out of the 14 landfills, four held percentages of solid waste from the district over 10% (Cherokee Run Landfill 19%, County Environmental of Wyandot 17%, Crawford County Sanitary Landfill 44%, and Noble Rd Landfill 11%). These four landfills account for 91% of the solid waste disposal from the District.

At the end of 2015, the Noble Road Landfill was estimated to have less than 9 years and Crawford County Sanitary Landfill at 12 years of remaining capacity based upon the current rate of landfill airspace used. (See Table M-1.) While these landfills' capacity is not enough for needs of the District for the entire planning period, the other two landfills have more than 20 years of capacity along with the other landfills listed (Table M-1) that have room for the waste. As a result, the District has concluded that solid waste haulers need to adequately distribute solid waste to serve the needs of the District for the entire planning.

Table M-1. Remaining Operating Life of Publicly-Available Landfills

Facility	Location	Years of Remaining Capacity ^a
<i>In-District</i>		
None		
<i>Out-of-District</i>		
Athens Hocking C&DD/Reclamation Center Landfill	Athens County, OH	51.2
Carbon Limestone Landfill LLC	Mahoning County, OH	60.7
Cherokee Run Landfill	Logan County, OH	29.1
County Environmental of Wyandot	Wyandot County, OH	156.5
Crawford County Sanitary Landfill	Crawford County, OH	12.1
Evergreen Recycling & Disposal	Wood County, OH	35.5
Franklin County Sanitary Landfill	Franklin County, OH	22.3
Hancock County Sanitary Landfill	Hancock County, OH	30.1
Kimble Sanitary Landfill	Tuscarawas County, OH	30.8
Noble Rd Landfill	Richland County, OH	8.6
Pine Grove Regional Facility	Fairfield County, OH	60.1
Rumpke Waste Inc Hughes Rd Landfill	Hamilton County, OH	14.2
Suburban Landfill, Inc	Perry County, OH	20

Facility	Location	Years of Remaining Capacity ^a
Tunnel Hill Reclamation Landfill	Perry County, OH	22
Out-of-State		
Unknown		

Source(s) of Information: Ohio EPA Facility Data, 2015.

^a Based on remaining life as reported by landfill owner/operators.

The District has ample disposal capacity between all landfills that serve the District; therefore, Tables M-2 and M-3 have been omitted.

B. Access to Captive Landfill Facilities

No captive landfills exist within the District.

C. Access to Processing Capacity for Recovered Materials

There was not ample processing capacity for recovered materials during the reference year (2015) as the Knox County MRF closed. Existing processors are expected to continue operating.

The District is exploring options to provide a lower-cost solution to Knox County MRF closure. Numerous meetings have occurred at the Board level as well as at the District to develop possible solutions in 2016 and 2017.

Appendix I will include the possible solutions that either will be implemented in the new planning period or before as determined by the Board.

D. Incinerators and Energy Recovery Facilities

The District sent less than 1,000 tons of waste to medical waste treatment facilities during the reference year (2015). It is expected that these facilities (or similar facilities) will continue to provide necessary capacity to process these types of waste. In addition, the amount of waste processed by these facilities is less than 0.1% of the total waste disposal. At this time, incinerator and other energy recovery facilities are not incorporated into this Plan.

The District has no reported incinerators or energy recovery facilities that serve the District; therefore, Tables M-4 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 data and data projected for the sixth year of the planning period, or year 2024. Table N-1 shows the waste categories as well as the amounts recycled, landfilled, and composted which were entered into the model. 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" waste category in Table N-1 represents the sum of the estimated tonnages for the following sources:

- Processors (for both residential/commercial and industrial)
- MRFs (for both residential/commercial and industrial)
- Ohio EPA Retail Data
- HHW Collection
- Residential Curbside Recycling
- Drop-offs
- Commercial and industrial survey results

Table N-1. Tons of Solid Waste Applied to WARM

Waste Category	2015 (Reference Year)			2024		
	Recycled	Landfilled	Composted	Recycled	Landfilled	Composted
Yard Trimmings	-	-	18,504	-	-	25,516
Mixed Recyclables	196,497	-	-	213,757	-	-
Scrap tires	2,607	-	-	2,885	-	-
Mixed waste	-	259,521	-	-	268,498	-

The top half of Table N-2 shown below provides the results from the WARM assuming that all waste generated in the reference year is disposed in landfills. The model estimates a net production of 186,373 metric tons of carbon dioxide equivalents (MTCO₂E) 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 2015, and is termed the alternative scenario. The alternative scenario results in a net generation of -440,073 MTCO₂E.

Figure N-2. Greenhouse Gas Emissions Printout for Reference Year Data**GHG Emissions from Baseline Waste Management (MTCO₂E):****186,373**

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total MTCO ₂ E
Yard Trimmings	NA	18,504.0	-	-	-	(3,084)
Mixed Recyclables	-	196,497.0	-	NA	NA	70,692
Mixed MSW	NA	259,521.0	-	NA	NA	118,713
Tires	-	2,607.0	-	NA	NA	53

GHG Emissions from Alternative Waste Management Scenario (MTCO₂E):**(440,073)**

Material	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Total MTCO ₂ E
Yard Trimmings	NA	NA	-	-	18,504.0	-	(2,707)
Mixed Recyclables	NA	196,497.0	-	-	NA	NA	(555,098)
Mixed MSW	NA	NA	259,521.0	-	NA	NA	118,713
Tires	-	2,607.0	-	-	NA	NA	(981)

Combining the results from the two scenarios shows the GHG reductions within each waste category which are achieved by recycling and composting compared to landfilling all of the waste stream. (See Table N-3.) The total estimated GHG reductions are 626,446 MTCO₂E.

Table N-3. Net GHG Reductions for 2015: Alternative vs. Baseline Scenarios

Waste Category	Difference Between Scenarios in MTCO ₂ E (Alternative - Baseline)
Yard Trimmings composted	377
Mixed recyclables	-625,790
Scrap tires recycled	-1,034
Mixed waste landfilled	0
Net Totals	-626,446

Note: "MTCO₂E" means metric tons of carbon dioxide equivalent.

Most (if not all) of the waste sent for disposal from the District is received by landfills which operate a gas recovery system. The results shown in Table N-3 assume that all of the recovered gas from landfilling is flared.

The analysis described above has also been conducted for year six of the planning period, or year 2024. The following table shows that the net GHG reductions in 2024 by recycling are more than 681,000 MTCO₂E.

Table N-4. Net GHG Reductions for 2024: Alternative vs. Baseline Scenarios

Waste Category	Difference Between Scenarios in MTCO ₂ E (Alternative - Baseline)
Yard Trimmings composted	520
Mixed recyclables	-680,759
Scrap tires recycled	-1,143
Mixed waste landfilled	0
Net Totals	-681,382

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 2019-2033. 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. Nothing contained in these budget projections should be construed as a binding commitment by the District to spend a specific amount of money on a particular strategy, facility, program and/or activity. The Board of Directors (Board), with the advice and assistance of the District Director, will review and revise the budget as needed to implement the planned strategies, facilities, programs and/or activities as effectively as possible with the funds available. Revenues, not otherwise committed to an existing strategy, facility, program or activity may be used to increase funding to improve the effectiveness of an existing strategy, facility, program or activity and to provide funding for a new strategy, facility, program or activity the Board concludes is justified based on the District Director's recommendations and the content of this *Plan Update*.

The District reserves the right to revise the budget and reallocate funds as programs change or when otherwise determined to be in the best interest of the District. If the budget in this *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 (as determined by the District), the District may revise the budget per ORC Section 3734.56(E) and follow the appropriate ratification requirements to finalize the budget revisions.

The District is committed to implementing planned strategies, facilities, programs and/or activities in a cost-effective manner. The District is committed to improving the effectiveness and reduce the cost of all District strategies, facilities, programs and activities. The District Board is authorized to expend District funds among other uses included in the Plan Update when costs are reduced. Additionally, the Board is authorized to use reduced costs to provide grant funds or direct funding to evaluate, test and/or implement new strategies, facilities, programs and activities. These cost changes would be in compliance with this *Plan Update* are not a "material change in circumstance" regarding the implementation of this *Plan Update*.

A. Funding Mechanisms and Revenue Generated**1. Disposal Fees**

The District does not receive revenue from disposal fees; therefore, Table O-1 has been omitted.

2. Generation Fees

The District does not receive revenue from generation fees; therefore, Table O-2 has been omitted.

3. Designation Fees

The District has designated solid waste facilities pursuant to ORC 343.014 and has entered into contracts with designated facilities pursuant to which the District currently receives a Contract Fee for solid waste generated in the District and received at the designated facility. The per ton contract fee in the reference year was \$6.00. The Contract Fee, which is deposited into the Solid Waste District Fund, is used to fund the District's activities and programs. Appendix W contains a sample of a uniform designation agreement used for all designated facilities.

The total amount of waste generated in the District and disposed at contracted facilities in 2011 was 263,589 tons. This generated approximately \$1,581,537 of contract fee revenue. The total amount of waste generated in the District and disposed at contracted facilities in the 2015 reference year was 258,270 tons, generating approximately \$1,549,622 in contract fee revenue. Contract fee revenue is actual revenue for 2011-2017. To stay conservative in the projections the District used projected tonnages from Appendix D for 2018-2033. The tonnages in Table O-3 are based on the contract fee revenue and the contract fee per ton amount.

The District plans to increase the contract fee in 2026 to cover increasing plan implementation costs. Actual contract fee adjustments occur under a separate process and are not automatically changed with the approval of this Plan Update. Table O-3 presents the contract fee schedule and the actual and projected contract fee revenue from 2011 to 2033.

Table O-3. Contractual Fee Schedule and Revenue

Year	Contract Fee Schedule (\$ per ton)	Waste Disposed at Contracted Facilities	Total Contract Fee Revenue
2011	\$6.00	263,589	\$1,581,537
2012	\$6.00	239,327	\$1,435,961
2013	\$6.00	225,162	\$1,350,974
2014	\$6.00	255,348	\$1,532,087
2015	\$6.00	258,270	\$1,549,622
2016	\$6.00	259,646	\$1,591,074
2017	\$6.00	259,755	\$1,628,765
2018	\$6.00	259,846	\$1,559,076
2019	\$6.00	259,921	\$1,559,525
2020	\$6.00	259,979	\$1,559,876
2021	\$6.00	260,280	\$1,561,681
2022	\$6.00	260,561	\$1,563,366
2023	\$6.00	260,822	\$1,564,933
2024	\$6.00	262,990	\$1,577,940
2025	\$6.00	265,158	\$1,590,947
2026	\$7.00	267,487	\$1,872,412
2027	\$7.00	269,817	\$1,888,719
2028	\$7.00	272,147	\$1,905,026
2029	\$7.00	274,476	\$1,921,333
2030	\$7.00	276,806	\$1,937,640
2031	\$7.00	279,247	\$1,954,727
2032	\$7.00	281,688	\$1,971,814
2033	\$7.00	284,129	\$1,988,902

Source(s) of Information: Quarterly Fee Reports, District records

Sample Calculation (2019):

Total contract fee revenue = 2019 Tons disposed x 2019 contract fee

\$1,559,525 = 259,921 x \$6.00

4. Loans

The District does not have current loans and does not anticipate securing loans during the planning period and therefore Table O-4 has been omitted.

5. Other Sources of Revenue**a. Grants**

There were no grant revenues in 2015. In 2016, the District sponsored a \$125,000 Ohio EPA Community Development Grant for Price Farms. Also in 2016, the District received a \$12,500 Grant from the OPEA for a tire collection and matched \$1,542.15. In 2017, the District closed out the grant and received an additional \$1,379.35.

Grants obtained by the District are competitive and therefore not a guaranteed source of revenue. Potential revenue from future grants has been excluded from the projections in Table O-5.

b. Recycling Revenue

The commodity market for recycled materials is volatile and unpredictable. During 2011, the District receive \$3,572 recycling revenue. In terms of revenue projections, the District feels most comfortable making conservative estimates. Annual recycling revenue is projected to be flat for \$0.

c. County Contributions

During 2013, the District receive \$408 in contributions. In terms of revenue projections, the District feels most comfortable making conservative estimates. Annual County contribution revenue is projected to be flat for \$0.

d. Miscellaneous Revenue

Miscellaneous revenue represents the total of donations in which are mostly from residents who participate in the Special Collection events. From 2011 to 2016, miscellaneous revenue ranged from a low of \$454 in 2017 to a high of \$5,100 in 2013. To keep a conservative projection, the District estimates \$500 for 2018. This amount is held constant for the remainder of the planning period.

Revenue from other sources amounted to \$34,059 during the 2015 reference year. During the first year of the planning period (2019), revenue from other sources is expected to decrease to \$20,500. At the end of the planning period in 2033, other revenue is projected to be \$20,500.

Table O-5. Other Revenue and Other Revenue Sources

	Year	Reimbursements	County Contributions	Grants	Recycling Revenue	Miscellaneous	"Other Revenue" Total
First Year of Planning Period	2011	\$12,490	\$0	\$2,500	\$3,572	\$3,599	\$22,160
	2012	\$22,132	\$0	\$0	\$0	\$3,745	\$25,877
	2013	\$213,034	\$408	\$0	\$0	\$5,100	\$218,542
	2014	\$21,711	\$0	\$0	\$0	\$4,423	\$26,134
	2015	\$32,412	\$0	\$0	\$0	\$1,647	\$34,059
	2016	\$78,854	\$0	\$139,042	\$0	\$1,289	\$219,185
	2017	\$18,670	\$0	\$1,379	\$0	\$454	\$20,504
	2018	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2019	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2020	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2021	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2022	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2023	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2024	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2025	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2026	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2027	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2028	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2029	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2030	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2031	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2032	\$20,000	\$0	\$0	\$0	\$500	\$20,500
	2033	\$20,000	\$0	\$0	\$0	\$500	\$20,500

Source(s) of Information: Quarterly Fee Reports, District Records

Sample Calculations:

2015 Other revenue = Reimbursements + County Contributions + Grants + Recycling Revenue + Miscellaneous

$$\$34,059 = \$32,412 + \$0 + \$0 + \$0 + \$1,647$$

6. Summary of District Revenues

The total revenue, comprised of contract fees and other revenue, was \$1,583,681 during the reference year. Revenue in the first year of the planning period (2019) is projected to be \$1,601,697. Revenue is projected to increase annually from 2018 to 2033, ending with a total revenue of \$2,009,402. The following table presents a summary of the District's actual and projected total revenue from 2011 to 2033.

Table O-6. Total Revenue

	Year	Contract Fees	Other Revenue	Total Revenue
	2011	\$1,581,537	\$22,160	\$1,603,697
	2012	\$1,435,961	\$25,877	\$1,461,838
	2013	\$1,350,974	\$218,542	\$1,569,516
	2014	\$1,532,087	\$26,134	\$1,558,221
	2015	\$1,549,622	\$34,059	\$1,583,681
	2016	\$1,591,074	\$219,185	\$1,810,259
	2017	\$1,628,765	\$20,504	\$1,649,269
	2018	\$1,559,076	\$20,500	\$1,579,576
First Year of Planning Period →	2019	\$1,559,525	\$20,500	\$1,580,025
	2020	\$1,559,876	\$20,500	\$1,580,376
	2021	\$1,561,681	\$20,500	\$1,582,181
	2022	\$1,563,366	\$20,500	\$1,583,866
	2023	\$1,564,933	\$20,500	\$1,585,433
	2024	\$1,577,940	\$20,500	\$1,598,440
	2025	\$1,590,947	\$20,500	\$1,611,447
	2026	\$1,872,412	\$20,500	\$1,892,912
	2027	\$1,888,719	\$20,500	\$1,909,219
	2028	\$1,905,026	\$20,500	\$1,925,526
	2029	\$1,921,333	\$20,500	\$1,941,833
	2030	\$1,937,640	\$20,500	\$1,958,140
	2031	\$1,954,727	\$20,500	\$1,975,227
	2032	\$1,971,814	\$20,500	\$1,992,314
	2033	\$1,988,902	\$20,500	\$2,009,402

Source(s) of Information: Quarterly Fee Reports

Sample Calculations (2015): Total Revenue = Contract Fees + Other Revenues

$$\$1,583,681 = \$1,549,622 + \$34,059$$

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	2011	2012	2013	2014	2015	2016
1	1. Plan Monitoring/Prep.	\$21,559	\$13,940	\$0	\$0	\$0	\$0
1.a	a. Plan Preparation	\$0	\$0	\$0	\$0	\$0	\$0
1.b	b. Plan Monitoring	\$0	\$4,902	\$0	\$0	\$0	\$0
1.c	c. Other	\$21,559	\$9,039	\$0	\$0	\$0	\$0
2	2. Plan Implementation	\$1,214,685	\$1,356,812	\$1,506,186	\$1,104,949	\$1,087,947	\$1,270,093
2.a	a. District Administration	\$166,144	\$181,998	\$201,559	\$157,486	\$151,138	\$175,342
2.a.1	Personnel	\$134,614	\$145,231	\$141,345	\$120,658	\$124,596	\$139,036
2.a.2	Office Overhead	\$27,135	\$36,564	\$40,923	\$36,429	\$25,868	\$34,764
2.a.3	Other	\$4,395	\$203	\$19,291	\$399	\$673	\$1,542
2.b	b. Facility Operation	\$77,217	\$84,856	\$104,412	\$25,524	\$0	\$0
2.b.1	MRF/Recycling Center	\$0	\$0	\$0	\$0	\$0	\$0
2.b.2	Compost	\$77,217	\$84,856	\$104,412	\$25,524	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$379,433	\$373,228	\$517,811	\$363,584	\$410,389	\$473,257
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$379,433	\$373,228	\$517,811	\$363,584	\$408,849	\$473,257
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$1,540	\$0
2.e	e. Special Collections	\$72,714	\$109,259	\$140,839	\$84,780	\$54,647	\$70,045
2.e.1	Tire Collection	\$21,665	\$42,318	\$22,472	\$10,065	\$12,528	\$28,540
2.e.2	HHW Collection	\$51,050	\$56,343	\$105,810	\$60,463	\$33,335	\$34,730
2.e.3	Electronics Collection	\$0	\$8,075	\$12,557	\$14,252	\$3,463	\$4,974
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0
2.e.5	Other Collection Drives	\$0	\$2,523	\$0	\$0	\$5,320	\$1,800
2.f	f. Yard Waste/Other Organics	\$0	\$14,645	\$10,000	\$66,955	\$81,152	\$108,081
2.g	g. Education/Awareness	\$215,647	\$215,482	\$281,500	\$237,741	\$284,113	\$272,601
2.g.1	Education Staff	\$215,647	\$215,000	\$281,500	\$237,583	\$282,773	\$272,601
2.g.2	Advertisement/Promotion	\$0	\$0	\$0	\$0	\$0	\$0
2.g.3	Other	\$0	\$482	\$0	\$159	\$1,340	\$0
2.h	h. Recycling Market Development	\$0	\$377,344	\$249,409	\$168,879	\$98,115	\$157,824
2.h.1	General Market Development Activities	\$0	\$377,344	\$249,409	\$168,879	\$97,645	\$157,824
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$470	\$0
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0
2.k	k. Waste Assessments/Audits	\$0	\$0	\$0	\$0	\$0	\$0
2.l	l. Dump Cleanup	\$0	\$0	\$0	\$0	\$8,392	\$12,943
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$0	\$650	\$0	\$0	\$0
2.o	o. Loan Payment	\$0	\$0	\$0	\$0	\$0	\$0
2.p	p. Other	\$303,529	\$0	\$6	\$0	\$0	\$0
3	3. Health Dept. Enforcement	\$154,050	\$152,114	\$177,675	\$141,503	\$170,272	\$161,942
	Health Department Name:	Delaware County Health Department, Knox County Health Department, Marion County Health Department, and Morrow County Health Department					
3.a	a. Personnel	\$0	\$0	\$0	\$0	\$0	\$0
3.b	b. Supplies	\$0	\$0	\$0	\$0	\$0	\$0
3.c	c. Equipment	\$0	\$0	\$0	\$0	\$0	\$0
3.d	d. Vehicles	\$0	\$0	\$0	\$0	\$0	\$0
3.e	e. Other	\$154,050	\$152,114	\$177,675	\$141,503	\$170,272	\$161,942
4	4. County Assistance	\$0	\$0	\$0	\$0	\$0	\$21,634
4.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0	\$0
4.b	b. Maintaining Public Facilities	\$0	\$0	\$0	\$0	\$0	\$21,634
4.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0
4.d	d. Providing Other Public Services	\$0	\$0	\$0	\$0	\$0	\$0
5	5. Well Testing	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection	\$0	\$0	\$0	\$0	\$0	\$0
7	7. Open Dump, Litter Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0
7.a	a. Health Departments	\$0	\$0	\$0	\$0	\$0	\$0
7.b	b. Local Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0
7.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0
8	8. Health Department Training	\$0	\$0	\$0	\$0	\$0	\$0
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)	\$0	\$0	\$0	\$0	\$0	\$0
	Total Expenses	\$1,390,293	\$1,522,866	\$1,683,861	\$1,246,452	\$1,258,219	\$1,453,668

Table O-7. Expenses (continued)

Line #	Category/Program	2017	2018	2019	2020	2021	2022
1	1. Plan Monitoring/Prep.	\$33,676	\$7,639	\$2,800	\$0	\$0	\$0
1.a	a. Plan Preparation	\$33,676	\$7,639	\$2,800	\$0	\$0	\$0
1.b	b. Plan Monitoring	\$0	\$0	\$0	\$0	\$0	\$0
1.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0
2	2. Plan Implementation	\$1,200,911	\$1,302,474	\$1,390,659	\$1,509,519	\$1,538,833	\$1,762,794
2.a	a. District Administration	\$184,849	\$217,537	\$220,205	\$220,110	\$225,161	\$230,364
2.a.1	Personnel	\$152,686	\$158,716	\$163,477	\$168,382	\$173,433	\$178,636
2.a.2	Office Overhead	\$31,914	\$28,821	\$26,728	\$21,728	\$21,728	\$21,728
2.a.3	Other	\$248	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center	\$0	\$0	\$0	\$0	\$0	\$0
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$578,902	\$596,000	\$678,000	\$708,040	\$744,281	\$766,610
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$578,902	\$596,000	\$668,000	\$708,040	\$744,281	\$766,610
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$0	\$0
2.e	e. Special Collections	\$48,732	\$58,000	\$59,740	\$66,532	\$63,528	\$65,434
2.e.1	Tire Collection	\$9,139	\$12,000	\$12,360	\$17,731	\$13,263	\$13,661
2.e.2	HHW Collection	\$32,756	\$38,000	\$39,140	\$40,314	\$41,524	\$42,769
2.e.3	Electronics Collection	\$4,904	\$6,500	\$6,695	\$6,896	\$7,103	\$7,316
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0
2.e.5	Other Collection Drives	\$1,933	\$1,500	\$1,545	\$1,591	\$1,639	\$1,688
2.f	f. Yard Waste/Other Organics	\$95,130	\$115,000	\$117,000	\$117,000	\$117,000	\$117,000
2.g	g. Education/Awareness	\$281,816	\$290,937	\$300,264	\$364,655	\$369,112	\$313,637
2.g.1	Education Staff	\$281,816	\$288,437	\$292,764	\$297,155	\$301,612	\$306,137
2.g.2	Advertisement/Promotion	\$0	\$2,500	\$5,000	\$5,000	\$5,000	\$5,000
2.g.3	Other	\$0	\$0	\$2,500	\$62,500	\$62,500	\$2,500
2.h	h. Recycling Market Development	\$2,902	\$0	\$0	\$0	\$0	\$250,000
2.h.1	General Market Development Activities	\$2,902	\$0	\$0	\$0	\$0	\$250,000
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0	\$0
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$15,000	\$0	\$0
2.k	k. Waste Assessments/Audits	\$0	\$0	\$0	\$2,500	\$2,500	\$2,500
2.l	l. Dump Cleanup	\$8,581	\$15,000	\$15,450	\$15,682	\$17,250	\$17,250
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$10,000	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$0	\$0	\$0	\$0	\$0	\$0
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0
3	3. Health Dept. Enforcement	\$161,942	\$161,942	\$162,751	\$163,565	\$164,383	\$165,205
	Health Department Name:	Delaware County Health Department, Knox County Health Department, Marion County Health Department, and Morrow County Health Department					
3.a	a. Personnel	\$0	\$0	\$0	\$0	\$0	\$0
3.b	b. Supplies	\$0	\$0	\$0	\$0	\$0	\$0
3.c	c. Equipment	\$0	\$0	\$0	\$0	\$0	\$0
3.d	d. Vehicles	\$0	\$0	\$0	\$0	\$0	\$0
3.e	e. Other	\$161,942	\$161,942	\$162,751	\$163,565	\$164,383	\$165,205
4	4. County Assistance	\$2,020	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0	\$0
4.b	b. Maintaining Public Facilities	\$2,020	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0
4.d	d. Providing Other Public Services	\$0	\$0	\$0	\$0	\$0	\$0
5	5. Well Testing	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection	\$0	\$0	\$0	\$0	\$0	\$0
7	7. Open Dump, Litter Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0
7.a	a. Health Departments	\$0	\$0	\$0	\$0	\$0	\$0
7.b	b. Local Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0
7.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0
8	8. Health Department Training	\$0	\$0	\$0	\$0	\$0	\$0
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)	\$0	\$0	\$0	\$0	\$0	\$0
	Total Expenses	\$1,398,549	\$1,497,055	\$1,581,210	\$1,698,084	\$1,728,216	\$1,952,999

Table O-7. Expenses (continued)

Line #	Category/Program	2023	2024	2025	2026	2027	2028
1	1. Plan Monitoring/Prep.	\$34,349	\$7,792	\$2,856	\$0	\$0	\$0
1.a	a. Plan Preparation	\$34,349	\$7,792	\$2,856	\$0	\$0	\$0
1.b	b. Plan Monitoring	\$0	\$0	\$0	\$0	\$0	\$0
1.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0
2	2. Plan Implementation	\$1,547,707	\$1,548,598	\$1,584,445	\$1,621,298	\$1,659,183	\$1,698,133
2.a	a. District Administration	\$235,723	\$241,243	\$246,929	\$252,785	\$258,816	\$265,029
2.a.1	Personnel	\$183,995	\$189,515	\$195,201	\$201,057	\$207,088	\$213,301
2.a.2	Office Overhead	\$21,728	\$21,728	\$21,728	\$21,728	\$21,728	\$21,728
2.a.3	Other	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center	\$0	\$0	\$0	\$0	\$0	\$0
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$789,608	\$778,296	\$801,645	\$825,694	\$850,465	\$875,979
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$789,608	\$778,296	\$801,645	\$825,694	\$850,465	\$875,979
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$0	\$0
2.e	e. Special Collections	\$67,397	\$69,419	\$71,502	\$73,647	\$75,856	\$78,132
2.e.1	Tire Collection	\$14,070	\$14,493	\$14,927	\$15,375	\$15,836	\$16,311
2.e.2	HHW Collection	\$44,052	\$45,374	\$46,735	\$48,137	\$49,581	\$51,069
2.e.3	Electronics Collection	\$7,535	\$7,761	\$7,994	\$8,234	\$8,481	\$8,735
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0	\$0
2.e.5	Other Collection Drives	\$1,739	\$1,791	\$1,845	\$1,900	\$1,957	\$2,016
2.f	f. Yard Waste/Other Organics	\$117,000	\$117,000	\$117,000	\$117,000	\$117,000	\$117,000
2.g	g. Education/Awareness	\$318,229	\$322,889	\$327,620	\$332,422	\$337,296	\$342,243
2.g.1	Education Staff	\$310,729	\$315,389	\$320,120	\$324,922	\$329,796	\$334,743
2.g.2	Advertisement/Promotion	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
2.g.3	Other	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities	\$0	\$0	\$0	\$0	\$0	\$0
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0	\$0
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0	\$0
2.k	k. Waste Assessments/Audits	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
2.l	l. Dump Cleanup	\$17,250	\$17,250	\$17,250	\$17,250	\$17,250	\$17,250
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$0	\$0	\$0	\$0	\$0	\$0
2.p	p. Other	\$0	\$0	\$0	\$0	\$0	\$0
3	3. Health Dept. Enforcement	\$165,205	\$165,205	\$165,205	\$165,205	\$165,205	\$165,205
3.a	Health Department Name:	Delaware County Health Department, Knox County Health Department, Marion County Health Department, and Morrow County Health Department					
3.a	a. Personnel	\$0	\$0	\$0	\$0	\$0	\$0
3.b	b. Supplies	\$0	\$0	\$0	\$0	\$0	\$0
3.c	c. Equipment	\$0	\$0	\$0	\$0	\$0	\$0
3.d	d. Vehicles	\$0	\$0	\$0	\$0	\$0	\$0
3.e	e. Other	\$165,205	\$165,205	\$165,205	\$165,205	\$165,205	\$165,205
4	4. County Assistance	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0	\$0
4.b	b. Maintaining Public Facilities	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0	\$0
4.d	d. Providing Other Public Services	\$0	\$0	\$0	\$0	\$0	\$0
5	5. Well Testing	\$0	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection	\$0	\$0	\$0	\$0	\$0	\$0
7	7. Open Dump, Litter Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0
7.a	a. Health Departments	\$0	\$0	\$0	\$0	\$0	\$0
7.b	b. Local Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0
7.c	c. Other	\$0	\$0	\$0	\$0	\$0	\$0
8	8. Health Department Training	\$0	\$0	\$0	\$0	\$0	\$0
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)	\$0	\$0	\$0	\$0	\$0	\$0
	Total Expenses	\$1,772,261	\$1,746,595	\$1,777,506	\$1,811,503	\$1,849,388	\$1,888,338

Table O-7. Expenses (continued)

Line #	Category/Program	2029	2030	2031	2032	2033
1	1. Plan Monitoring/Prep.	\$35,036	\$7,948	\$2,913	\$0	\$0
1.a	a. Plan Preparation	\$35,036	\$7,948	\$2,913	\$0	\$0
1.b	b. Plan Monitoring	\$0	\$0	\$0	\$0	\$0
1.c	c. Other	\$0	\$0	\$0	\$0	\$0
2	2. Plan Implementation	\$1,738,176	\$1,779,346	\$1,821,674	\$1,865,194	\$1,909,941
2.a	a. District Administration	\$271,428	\$278,019	\$284,808	\$291,800	\$299,002
2.a.1	Personnel	\$219,700	\$226,291	\$233,080	\$240,072	\$247,274
2.a.2	Office Overhead	\$21,728	\$21,728	\$21,728	\$21,728	\$21,728
2.a.3	Other	\$30,000	\$30,000	\$30,000	\$30,000	\$30,000
2.b	b. Facility Operation	\$0	\$0	\$0	\$0	\$0
2.b.1	MRF/Recycling Center	\$0	\$0	\$0	\$0	\$0
2.b.2	Compost	\$0	\$0	\$0	\$0	\$0
2.b.3	Transfer	\$0	\$0	\$0	\$0	\$0
2.b.4	Special Waste	\$0	\$0	\$0	\$0	\$0
2.c	c. Landfill Closure/Post-Closure	\$0	\$0	\$0	\$0	\$0
2.d	d. Recycling Collection	\$902,259	\$929,326	\$957,206	\$985,922	\$1,015,500
2.d.1	Curbside	\$0	\$0	\$0	\$0	\$0
2.d.2	Drop-off	\$902,259	\$929,326	\$957,206	\$985,922	\$1,015,500
2.d.3	Combined Curbside/Drop-off	\$0	\$0	\$0	\$0	\$0
2.d.4	Multi-family	\$0	\$0	\$0	\$0	\$0
2.d.5	Business/Institutional	\$0	\$0	\$0	\$0	\$0
2.d.6	Other	\$0	\$0	\$0	\$0	\$0
2.e	e. Special Collections	\$80,476	\$82,890	\$85,377	\$87,938	\$90,576
2.e.1	Tire Collection	\$16,801	\$17,305	\$17,824	\$18,359	\$18,909
2.e.2	HHW Collection	\$52,601	\$54,179	\$55,804	\$57,478	\$59,203
2.e.3	Electronics Collection	\$8,998	\$9,267	\$9,545	\$9,832	\$10,127
2.e.4	Appliance Collection	\$0	\$0	\$0	\$0	\$0
2.e.5	Other Collection Drives	\$2,076	\$2,139	\$2,203	\$2,269	\$2,337
2.f	f. Yard Waste/Other Organics	\$117,000	\$117,000	\$117,000	\$117,000	\$117,000
2.g	g. Education/Awareness	\$347,264	\$352,361	\$357,533	\$362,784	\$368,113
2.g.1	Education Staff	\$339,764	\$344,861	\$350,033	\$355,284	\$360,613
2.g.2	Advertisement/Promotion	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
2.g.3	Other	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
2.h	h. Recycling Market Development	\$0	\$0	\$0	\$0	\$0
2.h.1	General Market Development Activities	\$0	\$0	\$0	\$0	\$0
2.h.2	ODNR pass-through grant	\$0	\$0	\$0	\$0	\$0
2.i	i. Service Contracts	\$0	\$0	\$0	\$0	\$0
2.j	j. Feasibility Studies	\$0	\$0	\$0	\$0	\$0
2.k	k. Waste Assessments/Audits	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
2.l	l. Dump Cleanup	\$17,250	\$17,250	\$17,250	\$17,250	\$17,250
2.m	m. Litter Collection/Education	\$0	\$0	\$0	\$0	\$0
2.n	n. Emergency Debris Management	\$0	\$0	\$0	\$0	\$0
2.o	o. Loan Payment	\$0	\$0	\$0	\$0	\$0
2.p	p. Other	\$0	\$0	\$0	\$0	\$0
3	3. Health Dept. Enforcement	\$165,205	\$165,205	\$165,205	\$165,205	\$165,205
	Health Department Name:	Delaware County Health Department, Knox County Health Department, Marion County Health Department, and Morrow County Health Department				
3.a	a. Personnel	\$0	\$0	\$0	\$0	\$0
3.b	b. Supplies	\$0	\$0	\$0	\$0	\$0
3.c	c. Equipment	\$0	\$0	\$0	\$0	\$0
3.d	d. Vehicles	\$0	\$0	\$0	\$0	\$0
3.e	e. Other	\$165,205	\$165,205	\$165,205	\$165,205	\$165,205
4	4. County Assistance	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4.a	a. Maintaining Roads	\$0	\$0	\$0	\$0	\$0
4.b	b. Maintaining Public Facilities	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
4.c	c. Providing Emergency Services	\$0	\$0	\$0	\$0	\$0
4.d	d. Providing Other Public Services	\$0	\$0	\$0	\$0	\$0
5	5. Well Testing	\$0	\$0	\$0	\$0	\$0
6	6. Out-of-State Waste Inspection	\$0	\$0	\$0	\$0	\$0
7	7. Open Dump, Litter Law Enforcement	\$0	\$0	\$0	\$0	\$0
7.a	a. Health Departments	\$0	\$0	\$0	\$0	\$0
7.b	b. Local Law Enforcement	\$0	\$0	\$0	\$0	\$0
7.c	c. Other	\$0	\$0	\$0	\$0	\$0
8	8. Health Department Training	\$0	\$0	\$0	\$0	\$0
9	9. Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0
10	10. Compensation to Affected Community (ORC Section 3734.35)	\$0	\$0	\$0	\$0	\$0
	Total Expenses	\$1,963,417	\$1,977,498	\$2,014,792	\$2,055,399	\$2,100,146

2. Explanation of Expenses

Table O-7 includes actual expenses from 2011 to 2016, anticipated expenses from the District's approved budgets for 2017 and 2018, and projected expenditures from 2019 to 2033. Budget 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. Budget 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.

2. Plan Implementation

2.a District Administration

- **2.a.1 Personnel** – Budget includes expenditures for salaries, workers' compensation, Medicare, and health insurance. Expenditures are projected to increase 3% 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 software subscriptions, supplies, equipment, annual financial audit, postage, utilities, telecommunications, staff training, and trade organization memberships. Base office overhead was used to project the flat amount that will be allocated annually. In the past, the District has not exceeded this amount for office overhead. In 2019, \$5,000 was added to cover a website upgrade.
- **2.a.3 Other** – The 2018 approved District budget was used to project the flat amount of \$30,000 that will be allocated annually for the remainder of the planning period. This amount will cover additional costs that may occur past Office Overhead expenditures.

2.d Recycling Collection

- **2.d.2 Drop-off** – The drop-off contracts are 3-year contracts with projections increasing 3% every year from the projected 2019 cost of \$668,000. The drop-off contracts in all four counties expire at the end of 2018 and are typically 3 years with a 2-year renewal. The high percentage projection takes into account that the District may need to add additional drop-offs in Delaware County to accommodate the fast population growth. It is projected in Appendix J that drop-off may not need added until 2028. Additional funds were added between 2020 and 2024 for drop-off program maintenance.

In 2013, there was an increase in cost due to Rumpke taking over the drop-off collection. Cost increases from 2014 to 2017 are a result of adjustments the District made to the drop-off schedules.

The increase in drop-off expenditures in 2017 included adding an additional 2 drop-offs to Knox and 1 drop-off to Morrow County.

2.e Special Collections

The District's 2018 approved budget was used to project 3% increases annually, starting in 2019, based on historic trends and District practices for the following:

- **2.e.1 Tire Collection** – Projections increase annually by 3% starting in 2019. The District added \$5,000 in 2020 for a tire education awareness campaign.

The agricultural collection events funds or match grant funds are from the fees charged at the event or from the tire collection line item.

- **2.e.2 HHW Collection** – Projections increase annually by 3% starting in 2019.
- **2.e.3 Electronics Collection** – Projections increase annually by 3% starting in 2019. The District will perform an analysis for year-round e-waste collection in Delaware County.
- **2.e.5 Other Collection** – Projections increase annually by 3% starting in 2019.

2.f Yard Waste/Other Organics – A flat annual budget of \$117,000 is allocated to the yard trimmings program from 2019 until the end of

the planning period. Contracts renew in Marion in 2018 and Delaware in 2019. Both are five-year contracts with two-year renewal. Previous Director did not file yard waste under yard waste. For year 2010, costs were for fall grinding.

During the planning period, the District will create a plan to reduce contamination rate at Yard Trimmings Facility in Knox County.

2.g Education/Awareness

Payments for education and health department enforcement were delayed until January of the following year due to final report receipt. For 2013, payments were made to counties in the calendar year due to offices moving and not wanting purchase orders to be carried over.

- **2.g.1 Education Staff** – The annual budget for this program is projected to increase 1.5% annually.
- **2.g.2 Advertisement/Promotion** – A budget of \$5,000 was set annually for mailing inserts, social marketing, and press releases. This budget will go toward the campaign to educate residents about the drop-off program and to reduce contamination at the sites.
- **2.g.3 Other** – A budget of \$2,500 was set annually for the backyard compost program and to evaluate program effectiveness of data. In 2020 and 2021, an additional \$60,000 is budgeted each year for Recycling Partnership Education Ideas to be implemented in any non-subscription recycling curbside community within the District with an estimated cost of \$2 per household. Community selection and actual expenses of the program shall be determined in advance of any education initiative and approved by the District Board.

2.h Recycling Market Development

- **2.h.1 General Market Development Activities** – In 2022, a budget of \$250,000 was set aside for match funds in the case a pass-through grant is awarded. This is to make sure a budget is accounted for if a max of two grants are received with matching half of required funds. The contractor would be responsible for the other half of the match.

For the Recycling Program Grant, funds are placed in 2022. The grant may be awarded every 3 years as funds are available for years onward or annually if approved by the District Board. If the

funds are not spent as anticipated, they will carry over to the next year. Grant funds will focus on improving recycling rates and accessibility in the District. The District reserves the right to fund this program per the flexibility statement at the beginning of this Appendix.

2.j Feasibility Studies – A budget of \$15,000 is allocated to feasibility study in 2020 for evaluation of permanent HHW collection opportunities.

2.k Waste Assessments/Audits– A flat annual budget of \$2,500 is allocated to the waste assessments and audits from 2020 until the end of the planning period. This budget will be used for an awards program for commercial businesses that conduct a waste assessment and then implement initiatives that demonstrate success.

2.l Dump Cleanup – The District's 2018 approved budget was used to project 3% increases into 2019 (\$15,450) and then a 1.5% increase into 2020 (\$15,682). The District's 2020 budget was used to project 10% increase into 2021 and projected the flat amount of \$17,250 that will be allocated annually for the remainder of the planning period.

3. Health Department Enforcement

Payments for education and health department enforcement were delayed until January of the following year due to final report receipt. For 2013, payments were made to counties in the calendar year due to offices moving and not wanting purchase orders to be carried over.

- **3.a Other** – The District's 2018 approved budget was used to project 0.5% increases annually, starting in 2019, based on historic trends and District practices.

4. County Assistance

- **4.b Maintaining Public Facilities** – The District's 2018 approved budget was used and a flat annual budget of \$25,000 is allocated to maintain drop-off locations (gravel, fencing, etc) as needed. from 2019 until the end of the planning period.

The District started the 2015 reference year with a carry-over balance of \$1,234,966. Based on revenue and expenditure projections discussed throughout this appendix, the District is expected to begin the planning period in 2019 with a carry-over balance of \$1,923,612 and end the planning

period with a carry-over balance of \$733,782. Ample 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
	2010	Ending Balance			\$559,704
First Year of Planning Period → X	2011	\$1,603,697	\$1,390,293	\$213,404	\$773,108
	2012	\$1,461,838	\$1,522,866	-\$61,028	\$712,080
	2013	\$1,569,516	\$1,683,861	-\$114,345	\$597,735
	2014	\$1,558,221	\$1,246,452	\$311,769	\$909,504
	2015	\$1,583,681	\$1,258,219	\$325,462	\$1,234,966
	2016	\$1,810,259	\$1,453,668	\$356,591	\$1,591,556
	2017	\$1,649,269	\$1,398,549	\$250,720	\$1,842,277
	2018	\$1,579,576	\$1,497,055	\$82,521	\$1,924,797
	2019	\$1,580,025	\$1,581,210	-\$1,186	\$1,923,612
	2020	\$1,580,376	\$1,698,084	-\$117,708	\$1,805,904
	2021	\$1,582,181	\$1,728,216	-\$146,035	\$1,659,869
	2022	\$1,583,866	\$1,952,999	-\$369,134	\$1,290,735
	2023	\$1,585,433	\$1,772,261	-\$186,829	\$1,103,907
	2024	\$1,598,440	\$1,746,595	-\$148,155	\$955,752
	2025	\$1,611,447	\$1,777,506	-\$166,060	\$789,692
	2026	\$1,892,912	\$1,811,503	\$81,409	\$871,102
	2027	\$1,909,219	\$1,849,388	\$59,830	\$930,932
	2028	\$1,925,526	\$1,888,338	\$37,188	\$968,120
	2029	\$1,941,833	\$1,963,417	-\$21,585	\$946,535
	2030	\$1,958,140	\$1,977,498	-\$19,359	\$927,176
	2031	\$1,975,227	\$2,014,792	-\$39,565	\$887,611
	2032	\$1,992,314	\$2,055,399	-\$63,085	\$824,526
	2033	\$2,009,402	\$2,100,146	-\$90,745	\$733,782



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

1. Authorization Statement to Designate

The District is hereby authorized to establish facility designations in accordance with ORC Section 343.013, 343.014 and 343.015.

2. Description of the SWMD's Designation Process

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

Decisions regarding designation, if implemented, or the granting of a designation waiver, if applicable, shall be made by the District, following a review of the request by the Policy Committee.

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

- The facility's compatibility with the District's Solid Waste Management Plan.
- Other criteria as defined in Section C of this appendices.

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		
<i>In-District</i>				
Delaware County Transfer Station	Delaware	OH	Transfer Station	2007
Marion County Transfer Station	Marion	OH	Transfer Station	2006
Mid-State Waste Transfer Station	Morrow	OH	Transfer Station	2007
Ross Brothers Transfer Station	Knox	OH	Transfer Station	2006
<i>Out-of-District</i>				
American Landfill	Stark	OH	Landfill	2006
Athens-Hocking Reclamation Center	Hocking	OH	Landfill	2006
Beech Hollow Landfill	Jackson	OH	Landfill	2006
Brown County Landfill	Brown	OH	Landfill	2006
Cambridge Transfer Station	Guernsey	OH	Transfer Station	2006
Canal Winchester Transfer Station	Franklin	OH	Transfer Station	2006
Canton Transfer Station	Stark	OH	Transfer Station	2012
Cherokee Run Landfill	Logan	OH	Landfill	2006
Chillicothe Transfer Station	Ross	OH	Transfer Station	2012
Circleville Transfer Station	Pickaway	OH	Transfer Station	2006
Columbus Transfer Station	Franklin	OH	Transfer Station	2008
Coshocton Landfill, Inc.	Coshocton	OH	Landfill	Closed

Facility Name	Location		Facility Type	Year Designated
	County	State		
Crawford County Sanitary Landfill	Crawford	OH	Landfill	2006
Evergreen RDF	Lucas	OH	Landfill	2006
Franklin County Sanitary Landfill	Franklin	OH	Landfill	2006
Georgesville Rd. Transfer Station	Franklin	OH	Transfer Station	Closed
Greenville Transfer Station	Darke	OH	Transfer Station	2006
Hancock County Sanitary Landfill	Hancock	OH	Landfill	2006
J & J Refuse Transfer Facility	Carrol	OH	Transfer Station	2006
Jackson Pike Transfer Station	Jackson	OH	Transfer Station	2006
Kimble Sanitary Landfill	Tuscarawas	OH	Landfill	2006
Lima Transfer Station	Allen	OH	Transfer Station	2006
Morse Road Transfer Station	Franklin	OH	Transfer Station	2006
Noble Road Landfill	Richland	OH	Landfill	2006
Ottawa County Landfill	Ottawa	OH	Landfill	2006
Pine Grove Regional Facility	Fairfield	OH	Landfill	2006
Reynolds Avenue Transfer Station	Franklin	OH	Transfer Station	2006
Richland County Transfer Station	Richland	OH	Transfer Station	2006
Rumpke Landfill	Hamilton	OH	Landfill	2006
Shelby Transfer Station	Shelby	OH	Transfer Station	2012
Stony Hollow Landfill	Montgomery	OH	Landfill	2006
Suburban South Landfill	Perry	OH	Landfill	2006
Sunny Farms Landfill	Seneca	OH	Landfill	2009
Twinsburg Transfer Station	Summit	OH	Transfer Station	2012
Wyandot Landfill	Wyandot	OH	Landfill	2006
Out-of-State				
None.				

Appendix W contains a sample uniform designation agreement used for each of the designated facilities listed above.

C. Waiver Process for the Use of Undesignated Facilities

The District is authorized to designate solid waste facilities. The following waiver process may be followed by any person, municipal corporation, township or other entity that wishes to deliver waste to a solid waste facility not designated by the District.

In the event that any person wants to use a facility, other than a designated facility, for the disposal of municipal solid waste, the person must submit a written request for a waiver of designation to the Board of Directors of the DKMM Solid Waste

District. The request must state the type and amount of material, the facility to be used, the intended duration of the waiver, and the reason for requesting the waiver.


The DKMM Solid Waste District staff will initially review the request and may request additional information if necessary. The Board of Directors shall act on the request for a waiver within 90 days after receiving the request. The Board of Directors may grant the request for a waiver if the Board of Directors determines that:

1. Issuance of the waiver is not inconsistent with projections contained in the District's approved plan under Section 3734.53 (A) (6) and (A) (7); and
2. Issuance of the waiver will not adversely affect implementation and financing of the District's approved plan.

The District's current list of facilities waived from designation is shown in Table P-2.


Table P-2. Facilities Waived from Designated

Facility Name	Location		Facility Type	Expiration of Waiver
	County	State		
In-District				
None				
Out-of-District				
Carbon Limestone	Mahoning	OH	Landfill	12/31/2019
Celina Landfill	Mercer	OH	Landfill	12/31/2019
Defiance County Landfill	Defiance	OH	Landfill	12/31/2019
Locas Waste	Franklin	OH	Transfer Station	12/31/2019
Pike Sanitation Landfill	Pike	OH	Landfill	12/31/2016
Tunnel Hill Landfill	Perry	OH	Landfill	12/31/2019
Out-of-State				
None.				



APPENDIX Q

DISTRICT RULE



APPENDIX Q. District Rules

A. Existing Rules

According to Ohio Revised Code Section 3734.53(C), "the solid waste management plan of a county or joint district may provide for the adoption of rules under division (G) of section 343.01 of the Revised Code after approval of the plan under section 3734.521 or 3734.55 of the Revised Code." The District reserves the authority for the Board to adopt rules under the provision of Ohio Revised Code.

The following are the current rules of the District:

Definitions

"District" means the Delaware-Knox-Marion-Morrow Joint Solid Waste Management District with its principal offices located at 222 W. Center Street, Marion, Ohio.

"Person" includes any natural person, the state, any political subdivision of the state or other state or local body, the United States and any agency or instrumentality thereof, and any legal entity or organization defined as a person under section 1.59 of the Ohio Revised Code.

"Recyclable Material" means any material generated by a Person or entity within the District which is capable of processing at a recycling or material recovery facility, for which there is a resale market, and which is identified by the District in writing from time to time. Such material typically include, but are not necessarily limited to, glass bottles and jars, paper, metal products and containers, plastics, fiber material and other similar materials.

"Rule" means any rule promulgated, adopted and published by the Board, within its power to adopt rules reserved in the Plan, and authorized by Sections 343.01(G) and 3734.53(C) of the Ohio Revised Code, as now existing or hereafter amended.

"Separated Recyclable Material" means a Recyclable Material which has been separated at the point of generation or at the point of collection from other solid waste, and includes, but is not limited to, such measures as placing recyclables in portable containers, compartments of portable containers, or vehicles dedicated to Separated Recyclable Material collection.

"Solid Waste" means such unwanted residual solid or semisolid material as results from residential, industrial, commercial, agricultural and community operations, excluding earth or material from construction, mining or demolition operations, or other waste materials of the type that would normally be included in demolition

debris, non-toxic fly ash, spent non-toxic foundry sand, and slag and other substances that are not harmful or inimical to public health, and includes, but is not limited to, garbage, tires, combustible and non-combustible material, street-dirt and debris. Solid waste does not include any material that is an infectious waste or a Hazardous Waste.

DKMM Rule 1.01

No person, as that term is defined in Section 1.59 of the ORC, or municipal corporation, township or other political subdivision or agency thereof, shall construct any solid waste transfer facility or disposal facility until general plans and specifications for the proposed construction have been submitted to and approved by the Board of Directors of the DKMM District, as complying with the District's solid waste management plan. (#98-017, 10/98)

DKMM Rule 2.01

No person shall incinerate or landfill Separated Recyclable Materials without the prior written consent of the District. (#03-025, 7/03)

DKMM Rule 2.02

No person shall combine Separated Recyclable Materials with Solid Waste that is intended for processing or landfilling without the prior written consent of the District. (#03-025, 7/03)

DKMM Rule 2.03 Delivery of Solid Waste to Designated Facilities

No person shall deliver or cause to be delivered solid waste to any facility other than a solid waste facility designated by the Board of Directors pursuant to R.C. § 343.014 unless the Board has granted a waiver from designation to such person. (#06-008, 2/06)

There are no current plans to adopt new rules at the time of the development of this *Plan Update*.

B. Rule Making Authority – ORC 343.01

The solid waste management plan provides the authority to the Board of Directors (Board) 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:

ORC 343.01(G)(1)

To the extent authorized by the solid waste management plan of the district approved under section 3734.521 or 3734.55 of the Revised Code or subsequent amended plans of the district approved under section 3734.521 or 3734.56 of the Revised Code, the board of county commissioners of a county district or board of directors of a joint district may adopt, publish, and enforce rules doing any of the following:

- (1) Prohibiting or limiting the receipt of solid wastes generated outside the district or outside a service area prescribed in the solid waste management plan or amended plan, at facilities covered by the plan, consistent with the projections contained in the plan or amended plan under divisions (A)(6) and (7) of section 3734.53 of the Revised Code, except that the director of environmental protection may issue an order modifying a rule adopted under division (G)(1) of this section to allow the disposal in the district of solid wastes from another county or joint solid waste management district if all of the following apply:
 - (a) The district in which the wastes were generated does not have sufficient capacity to dispose of solid wastes generated within it for six months following the date of the director's order;
 - (b) No new solid waste facilities will begin operation during those six months in the district in which the wastes were generated and, despite good faith efforts to do so, it is impossible to site new solid waste facilities within the district because of its high population density;
 - (c) The district in which the wastes were generated has made good faith efforts to negotiate with other districts to incorporate its disposal needs within those districts' solid waste management plans, including efforts to develop joint facilities authorized under section 343.02 of the Revised Code, and the efforts have been unsuccessful;
 - (d) The district in which the wastes were generated has located a facility willing to accept the district's solid wastes for disposal within the receiving district;
 - (e) The district in which the wastes were generated has demonstrated to the director that the conditions specified in divisions (G)(1)(a) to (d) of this section have been met;
 - (f) The director finds that the issuance of the order will be consistent with the state solid waste management plan and that receipt of the out-of-district wastes will not limit the capacity of the receiving district to dispose of its in-district wastes to less than eight years. Any order issued

under division (G)(1) of this section shall not become final until thirty days after it has been served by certified mail upon the county or joint solid waste management district that will receive the out-of-district wastes.

ORC 343.01(G)(2)

Governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located within its district. The rules adopted under division (G)(2) of this section shall not establish design standards for solid waste facilities and shall be consistent with the solid waste provisions of Chapter 3734. of the Revised Code and the rules adopted under those provisions. The rules adopted under division (G)(2) of this section may prohibit any person, municipal corporation, township, or other political subdivision from constructing, enlarging, or modifying any solid waste facility until general plans and specifications for the proposed improvement have been submitted to and approved by the board of county commissioners or board of directors as complying with the solid waste management plan or amended plan of the district. The construction of such a facility shall be done under the supervision of the county sanitary engineer or, in the case of a joint district, a county sanitary engineer designated by the board of directors, and any person, municipal corporation, township, or other political subdivision proposing or constructing such improvements shall pay to the county or joint district all expenses incurred by the board in connection therewith. The sanitary engineer may enter upon any public or private property for the purpose of making surveys or examinations necessary for designing solid waste facilities or for supervising the construction, enlargement, modification, or operation of any such facilities. No person, municipal corporation, township, or other political subdivision shall forbid or interfere with the sanitary engineer or his authorized assistants entering upon such property for that purpose. If actual damage is done to property by the making of the surveys and examinations, a board shall pay the reasonable value of that damage to the owner of the property damaged, and the cost shall be included in the financing of the improvement for which the surveys and examinations are made.

“Governing the maintenance, protection, and use of solid waste collection or other solid waste facilities located within its district. The rules adopted under division (G)(2) of this section shall not establish design standards and shall be consistent with the solid waste provisions of Chapter 3734. of the Revised Code and the rules adopted under those provisions. The rules adopted under division (G)(2) of this section may prohibit any person, municipal corporation, township, or other political subdivision from constructing, enlarging, or modifying any solid waste facility under general plans and specifications for the proposed improvement have been submitted to and approved by the Board of County Commissioners . . . as complying with solid waste management plan or amended plan of the District. The construction of such a facility . . .”

ORC 343.01(G)(3)

Governing the development and implementation of a program for the inspection of solid wastes generated outside the boundaries of this state that are disposed of at solid waste facilities included in the district's solid waste management plan or amended plan. A board of county commissioners or board of directors or its authorized representative may enter upon the premises of any solid waste facility included in the district's solid waste management plan or amended plan for the purpose of conducting the inspections required or authorized by the rules adopted under division (G)(3) of this section. No person, municipal corporation, township, or other political subdivision shall forbid or interfere with a board of county commissioners or directors or its authorized representative entering upon the premises of any such solid waste facility for that purpose.

ORC 343.01(G)(4)

Exempting the owner or operator of any existing or proposed solid waste facility provided for in the plan or amended plan from compliance with any amendment to a township zoning resolution adopted under section 519.12 of the Revised Code or to a county rural zoning resolution adopted under section 303.12 of the Revised Code that rezoned or redistricted the parcel or parcels upon which the facility is to be constructed or modified and that became effective within two years prior to the filing of an application for a permit required under division (A)(2)(a) of section 3734.05 of the Revised Code to open a new or modify an existing solid waste facility.

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 is not proposing any new rules in this *Plan Update*. The following District rule has been updated with additional language:

DKMM Rule 1.01

Unless the Board of Directors of the District has issued a waiver in accordance with the procedures set forth pursuant to the DKMM Solid Waste Management Plan, no person, as that term is defined in Section 1.59 of the ORC, municipal corporation, township or other political subdivision, shall construct or modify any solid waste transfer, disposal, recycling or resource recovery facility until the general plans and specifications for the proposed construction or modification have been submitted to and approved by the Board of Directors of the District as fully in compliance with the DKMM Solid Waste Management Plan.

The amended rule above shall become effective upon approval of this Plan Update and adoption by the Board through their ratification resolution for this Plan Update.

E. Rule Approval Process

Proposed rules shall be adopted and enforced by the Board as provided in section 343.01(G) and any additional process as determined by the Board.



APPENDIX R

BLANK SURVEY FORMS AND RELATED INFORMATON





Dear Ohio Business:

The Delaware, Knox, Marion, Morrow 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 Delaware, Knox, Marion, Morrow 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 Delaware, Knox, Marion, Morrow 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 Delaware, Knox, Marion, Morrow 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 Delaware, Knox, Marion, Morrow Solid Waste Management District needs to know what and how much material was recycled.

Your completed survey will help the Delaware, Knox, Marion, Morrow Solid Waste Management District better understand recycling in the business community in Delaware, Knox, Marion, and Morrow counties. 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?

You can print and fill out a hard copy or download a Microsoft Word fillable form from Ohio EPA's survey [webpage](#) – whichever is easier for you. Click on the arrow next to the county your business is in and select the correct survey for your business. When you are done, you can either mail or email the completed survey to the Delaware, Knox, Marion, Morrow Solid Waste Management District. Instructions for completing and returning the survey are provided on the survey form.

What happens to my data?

The Delaware, Knox, Marion, Morrow Solid Waste Management District 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 the District. The District's 2015 data is posted on Ohio EPA's [webpage](#) along with the survey forms. To see that data, 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 Jenna Hicks at the Delaware, Knox, Marion, Morrow Solid Waste Management District with any questions regarding the survey. Jenna can be reached at (740) 393-4600 or jhicks@dkmm.org. 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 Delaware, Knox, Marion, Morrow Solid Waste Management District by 4/3/2017.

Thank you for your time and participation.

Sincerely,

Jenna Hicks



Dear Commercial Business,

Thank you for completing this survey. The information you provide for your company is crucial to monitoring the Delaware, Knox, Marion, Morrow 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 Delaware, Knox, Marion, Morrow 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 Jenna Hicks, the Delaware, Knox, Marion, Morrow Solid Waste Management District's District Director, at jhicks@dkmm.org or (740) 393-4600.

Please complete and submit this survey no later than 4/3/2017.

Options for Returning the Completed Survey

- Email directly to Jenna Hicks at jhicks@dkmm.org, Subject Line: 2016 Commercial Survey
- Fax to (740) 392-3298, Attention: Jenna Hicks
- Mail to Jenna Hicks at 117 E. High Street, Suite 257, Mt. Vernon, Ohio 43050

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 Delaware, Knox, Marion, Morrow 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? <input type="checkbox"/> Yes <input type="checkbox"/> No			

Instructions for completing Table B:

Table B provides a list of common materials that are recycled by commercial businesses in Ohio. Please indicate the unit of each quantity of material that is reported (pounds, tons or cubic yards). Provide any comments related to each material as necessary. Please do not report any liquid waste, hazardous waste or construction & demolition debris.

The list in **Table B** is not all-inclusive. If your business recycles a material that is not listed in **Table B**, please enter the name and quantity of that material on a line labeled **"Other."** Some materials may not apply to your operation. Some of the listed materials are broad categories. For example, "Plastics" includes plastics #1-7, plastic films etc. Please refer to the **"Materials Cheat Sheet"** attached to this document for examples of materials and definitions.

If you do not currently track this information internally, your solid waste hauler or recycling processor may be able to provide it upon request. The Delaware, Knox, Marion, Morrow 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		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Food		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Glass		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Ferrous Metals		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Non-Ferrous Metals		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Corrugated Cardboard		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
All Other Paper		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Plastics		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Textiles		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Wood		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Rubber		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Commingled Recyclables		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Yard Waste		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> yd ³	
Other:		<input type="checkbox"/> lbs. <input type="checkbox"/> tons <input type="checkbox"/> 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 Jenna Hicks with any questions.

Jenna Hicks, District Director
 Delaware, Knox, Marion, Morrow Solid Waste Management District
 Phone: (740) 393-4600
 Email: jhicks@dkmm.org

Materials Cheat Sheet

Food

- Compostable food waste
- Food donations

Glass

- Bottles (any color)
- Jars

Ferrous Metals

- Mild Steel
- Carbon Steel
- Stainless Steel
- Cast Iron
- Wrought Iron

Non-Ferrous Metals

- Aluminum
- Copper
- Brass
- Silver
- Lead
- Misc. Scrap Metals

All Other Paper

- Office paper
- Paperboard
- Newspapers
- Folders
- Telephone Books
- Magazines
- Catalogs
- Junk Mail

Plastics

- Plastics #1-7
- Plastic Bottles
- Plastic Jugs
- Shrink Wrap
- Plastic Films
- Coat Hangers

Textiles

- Fabrics
- Clothes
- Carpet

Wood

- Bark
- Woodchips
- Sawdust
- Scrap Wood
- Shipping Pallets
- Boards

Commingled Recyclables

- This is a mix of several different materials that are placed into one container and hauled for recycling. It can include all or a combination of the materials listed above.
-

Examples of materials that fall under “Other”

- Appliances
 - Household Hazardous Waste
 - Used Motor Oil
 - Electronics
 - Scrap Tires
 - Dry Cell Batteries
 - Any other solid waste that is recycled at your facility
-

Estimating recycling tonnages – if you are not able to obtain exact tonnages of materials recycled, there are numerous ways to estimate the amount of material recycled in any given year. Below are some common conversion factors that may assist you with your estimations:

Material Type	Density (lb/cu yd)
Mixed Paper Recycling	484
Bottles and Cans	200
Single Stream Recycling	139
Cardboard	100

- (size of container (in cubic yards) X number of collections per month X 12) X density (see table above) = Total Pounds per Year
- 2,000 pounds = 1 ton

For more assistance, contact your solid waste management district.



APPENDIX S

SITING STRATEGY



APPENDIX S. Siting Strategy

The District's Siting Strategy includes the following:

Submission and review of general plans and specifications and application of the Siting Strategy to proposals to modify or construct solid waste facilities within the District must demonstrate how such modifications or construction of solid waste facilities within the District maximize the feasible utilization of existing in-District solid waste facilities.

For purposes of implementing the Siting Strategy, proposals to modify or construct a solid waste facility within the District, shall include the process by which the Board of Directors (Board) shall review proposals for the construction and modification of any solid waste facilities within the District, and determine whether such proposals comply with the District Plan.

A. Purpose and Objective

The District's Siting Strategy for Solid Waste Facilities is to ensure that proposals to construct a new Solid Waste Facility within the District or modify an existing Solid Waste Facility within the District are in compliance with the Plan. The Board shall not approve the General Plans and Specifications for any proposed Solid Waste Facility or the modification of any existing in- District Solid Waste Facility where the construction and operation of the proposed facility, as determined by the Board, will:

- (1) have significant adverse impacts upon the Board's ability to finance and implement the Plan;
- (2) interfere with the Board's obligation to provide 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 facility; or
- (4) have material adverse impacts upon the local community, including businesses within 500 feet of the proposed facility, including the adequacy of existing infrastructure to serve the proposed facility.

Except as otherwise provided herein, all proposed Solid Waste Facilities shall be subject to this Siting Strategy and shall comply with Rules to be adopted requiring the submission of general plans and specifications to the District.

- a. Exemption for District Facilities and Anticipated District Facilities: Solid Waste Facilities, including but not limited to yard waste management facilities, recycling facilities, transfer stations and other types of solid waste management facilities may be constructed by the District. Board approval

of the costs associated with any construction, expansion or modification of such facilities shall constitute a determination by the Board that the proposed construction, expansion or modification of such facilities complies with the Plan.

B. Siting Procedure and Limited Exemptions

Notwithstanding the foregoing requirement, existing in-District solid waste facilities specifically identified in the Plan are not subject to the Siting Strategy unless the owner/operator of any such in-District solid waste facility proposes a modification to the operation of the in-District solid waste facility that:

- Requires the approval of the Director of the Ohio Environmental Protection Agency; or
- Involves a change in the type of material, manner of operation or activities conducted at the solid waste facility (i.e., a conversion of a legitimate recycling facility to a transfer station, or acceptance of food waste at a yard waste composting facility).

C. Requirements

The District has an existing rule that supports the siting strategy listed in this appendix. DKMM Solid Waste Management District Rule 1.01 requires the following:

“Unless the Board of Directors of the District has issued a waiver in accordance with the procedures set forth pursuant to the DKMM Solid Waste Management Plan, no person, as that term is defined in Section 1.59 of the ORC, municipal corporation, township or other political subdivision, shall construct or modify any solid waste transfer, disposal, recycling or resource recovery facility until the general plans and specifications for the proposed construction or modification have been submitted to and approved by the Board of Directors of the District as fully in compliance with the DKMM Solid Waste Management Plan.”

D. Procedure Implementing Siting Strategy Information

Applicants seeking approval for the construction of a new Solid Waste Facility to be located within the District, or the modification of an existing in-District Solid Waste Facility, shall follow the procedures set forth below unless the Board has granted an exemption or waiver from this requirement:

STEP 1: Submittal of General Plans and Specifications

Any person, municipal corporation, township or other political subdivision proposing to construct a new Solid Waste Facility or modify an existing Solid Waste Facility within the District shall:

- a. Provide General Plans and Specifications for the proposed facility to the Director. The Director will then conduct an initial review, and within 20 days of receiving the General Plans and Specifications will notify the Board of the submission. 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 Solid Waste Facility
 - ii. Architectural drawings or artists renderings of the proposed Solid Waste Facility
 - iii. Availability of necessary utilities
 - iv. Projected size and capacity of the proposed Solid Waste Facility
 - v. Hours of operation
 - vi. Anticipated source of solid waste or recyclable materials to be received at the proposed Solid Waste 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 on an hourly and daily basis
 - viii. Route to be used by vehicles utilizing the facility and methods of ingress and egress to the facility
 - ix. Any other information the Board deems necessary to evaluate whether the proposed Solid Waste 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, including but not limited to the District's obligations to meet recycling and waste reduction goals or meet solid waste disposal capacity needs
 - ii. Not adversely affect financing for the implementation of the District's Plan
 - iii. Not adversely affect the Board's objectives for entering into contract designation agreements with existing in-District and out-of-District solid waste facilities, including, but not limited to, promoting the maximum feasible utilization of existing in-District solid waste facilities in accordance with ORC 3734.52
 - iv. Be installed, operated and maintained to be harmonious and appropriate in appearance and use with the existing or intended character of the area proximately located to the proposed construction or modification
 - v. Not create excessive additional requirements at public cost for essential public facilities or services, or be adequately served by existing essential public facilities or services
 - vi. Not be detrimental to the economic welfare of the community
 - vii. Not involve the excessive production of traffic, noise, smoke, fumes or odors
 - viii. Have vehicular approaches to the property that are designed not to create an interference with traffic
 - ix. Not result in the destruction, loss or damage of a natural, scenic, of historical feature of major importance
 - x. Not adversely affect property values within the surrounding community. To the extent that any of the criteria listed above in b(i) through b(x) establishes a design standard that is addressed by rules of the Ohio Environmental Protection Agency for the issuance of a solid waste facility construction permit, the Board shall exclude such criteria from the Board's review of the General Plans and Specifications
- c. The Applicant shall submit any additional information as the Board and/or Director requests to establish, to the satisfaction of 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.

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 and demonstrated that the impacts listed in Step 1 do not adversely affect the District, its residents and/or 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.

Within sixty (60) 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 a majority of the Board determines that more information is necessary to complete its review of the proposal, the Board shall send the Applicant written notice of its decision and request for additional information within five (5) days of reaching its decision that additional information is required.

Within one hundred eighty (180) days of determining that the Applicant has submitted General Plans and Specifications containing information sufficient for the Board to complete its review of the proposal, the Board shall determine by majority vote whether the proposal complies with the Plan and the criteria identified in Step 1 herein and notify the Applicant of its decision in writing within five (5) days of reaching its determination. 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 and the criteria identified in Step 1 herein.

The Board has the authority, but is not obligated, to convene a seven (7) member Siting Committee to assist in the review of the General Plans and Specifications. If so constituted, the Siting Committee will be comprised of one member of the Board of Directors from each county within the District. The Chairman of the Board will select one additional member, the Policy Committee Chair will select one additional member, and a representative from the political jurisdiction where

the facility is to be located will be selected by the other six Siting Committee members.

The purpose and objective of the Siting Committee shall be:

- To generally evaluate, prepare and submit advisory reports to the Board concerning the General Plans and Specifications submitted;
- To confirm that the General Plans and Specifications meet local, District and Ohio EPA criteria, and advise the full Board of Directors of any concerns that the Siting Committee concludes should be referred to the appropriate local, District or Ohio EPA department or agency for their review, evaluation and action, if appropriate; and
- To ensure that proposals to construct or modify the Solid Waste Facility will not adversely affect the projections contained in the District Plan, or the ability of the District to finance implementation of the Plan.

The Siting Committee may request meetings with an Applicant to raise questions about the permit application or negotiate with the Applicant regarding specific community concerns. Within 90 days from the date the Board decided to convene a Siting Committee, the Siting Committee shall submit a recommendation to the Board of Directors whether the General Plans and Specifications comply with the Plan. The Siting Committee may request extensions from the Board to continue negotiations and review.

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, 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. The party proposing to construct a Solid Waste Facility shall have an ongoing obligation to comply with the Plan and the development agreement.

E. Waiver of Siting Strategy

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 siting strategy rule or rules of the District, or unilaterally modify or amend the Siting Strategy if the Board concludes that 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 and further the District's goals with respect to solid waste management and waste reduction activities.



APPENDIX T

MISCELLANEOUS PLAN DOCUMENTS



CERTIFICATION STATEMENT FOR THE DRAFT PLAN

We as representatives of the Solid Waste Management Policy Committee (SWMPC) of the Delaware-Knox-Marion-Morrow Joint 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 District 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 fifteen 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.

This resolution shall be in effect immediately upon its adoption.

This is to certify that the foregoing is a true and correct copy of the resolution passed by the Solid Waste Management District Policy Committee on January 9, 2018 and recorded in the Journal of said Policy Committee.


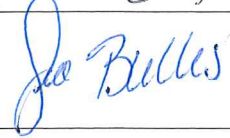

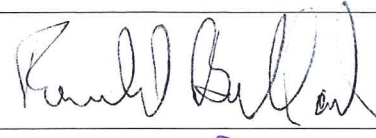


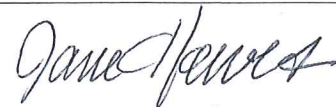
Date: 9 Jan 2018


Policy Committee Chairman



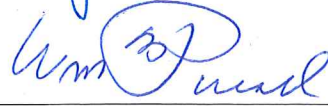
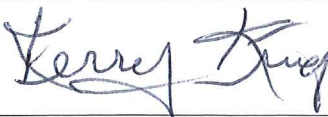
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Total No Votes: -0-

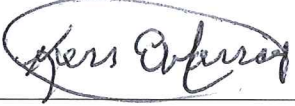
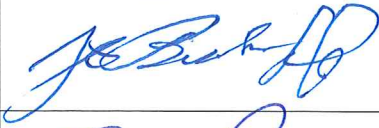


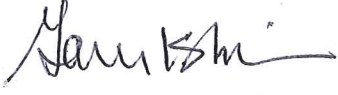
Delaware County

Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner		
Largest City		
Health District		
Townships		
Industry		
General Interest of Citizens		
Public		
Total Votes	7	



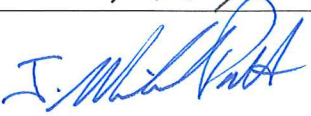

Knox County

Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner		
Largest City		
Health District		
Townships		
Industry		
General Interest of Citizens		
Public		
Total Votes	4	

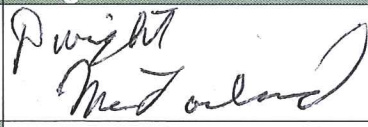
Marion County

Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner		
Largest City		
Health District		
Townships		
Industry		
General Interest of Citizens		
Public		
Total Votes	5	

Morrow County

Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner		
Largest City		
Health District		
Townships		
Industry		
General Interest of Citizens		
Public		
Total Votes	6	

At-Large

Representation	Signature for Yes Vote	Signature for No Vote
At Large		
Total Votes	1	

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Contact	:			Section	:	Legals
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Address2	:			Category	:	Legals
City St Zip	:	Marion OH 43302		Dates Run	:	08/18/2018-08/18/2018
Phone	:	(740) 223-4150		Days	:	1
Fax	:			Size	:	2 x 12.04, 102 lines
Credit Card	:			Words	:	633
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Entered By	:	JDEWEESE		Ad Price	:	360.25
				Amount Paid	:	0.00
				Amount Due	:	360.25
Keywords	:	30 Day Public Notice and Hearing Notice	PUBLIC NO			
Notes	:					
Zones	:					

30 Day Public Notice and Hearing Notice

PUBLIC NOTICE DELAWARE-KNOX-MARION-MORROW JOINT SOLID WASTE MANAGEMENT DISTRICT

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The draft Plan Update includes a demonstration of access to landfill capacity and determines there is more than ten years of capacity available to the District. Specifically, the Cherokee Run Landfill and Suburban Landfill, Inc has enough capacity to manage all of the waste generated in the District through 2033.

This draft Plan Update continues to authorize the Board of Commissioners to establish facility designations in accordance with Section 343.013 and 343.014 of the Ohio Revised Code. The District does not currently have facility designations and is not proposing to designate facilities during this planning period.

The draft Plan Update complies with State Plan Goal #1: Access to Waste Management Opportunities. The District shall provide

Order Number :	90036562	Ad Number :	90074376
PO Number :		Ad Key :	
Customer :	40017783 Dkmm Solid Waste Management	Salesperson :	DG06 - Diana Deweese
Contact :		Publication :	2301-Delaware Gazette
Address1 :	222 W Center	Section :	Legals
Address2 :		Sub Section :	Legals
City St Zip :	Marion OH 43302	Category :	Legals
Phone :	(740) 223-4150	Dates Run :	08/18/2018-08/18/2018
Fax :		Days :	1
Credit Card :		Size :	2 x 12.04, 102 lines
Printed By :	JDEWEESE	Words :	633
Entered By :	JDEWEESE	Ad Rate :	Legal - dlo13
		Ad Price :	360.25
		Amount Paid :	0.00
		Amount Due :	360.25
Keywords :	30 Day Public Notice and Hearing Notice	PUBLIC NO	
Notes :			
Zones :			

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- " District website at www.dkmm.org/dkmm-plan

Please call (740) 393-4600 with any questions about the Plan Update.

August 18 2018 1T
90036562

PUBLIC NOTICE
DELAWARE-KNOX-MARION-MORROW JOINT SOLID
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Affidavit of Publication

STATE OF OHIO } SS
COUNTY OF DELAWARE }

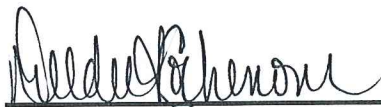
Deedee A Cochenour, being duly sworn, says:

That she is Customer Service Rep of the DELAWARE GAZETTE, a daily newspaper of general circulation, printed and published in DELAWARE, DELAWARE County, OHIO; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

Aug 18, 2018

That said newspaper was regularly issued and circulated on those dates.

SIGNED:



Subscribed to and sworn to me this 18th day of Aug 2018



Diana J. Deweese, DELAWARE County, OHIO

My commission expires: August 20, 2019

\$ 360.25

40017783 90036562 740-223-4150

Dkmm Solid Waste Management Di
222 W Center
Marion, OH 43302

30 Day Public Notice and Hearing Notice

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AFFP

Affidavit of Publication

STATE OF OHIO } SS
COUNTY OF DELAWARE }

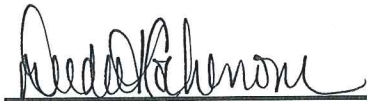
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222 W Center
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August 18 2018 1T
90036562



DIANA J. DEWEESE
NOTARY PUBLIC
STATE OF OHIO
Comm. Expires
August 20, 2019
Recorded in
Delaware County

PROGRESSIVE COMMUNICATIONS CORP.

P.O. BOX 791 - MOUNT VERNON, OHIO 43050
PHONE: (740) 397-5333
MOUNT VERNON NEWS

Page 1 of 1

DKMM SOLID WASTE DISTRICT/LEGA
117 E HIGH ST

MOUNT VERNON, OH 43050-3401

DATE: 8/20/2018
KEYWORD: PUBLIC NOTICE
AD TYPE: 15
AD NUMBER: 99609458
SALESPERSON: 07

AMOUNT ENCLOSED: _____

PLEASE RETURN THE TOP PORTION WITH YOUR REMITTANCE. THANK YOU

INSERTION RUN DATE	AD NBR: 99609458	UNIT COST	UNITS	TOTAL AMOUNT
8/16/2018	PUBLIC NOTICE	11.10	16.75	\$185.93
TOTAL:				\$185.93

State of Ohio, Knox County, ss.

Personally appeared before me, a notary public, in and
for Knox County, Ohio,

E Lutwick

for publishers of the MOUNT VERNON NEWS, 18 E. Vine
St., Mount Vernon, Ohio, who being duly sworn, says that
the annexed advertisement was published in MOUNT
VERNON NEWS, a newspaper printed and of general
circulation, in said county and state, once a week on same
day of week for 1

consecutive week, commencing on the 16th

Day of August A.D., 20 18

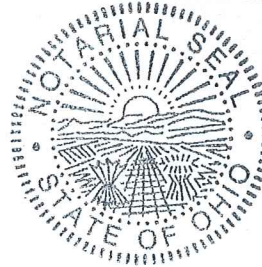
Fees \$185.93
Before me this 20th day of

August A.D., 20 18

Carol A. Hess

Notary Public within and for the State of Ohio

Federal Tax Number
31-4290300



CAROL A. HESS
NOTARY PUBLIC
STATE OF OHIO
Recorded in
Knox County
My Comm. Exp. 3/19/19



PUBLIC NOTICE

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August 16, 2018



Advertiser:

DELAWARE-KNOX-MARION-MORROW JOINT

117 E. HIGH STREET, SUITE 201

MOUNT VERNON OH 43050

AFFIDAVIT OF PUBLICATION

Newspaper: MCO-Mar-Marion Star

**LEGAL NOTICE
ATTACHED**

STATE OF WISCONSIN

RE: Order #: 0003103224

Account #: 7403934600DELA
Total Amount of Claim: \$475.00

I, *Jana Kanitz*, Sales Assistant

for the above mentioned newspaper, hereby certify that the attached
advertisement appeared in said newspaper on the following dates:

08/21/18

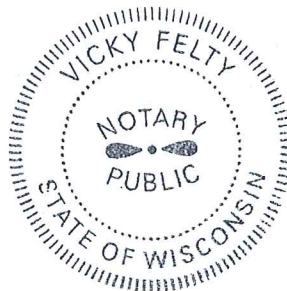
Last Run Date : 08/21/2018

Subscribed and sworn to me this 21st day of August, 2018

Vicky Felty
NOTARY PUBLIC

9-19-21

Commission expires



**PUBLIC NOTICE
DELAWARE-KNOX-MARION-MORROW
JOINT SOLID WASTE MAN-
AGEMENT DISTRICT**

**Public Comment Period and Public
Hearing for Draft Solid Waste Man-
agement Plan Update**

The Delaware-Knox-Marion-Morrow Joint Solid Waste Management District (District) is establishing a 30-day written comment period (August 22 - September 20, 2018) on the draft Solid Waste Management Plan Update (Plan Update) (Ohio Revised Code Section 3734.54). The District has prepared the draft Plan Update as required by Section 3734.54 of the Ohio Revised Code. The draft Plan Update includes a budget and fees to finance the Plan, a solid waste facility inventory, projections and strategies, facilities and programs to be used, 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 is more than ten years of capacity available to the District. Specifically, the Cherokee Run Landfill and Suburban Landfill, Inc has enough capacity to manage all of the waste generated in the District through 2033.

This draft Plan Update continues to authorize the Board of Commissioners to establish facility designations in accordance with Section 343.013 and 343.014 of the Ohio Revised Code. The District does not currently have facility designations and is not proposing to designate facilities during this planning period.

The draft Plan Update complies with State Plan Goal #1: Access to Waste Management Opportunities. The District shall provide access to recycling and waste minimization opportunities for municipal solid waste to its residents and businesses.

The District primarily funds Plan programs and current operations through contract fees, recycling revenue, reimbursements, and miscellaneous resources. As of August 1, 2018, a contract fee of \$6.00 per ton was charged to all solid waste facilities that were designated by the District to receive District solid waste. Contract fees are anticipated to increase to \$7.00 per ton in 2026 then remain flat for the remainder of the planning period (2033).

The District will hold a public hearing to obtain oral comments regarding the draft Plan Update on Wednesday, September 26, 2018 at 10:00 am and 6:00 pm, at Mid-Ohio Sanitation & Recycling LLC, 356 HPM Street, Mt. Gilead, Ohio 43338.

The District will accept written comments as required by Ohio Revised Code Section 3734.55 on the draft Plan Update from August 22, 2018 until September 20, 2018. Written comments should be sent to Ms. Jenna Hicks, District Director, 117 E. High Street, Suite 257, Mount Vernon, Ohio 43050.

The draft Plan Update is available for review at the following locations:

- District Office: 117 E. High Street, Suite 257, Mount Vernon, Ohio 43050, during normal business hours
- Delaware County Commissioners Office: 101 N Sandusky St, Delaware, Ohio 43015, during normal business hours
- Knox County Commissioners Office: 117 E High St # 161, Mt Vernon, Ohio 43050, during normal business hours
- Marion County Commissioners Office: 222 West Center Street, Marion, Ohio 43302, during normal business hours
- Morrow County Commissioners Office: 80 North Walnut Street, Mount Gilead, Ohio, 43338, during normal business hours
- District website at www.dkmm.org/dkmm-plan

Please call (740) 393-4600 with any questions about the Plan Update.
MS, Aug 21, 18 #3103224

Affidavit of Publication

STATE OF OHIO } SS
COUNTY OF MORROW }

Jennifer McQuiston, being duly sworn, says:

That she is Accounting Clerk of the MORROW CO. SENTINEL, a weekly newspaper of general circulation, printed and published in MOUNT GILEAD, MORROW County, OHIO; that the publication, a copy of which is attached hereto, was published in the said newspaper on the following dates:

Aug 22, 2018

That said newspaper was regularly issued and circulated on those dates.

SIGNED:

Subscribed to and sworn to me this 22nd day of Aug 2018

Angela D. Caldwell, MORROW County, OHIO

My commission expires: February 16, 2019

\$ 240.00

40017783 90036426 740-223-4150

Dkmm Solid Waste Management Di
222 W Center
Marion, OH 43302

30 Day Public Notice and Hearing Notice

PUBLIC NOTICE DELAWARE-KNOX-MARION-MORROW JOINT SOLID WASTE MANAGEMENT DISTRICT

Public Comment Period and Public Hearing for Draft Solid Waste Management Plan Update

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AFFP

Affidavit of Publication

STATE OF OHIO } SS
COUNTY OF MORROW }

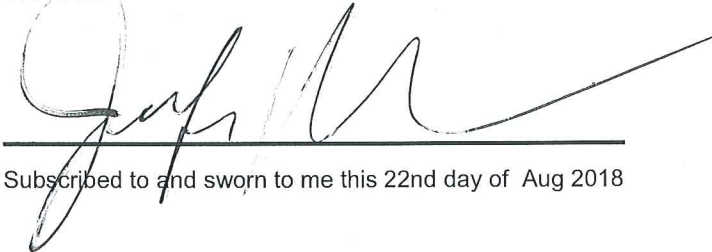
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SIGNED:



Subscribed to and sworn to me this 22nd day of Aug 2018



Angela D. Caldwell, MORROW County, OHIO

My commission expires: February 16, 2019

\$ 240.00

40017783 90036426 740-223-4150

Dkmm Solid Waste Management Di
222 W Center
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*District website at www.dkmm.org/dkmm-plan

Please call (740) 393-4600 with any questions about the Plan Update.



ANGELA D.
CALDWELL
NOTARY PUBLIC,
STATE OF OHIO
My Commission
Expires
Feb. 16, 2019

Resolution Adopting the Solid Waste Management Plan

Resolution # 2018- 001

A RESOLUTION DECLARING THAT THE AMENDED SOLID WASTE MANAGEMENT PLAN FOR THE DELAWARE-KNOX-MARION-MORROW JOINT SOLID WASTE MANAGEMENT DISTRICT HAS BEEN ADOPTED.

Whereas, the Delaware-Knox-Marion-Morrow Joint Solid Waste Management District (District") completed the draft amended Solid Waste Management Plan ("Plan") and submitted it to the Ohio Environmental Protection Agency for review and comment on February 12, 2018 and the Ohio Environmental Protection Agency provided comments in a non-binding advisory opinion on March 29, 2018.

Whereas, the District's 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 from Wednesday, August 22 to Thursday, September 20, 2018 and two public hearings were held on September 26, 2018 to provide the public an opportunity to have comment on the Plan. No public comments were received through the above processes.

NOW, THEREFORE, BE IT RESOLVED that the District Policy Committee:

1. Adopts the amended Plan as the District Plan, as amended by the Policy Committee for clerical, budgetary and language clarifications.
2. Certifies that, to the best of its 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 Revision 4.0.
3. Directs that copies of the adopted Plan be delivered to the Boards of County Commissioners of Delaware, Knox, Marion, and Morrow Counties and to the legislative authority of each municipal corporation and township under the jurisdiction of the District for ratification.

This resolution shall be in effect immediately upon its adoption

Delaware County		
Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner	<i>Paul Lewis</i>	
Largest City	<i>Joe Bello</i>	
Health District	<i>Donald B. Smith</i>	
Townships	<i>Paul Bullard</i>	
Industry	<i>Tom Price</i>	
General Interest of Citizens	<i>Paul White</i>	
Public	<i>Jane Hawes</i>	
Total Votes		

Knox County		
Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner	<i>Tom Collier</i>	
Largest City	<i>Paul K. Murrell</i>	
Health District	<i>and</i>	
Townships	<i>Wm. B. Sneed</i>	
Industry		
General Interest of Citizens		
Public	<i>Randy Canterbury</i>	
Total Votes		

Marion County		
Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner	<i>Kerr Murray</i>	
Largest City		
Health District	<i>Tyler Rigmon</i>	
Townships		
Industry		
General Interest of Citizens		
Public	<i>Gaulisni</i>	
Total Votes		

Morrow County		
Representation	Signature for Yes Vote	Signature for No Vote
County Commissioner		
Largest City		
Health District	<i>Stephanie Zmuck, PS</i>	
Townships		
Industry	<i>Earl L. B.</i>	
General Interest of Citizens		
Public		
Total Votes		

Member at Large		
Representation	Signature for Yes Vote	Signature for No Vote
Member at Large		
Total Votes		

Date: 14 NOV 2018

Policy Committee Chair Signature: Douglas B. Smith RS



APPENDIX U

RATIFICATION RESULTS





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

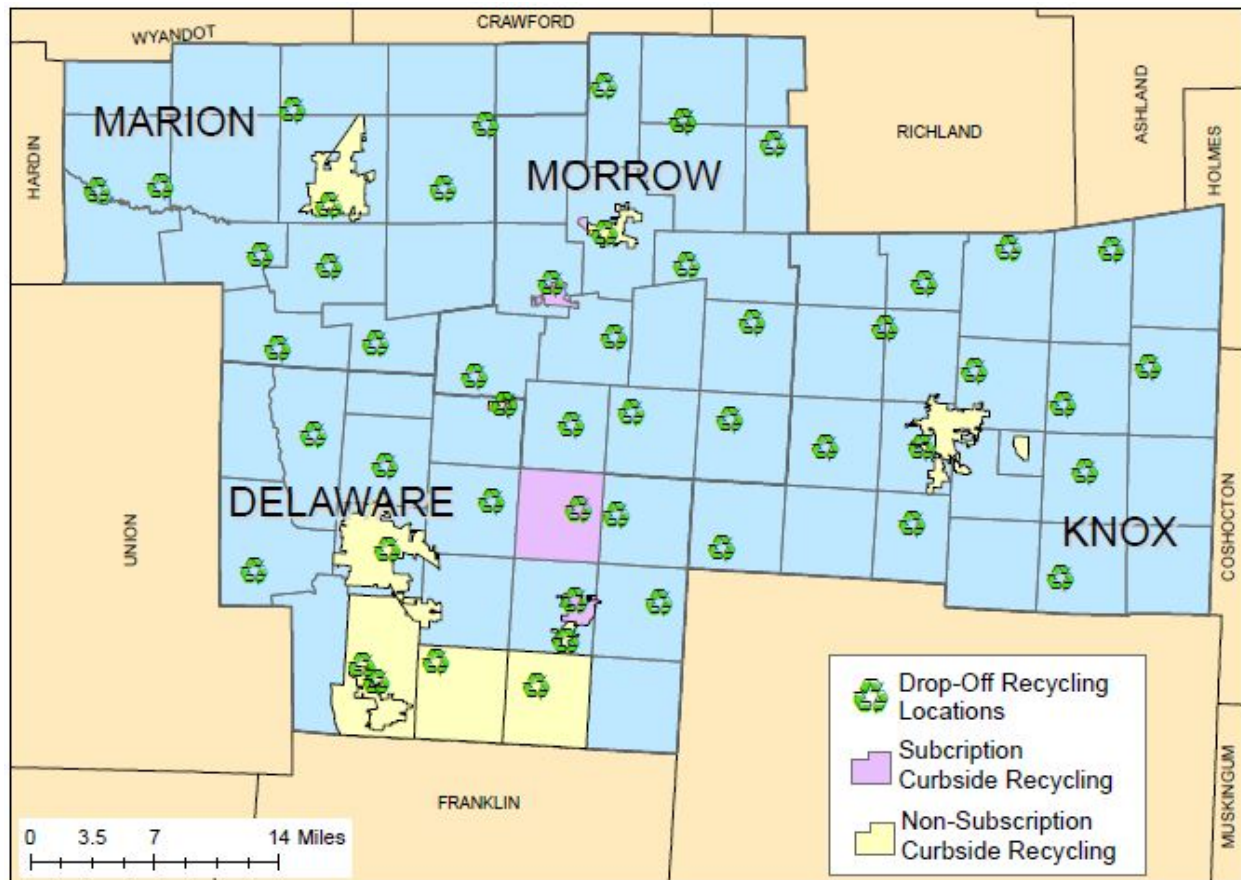
Ohio Revised Code Section 3734.53 (A)(2) requires "...an inventory of all existing facilities where solid wastes are being disposed of, all resource recovery facilities, and all recycling activities within the district. The inventory shall identify each such facility or activity and, for each disposal 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

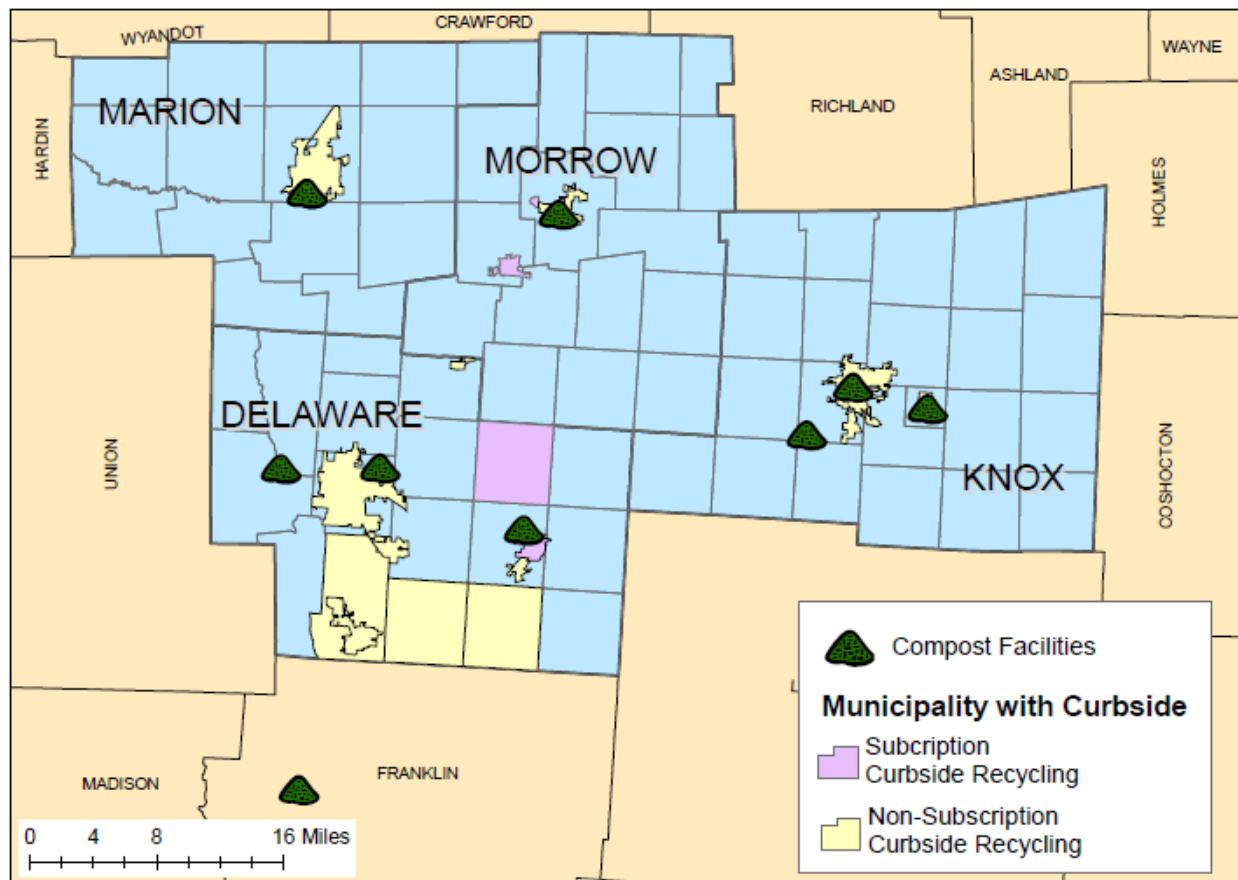
Appendix B of the Plan Update includes a recycling infrastructure inventory providing data and information on curbside recycling, drop-offs, and composting facilities/activities operating in the District. Appendix D includes an inventory of landfills and transfer facilities managing waste generated in 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 2015 reference year.

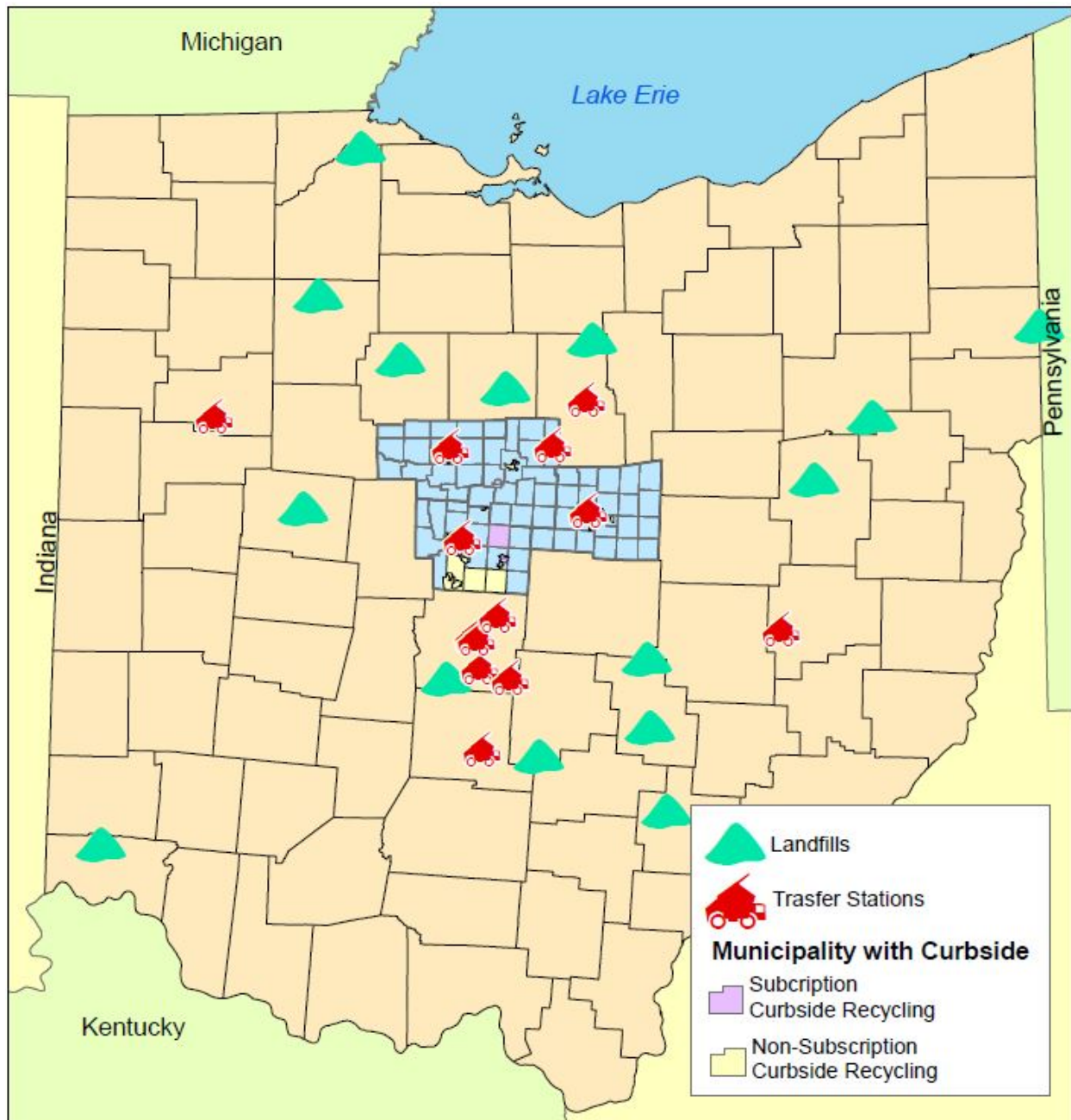
2015 District Access to Drop-Off and Curbside Recycling



2015 District Yard Trimmings Composting Facilities and Activities



2015 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 following tables show that there are no open dumps sites for 2015 in the District.

Site Location (describe briefly)	Description of Materials Dumped
Open Dump Sites (2015) - Delaware County	
None	N/A

Site Location (describe briefly)	Description of Materials Dumped
Open Dump Sites (2015) - Knox County	
None	N/A

Site Location (describe briefly)	Description of Materials Dumped
Open Dump Sites (2015) - Marion County	
None	N/A

Site Location (describe briefly)	Description of Materials Dumped
Open Dump Sites (2015) - Morrow County	
None	N/A

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. Table K-1 includes the amount of solid waste generated, recycled and the amount of solid waste disposed.

During the reference year, zero tons of solid waste and excluded waste was direct landfilled at in-District landfills. During this same year, 72,166 tons of solid waste and excluded waste was direct landfilled in facilities outside of the District and 1,657 tons were disposed directly at out of state facilities. Waste generated outside the District is anticipated to be disposed in the District during the planning period.

2. *Newly Regulated Waste Streams*

The District is not aware of any newly regulated waste streams that are generated or disposed in the District.

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 3734.35 to any municipal jurisdiction.

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 includes a statement on identification of facilities. The District is identifying all Ohio licensed and permitted solid waste landfill, transfer and resource recovery facilities and all licensed and permitted out-of-state landfill, transfer and resource recovery facilities. Appendix P also includes facilities (landfills and transfer stations) that the District is designating to receive solid waste. The District is also identifying recycling and composting programs and facilities that are identified in Appendix B Inventories.

2. Facility Closure, Expansion, Establishment Schedule Response

Appendix M shows all in-District landfills and their remaining capacity, all of which far exceed the planning period for this *Plan Update*. Therefore, the District is not aware of any closure activities for any licensed solid waste facilities during the planning period.

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.



APPENDIX W

SAMPLE DESIGNATION AGREEMENT



DESIGNATION AGREEMENT

THIS AGREEMENT, made and entered into as of the _____ day of November, 2005, by and between the Board Directors (the "Board") of the Delaware-Knox-Marion-Morrow Joint Solid Waste Management District, with offices located at, 222 West Center Street, Marion, Ohio 43302-3646 (the "District") and _____ (the "Contractor"), a corporation, partnership, sole proprietorship or _____, (circle or specify the correct form of business) in _____ (state) with an office located at _____.

RECITALS

WHEREAS, the Board has determined that to finance implementation of its Solid Waste Management Plan, approved by the Director of the Ohio Environmental Protection Agency on July 26, 2002 (the "Plan"), it is necessary to contract with and designate solid waste facilities whereby designated facilities agree to pay a fee to the District as consideration for such designation (the "Contract Fee") as authorized by the Plan and as authorized pursuant to sections 343.01(H), 343.014, 343.02 and 343.022 of the Ohio Revised Code; and

WHEREAS, the Board adopted a Resolution of Intent to Designate on April 12, 2005, a Resolution of Intent to Establish Designation on July 19, 2005, and a Resolution Designating Solid Waste Facilities on October 18, 2005, and has completed all actions required in Section 343.014 of the Ohio Revised Code; and

WHEREAS, the Contractor owns and operates a solid waste facility under the name of _____ (the "Contractor's Facility"), as more particularly described in Exhibit A hereto, and has submitted a Request for Designation for such facility in conformance with the Invitation for Designation; and

WHEREAS, the Board has reviewed the Contractor's Request for Designation and has determined that the Contractor's Facility meets the requirements of the Invitation for Designation and the Board desires to designate the Contractor's Facility for the receipt of solid waste generated within the District for disposal or transfer.

NOW, THEREFORE, in consideration of the promises and mutual covenants contained herein, it is hereby agreed between the parties as follows:

ARTICLE I - DISTRICT'S DESIGNATION OF CONTRACTOR'S FACILITY

- 1.1 The District hereby designates the Contractor's Facility pursuant to Section 343.014 of the Ohio Revised Code, as now existing or hereafter amended, as a solid waste facility authorized to receive solid waste generated within the District for disposal or transfer.
- 1.2 The parties acknowledge and agree that Section 343.01(I)(2) of the Ohio Revised Code provides that solid waste generated within the District can be disposed of only at facilities designated by the Board under Section 343.014 of the Ohio Revised Code and that such designations by the Board include or will include facilities other than the Contractor's Facility. It is the further understanding of the parties that the District does not contemplate requiring any person, municipal corporation, township or other political subdivision located within the District to deliver or cause to be delivered any solid wastes to any particular designated facility.

ARTICLE II – CONTRACTOR’S OBLIGATIONS

- 2.1 The Contractor shall perform and complete in a workmanlike manner all work required to operate and maintain the Contractor's Facility, or cause the Contractor's Facility to be operated and maintained, in strict compliance with all applicable federal, state and local laws as well as the terms and conditions of any applicable licenses or permits. The Contractor agrees that the Solid Waste Facility will comply with Subtitle D Regulations as implemented by the U.S. EPA or applicable state law, including the Best Available Technology (BAT) requirements thereof.
- 2.2 The Contractor agrees to accept any or all solid waste generated within the District which may be delivered to the Contractor's Facility during the term of this Designation Agreement. The Contractor agrees to pay to the District a Contract Fee of five dollars (\$5.00) per ton of solid waste generated within the District that is received at the Contractor's Facility from the effective date of this Designation Agreement until December 31, 2006. The Contractor agrees to pay to the District a Contract Fee of five dollars and fifty cents (\$5.50) per ton of solid waste generated within the District that is received at the Contractor's Facility on and after January 1, 2007 and during the remainder of the term of this Designation Agreement. Before the end of each calendar month, the Contractor shall submit to the District a monthly certified Contract Fee statement, on a form prescribed by the District, in which the Contractor shall separately identify the tonnage (expressed in tenths of a ton) of solid waste generated within the District that was delivered to the Contractor's Facility during the preceding calendar month, and the amount of the Contract Fee due on that tonnage. The Contractor shall forward payment to the District of the amount of the Contract Fee identified in the monthly report at the same time the Contractor submits the monthly report.
- 2.3 Failure to make timely payment of the Contract Fee as provided herein shall constitute a default by the Contractor for which the District may terminate this Designation Agreement, in addition to any other rights or remedies the District may have.

SECTION III - TERM

- 3.1 This Designation Agreement shall be effective as of January 1, 2006 with payment of the Contract Fee to commence on solid waste generated within the District and received at the Contractor's Facility after January 1, 2006 and shall terminate on December 31, 2011.
- 3.2 The District reserves the right to cancel or terminate this Designation Agreement for any reason upon ninety (90) days' written notice to the Contractor.

SECTION IV - MISCELLANEOUS

- 4.1 This Designation Agreement may be assigned by the Contractor to any successor in interest at the Contractor's Facility with the consent of the District, which consent shall not be unreasonably withheld.
- 4.2 This Designation Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their successors, respective heirs, personal representatives, and assigns.
- 4.3 This Designation Agreement shall constitute the entire understanding between the parties hereto relating to the matters herein contained.
- 4.4 No amendments or variations of the terms and conditions of this Designation Agreement shall be valid unless the same are in writing and signed by all the parties hereto.
- 4.5 This Designation Agreement shall be construed and enforced pursuant to the laws of the State of Ohio.

4.6 Any action regarding this Agreement shall be brought in a Court of competent jurisdiction in Delaware, Knox, Marion or Morrow County, Ohio.

IN WITNESS WHEREOF, the parties have duly executed this Designation Agreement in duplicate originals the date and year first above written.

Tom McLarnan
Signature of the Chairperson, Board of
Directors, Delaware, Knox, Marion, Morrow
Solid Waste District

Authorized Signature

Printed Name

Signature of Witness

Date

Printed Name and Title

Authorized Signature

Printed Name

Signature of Witness

Date