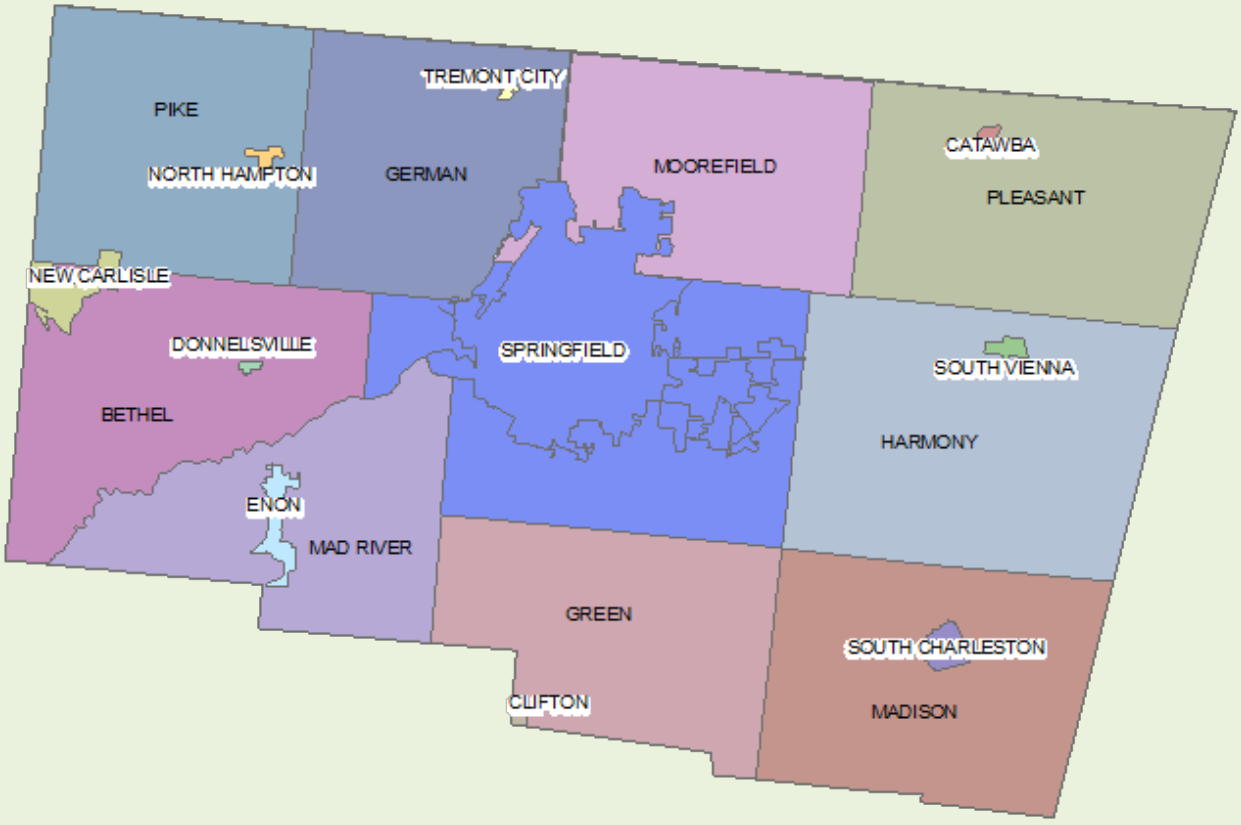
CLARK COUNTY
Solid Waste District
Reducing Waste, Litter & Pollution

2019 – 2033
DRAFT SOLID WASTE MANAGEMENT PLAN UPDATE



Prepared by:

GT environmental, inc.

July 25, 2018

CLARK COUNTY SOLID WASTE DISTRICT

2019-2033 DRAFT PLAN UPDATE

Table of Contents

Appendices

I. Introduction

The District's Mission is to ensure that comprehensive, high-quality solid waste services are available to Clark County residents and businesses, and to supply environmental education and assistance to the community that will promote cost-effective and self-supporting waste reduction programs.

A. Plan Approval Date, Counties in District, and Planning Period Length

1. Under current approved plan:

Date of Ohio EPA approval or order to implement:	April 19, 2013
Counties within District:	Clark (2013-2027)
Years in planning period:	15

2. Plan to be implemented with approval of this document:

Counties within District:	Clark
Years in planning period:	15 (2019-2033)
Year 1 of the planning period:	2019

B. Reason for Plan Submittal

Mandatory five-year plan update.

C. Process to Determine Material Change in Circumstances and Amend the Plan

In accordance with ORC 3734.56(D), the *Plan Update* must be revised if the Board of Directors (Board) has determined that "circumstances materially changed from those addressed in the approved initial or amended plan of the district." A material change in circumstances shall be defined as a change that adversely affects the ability of the Board to implement the Solid Waste Plan. The criteria used to make the determination of material change are as follows:

- Reduction in Available Capacity
- Increase in Waste Generation
- Delay in Program Implementation
- Discontinuance of Essential Waste Reduction or Recycling Activities

- Decrease in Waste Generation
- Adequately finance implementation of the Plan

The Ohio EPA's Plan Format requires that the *Plan Update* must include a description of the process the Board will use to determine when a material change in circumstances has occurred, and, as a result, requires an amended Plan.

The Board shall make the determination of whether a material change in circumstances has occurred according to the following guidelines:

1. Assurance of Waste Disposal Capacity

(a) Reduction in Available Capacity

If the Board determines that the extended or permanent closure of a landfill utilized by the District or a combination of the closure of those landfills accepting solid waste generated in the District, impairs the capacity assurance requirement of section 3734.53(A) of the Revised Code or the Plan Format, then a material change in circumstances may have occurred. A material change in circumstances has not occurred, however, if the District is able to secure arrangements to manage the waste formerly received at the closed facility by any other properly licensed and permitted solid waste management facility.

The Board will convene within 90 days of the closure of a landfill utilized by the District to determine whether alternate capacity is available to the District or whether a material change in circumstances has occurred.

(b) Increase in Waste Generation

Future capacity needs of the District as outlined in the *Plan Update* are based on waste generation estimates. A significant increase in solid waste generation within the District may affect capacity requirements and result in diminished capacity for handling or disposing of solid waste. A material change in circumstances may have occurred if waste generation increases, and the increase has a significant adverse impact on capacity for handling or disposing of solid waste generated within the District at facilities designated and identified in the *Plan Update*. A material change in circumstances has not occurred, however, if the private sector can secure arrangements to manage the increased waste volume at any other properly licensed and permitted solid waste management facility.

The District Coordinator will, during the term of the *Plan Update*, periodically review waste generation figures and report to the Board on an as needed basis a significant increase, as reported by the District

Coordinator, in solid waste generation within the District that warrants the Board's consideration of whether there is adequate capacity available to handle or dispose of the increased solid waste volume. The Board shall review the report and the availability of capacity for District solid waste and determine whether sufficient capacity is available to the District.

2. Compliance with Waste Reduction Goal

(a) Delay in Program Implementation or Discontinuance of Waste Reduction or Recycling Activities

Pursuant to the Ohio Revised code, the Ohio Administrative Code, and the State Plan, the District has established specific goals regarding waste reduction and recycling within the District. The District Coordinator will prepare an annual report for presentation to the Board each year of the planning period. The annual report will identify significant delays in program implementation, changes to waste reduction and recycling strategies or plan implementation for the preceding year that warrant consideration by the Board to determine whether any delay, change or impact on recycling is material. Should a significant delay in program implementation or the discontinuance of programs that result in the inability of the District to achieve the waste reduction goal, the Board shall make a determination as to whether a material change in circumstances has occurred. A material change in circumstances has not occurred, however, where the Board is able to implement new programs, modify existing programs and/or obtain new data and information to meet the waste reduction goal in this *Plan Update* as approved by the Director of Ohio EPA, to meet State of Ohio requirements.

3. Financing of Plan Implementation

(a) Decrease in Waste Generation

District obtains revenues to finance implementation of the *Plan Update* from an $8.50 per ton fee on the generation of solid waste within the District as authorized by section 3734.573 of the Ohio Revised Code. A significant reduction in the generation of waste within the District could result in a significant decrease in revenue and adversely affect the ability of the Board to finance implementation of the *Plan Update*. The District Coordinator will monitor revenues and report significant changes in the financial condition of the District to the Board quarterly or as needed. The Board will receive financial reports from the District Coordinator, consider such reports, and set budget and funding priorities to implement the *Plan Update*. A material change in circumstances may have occurred where a significant reduction in revenue adversely affects the Board's ability to finance plan implementation. No material change in circumstances has

occurred, however, where the Board is able to maintain programs at current funding levels through re-allocation of District funds, or through an increase in District fees, or rates and charges as permitted by the Ohio Revised Code and the Plan.

Specific timelines for determination of a material change are not provided in this policy as each situation that may arise into the future may have remedies that take varying times to implement. Providing specific timelines for situations that cannot always be determined would not be in the best interest of the District. With this said, the District's timetable for determination will be based on the facts of each situation including the possible remedies identified. The Board of Directors will determine when to declare a material change in circumstance when and only when no possible solution is identified in a reasonable timeframe at the Board's discretion.

4. Procedures Where Material Change in Circumstances has Occurred

If at any time the Board determines that a material change in circumstances has occurred, the Board shall direct the Policy Committee to prepare a Draft Amended Plan. The Board shall proceed to adopt and obtain approval of the Amended Plan in accordance with divisions (A) to (C) of section 3734.55 of the Revised Code.

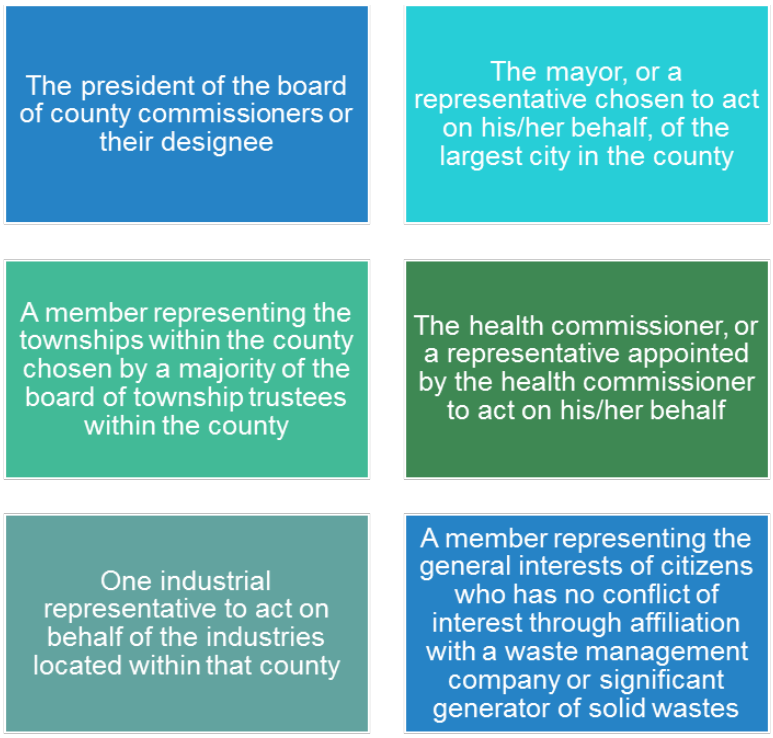
The District shall monitor the circumstances of whether there is a material change in this *Plan Update*. If the District determines a material change in circumstances has occurred, the Board shall notify Ohio EPA within 60 days.

D. District Formation and Certification Statement

Appendix A contains the resolution that formed the District. All public notices in local newspapers publicizing hearings and comments on the *Plan Update* are included in Appendix B. A certification statement signed by members of the Board asserting that the contents of the *Plan Update* are true and accurate is included in Appendix C. The certification statement was signed by a majority of the Board members for both the draft amended *Plan Update* and the ratified draft amended *Plan Update*. Appendix C also includes resolutions by the Board adopting the *Plan Update* prior to ratification and certifying that the *Plan Update* has been properly ratified. A list of all political jurisdictions in the District which voted on the *Plan Update* ratification, their populations, and the percentage of the population represented by the political jurisdictions which ratified the *Plan Update* is included in Appendix C.

E. Policy Committee Members

The Policy Committee for the District is comprised of seven members from the county. These members will include:



The following committee members are listed in accordance with the political jurisdictions and constituencies they represent:

Policy Committee Member	Representing
Melanie F. Wilt	County Commissioners
David Estrop	Interests of the City of Springfield
Charles Patterson - Chairman	Interests of the Health District
David Farrell	Interests of Townships
Len Hartoog	Public
Bobbie Sin	General Interests of Citizens
Tim McDaniel	Interests of Industries

F. District Board of Directors

Board Member	Role
Richard Lohnes	County Commissioner –Chairman
Lowell McGlothin	County Commissioner
Melanie F. Wilt	County Commissioner

G. District Address and Phone Number

Clark County Solid Waste District
1602 West Main Street
Springfield, Ohio 45504

Contact: Mr. Chuck Bauer
Director

Phone: 937-521-2020
Fax: 937-327-6648
Email: cbauer@clarkcountyohio.gov

H. Technical Advisory Council and Other Subcommittees

Technical Advisory Committee Member
Bill Boone
Bill Cook
Chris Hall
Sandy Henry
Anne Kaup-Fett
Chris Moore
Larry Ricketts
Connie Strobbe
Marshall Whitacre
Merritt Wichner

I. Policy Committee Review of Plan Update

The Policy Committee shall annually review implementation of the *Plan Update* under section 3734.55 of the Ohio Revised Code and report its findings and recommendations regarding implementation of the Plan to the Board of Directors of the District.

II. Executive Summary

The Clark County Waste Management District (District) is required by Section 3734.54 of the Ohio Revised Code (ORC) to periodically update its solid waste management plan (*Plan Update*). This *Plan Update* will cover a planning period beginning in 2019 and ending in 2033. This *Plan Update* includes a description of District programs and projections for solid waste generation, recycling and disposal. This *Plan Update* identifies the District's strategies for managing the District's facilities and programs and provides an assessment on achieving statewide recycling and waste reduction goals. This *Plan Update* follows Ohio EPA's format version 3.0. The format requires specific narrative information and data tables. There are nine major sections of the solid waste plan based on the Plan Format.

Section I

- **Basic information about the District and an important section on determining when material changes would require an amendment to the *Plan Update*.**

Section II

- **An Executive Summary and includes brief narrative descriptions of each section in the *Plan Update*.**

Section III

- **An inventory of facilities, activities, and haulers used by the District in the reference year (2015).**

Section IV

- **The reference year statistics for the *Plan Update* including population data, waste generation and waste reduction estimates for the residential/commercial sector and the industrial sector.**

Section V

- **Projections of population, waste generation and waste reduction for each year of the planning period.**

Section VI

- **The District's management of facilities and programs to be used by the District throughout the planning period.**

Section VII

- **Prresentation of how the District meets the state waste reduction and recycling goals.**

Section VIII

- **A presentation of the financial resources of the District necessary to implement this Plan.**

Section IX

- **District rules proposed, approved and authorized for adoption are presented by the District.**

This Executive Summary provides an overview of each section of the *Plan Update*.

A. Section I. Introduction

On October 4, 1988, the Board of Commissioners of Clark County formed the Clark County Waste Management District (District) (Appendix A). The District includes all incorporated and unincorporated territory in Clark County and a small portion of neighboring Greene County (Village of Clifton).

The District first developed a solid waste management plan in 1990. Since that first plan, (which was updated in 1995, 2000, 2005 and 2010), Clark County has implemented numerous successful programs, and has facilitated and monitored the reduction of approximately 40 percent of the residential/commercial waste stream and approximately 93 percent of the industrial waste stream as of the reference year 2015.

The current Plan was approved by Ohio EPA on October 19, 2014. This *Plan Update* begins with the planning year 2019 and includes a fifteen-year planning period.

Policy Committee Members

The Policy Committee prepares the solid waste management plan, monitors implementation of the Plan, and adjusts the District generation fees as appropriate. The current Policy Committee members are listed in the following table:

Policy Committee Member	Representing
Melanie F. Wilt	County Commissioners
David Estrop	Interests of the City of Springfield
Charles Patterson - Chairman	Interests of the Health District
David Farrell	Interests of Townships
Len Hartoog	Public
Bobbie Sin	General Interests of Citizens
Tim McDaniel	Interests of Industries

Board of Directors of the District

The Board is responsible for implementing the solid waste plan developed by the Policy Committee. The current Board members are listed in the following table:

Board Member	Role
Richard Lohnes	County Commissioner –Chairman
Lowell McGlothin	County Commissioner
Melanie F. Wilt	County Commissioner

Process to Determine Material Change in Circumstances and Amend the Plan

Section I of the *Plan Update* outlines the process which will be used by the District to determine when a material change in circumstance has occurred. If a material change in circumstances occurs, a plan amendment is required by Ohio law (ORC Section 3734.56 (D)). The District plan must be updated "…when the Board of County Commissioners…or Board of Directors…determines that circumstances materially changed from those addressed in the approved initial or amended plan of the district…"

A material change in circumstances is defined by Ohio EPA as changes in any of the following which would be judged to significantly interfere with District achievement of *Plan Update* goals in the context of statutory requirements:

Circumstance which may interfere with goal achievement:
Reduction in Available Capacity
Increase in Waste Generation
Delay in Program Implementation
Discontinuance of Essential Waste Reduction or Recycling Activities
Decrease in Waste Generation
Adequately finance implementation of the Plan

In accordance with ORC 3734.56(D), the *Plan Update* must be revised if the Board has determined that "circumstances materially changed from those addressed in the approved initial or amended plan of the district." A material change in circumstances shall be defined as a change that adversely affects the ability of the Board to: (1) assure waste disposal capacity during the planning period; (2) maintain compliance with applicable waste reduction or access goals; or (3) adequately finance implementation of the *Plan Update*. This process is described in detail in Section I of this *Plan Update*.

B. Section III. Inventories

Section III provides an inventory of facilities, programs and activities during the reference year (2015) of the *Plan Update*.

Inventories include the following:
Landfills
Transfer Facilities
Recycling Programs
Collection Programs
Composting Facilities and Programs
Open Dumps and Waste Tire Dumps
Ash, Slag and Foundry Sand Disposal Sites
Solid Waste Haulers

C. Section IV. Reference Year Population, Waste Generation and Waste Reduction

1. Reference Year Population

The District's 2015 reference year population of 135,959 was determined by using the 2015 Ohio Department of Development's 2015 Population Estimates for Counties, Cities, Villages and Townships. This information was obtained from the Ohio Department of Development, Office of Strategic Research.

2. Waste Generation

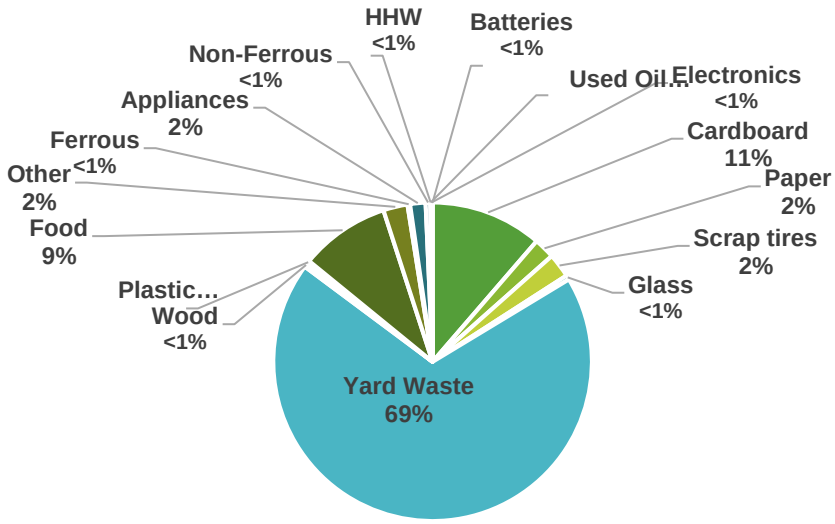
Residential and commercial waste generation was 150,723 tons including 90,247 tons landfilled (see Table III-1) and 60,476 tons recycled, including composting (see Table IV-5). Based on the District population, this is 6.07 pounds per person per day of residential/commercial waste generation.

Industrial waste generation was 55,711 tons. This includes 4,106 tons landfilled (see Table III-1) and 51,605 tons recycled (see Table IV-6). Based on the District population, this is 6.29 pounds per person per day of industrial waste generation.

3. Reference Year Waste Reduction

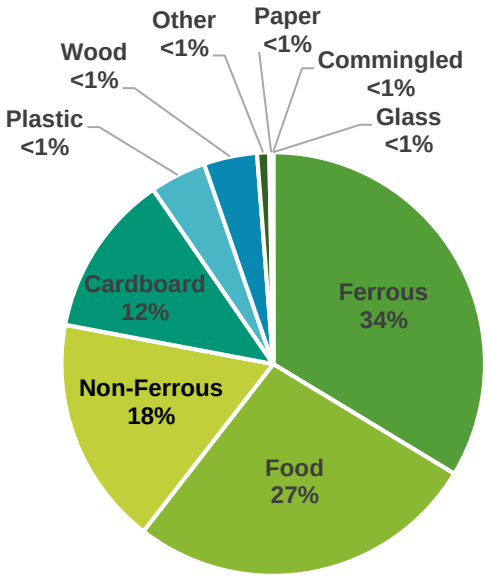
Residential/commercial waste reduction that occurred in the District during the reference year is summarized in Table IV-5. Residential/commercial waste reduction activities include curbside and drop-off collection; District sponsored special collection events, such as household hazardous waste collections and electronics collections; commercial recycling completed by commercial entities operating within the District; and composting. The following graph depicts the residential and commercial waste reduction totals as a percentage for 2015:

Residential/Commercial Waste Reduction (2015)



Industrial waste reduction activities that occurred during the reference year are summarized in Table IV-6. The following graph depicts the industrial waste reduction totals as a percentage for 2015.

Industrial Waste Reduction (2015)



Section IV also provides specific details for the existing waste reduction/recycling activities for the residential/commercial and industrial sectors.

4. Existing Waste Reduction/Recycling Activities for Residential, Commercial and Industrial Sectors

In 2015, the following facilities/programs were implemented:

Residential/Commercial/Industrial Waste Reduction/Recycling and Education Strategies

CC-1: Clark County Recycling Center
CC-2: Curbside Recycling
CC-3: Drop-Off Recycling
CC-4: Yard Waste Management
CC-5: Household Hazardous Waste Collection
CC-6: Electronics Recycling
CC-7: Lead-Acid Battery Recycling
CC-8: Scrap Tire Collection
CC-9: Government Office Paper Recycling
CC-10: Business Paper Recycling
CC-11: Education and Awareness
CC-12: Business Waste Reduction Assistance (BWRAP)
CC-13: Litter Prevention/Clean-Up Programs
CC-14: Health Department Funding
CC-15: Legal and Consulting
CC-16: Other Facilities
CC-17: Curbside Recycling Grants
CC-18: Food Waste Management
CC-19: Disaster Debris Management

D. Section V. Planning Period Projections and Strategies

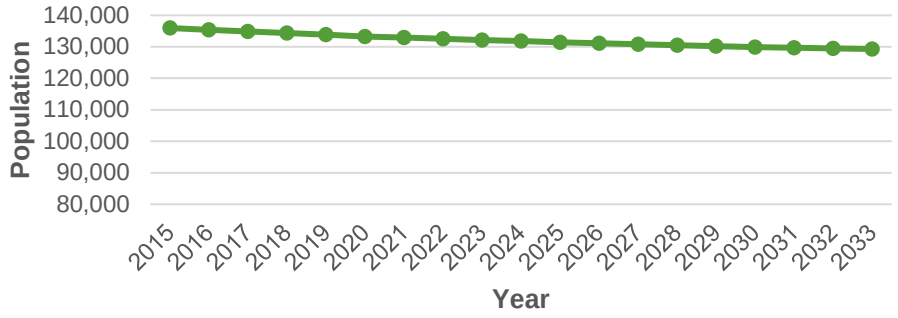
Section V includes a summary of projections of population, waste generation and recycling for the planning period (2019 to 2033). New programs and changes to existing programs are presented in this section.

1. Population Projections

The District anticipates population will decrease 0.33% over the planning period. Population projections were made using growth rates from Ohio Department of Development's Projected Percent Population Change 2010 to 2035 based on the growth rate of the county that each political subdivision or portion of a political subdivision is located. Projections were adjusted using 2015 and

2010 U.S. Census Bureau population data. The following graph depicts the population projections throughout the planning period.

District Population Estimate (2015 – 2033)

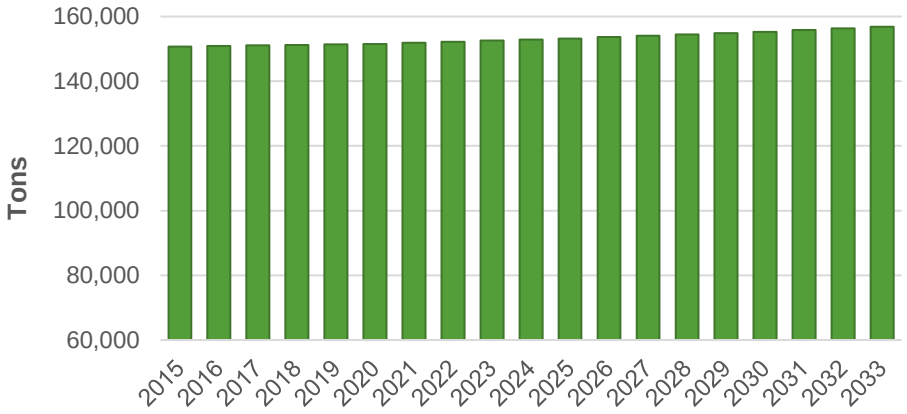


2. Waste Generation Projections

Residential/Commercial Sector

The total residential/commercial waste generation estimate for 2015 was 150,723 tons. Waste generation is projected to increase throughout the planning period from 2019 – 2033. Beginning in 2019, the first year of the planning period, residential/commercial waste is projected to be 151,394 tons. This is expected to increase to 156,872 tons in 2033, an 4.1% increase during the planning period. The following graph depicts the residential/commercial waste generation projections throughout the planning period.

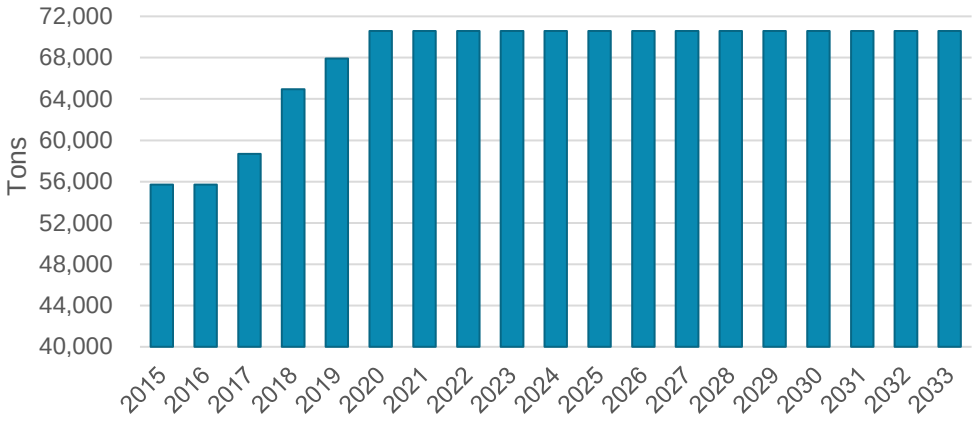
District Residential/Commercial Waste Generation (2015 – 2033)



Industrial Sector

Industrial waste generation is projected for SIC codes 20 and 22-39. Table V-3 presents the average annual change in employment for each SIC code. The District projects industrial waste increase from 55,711 tons in 2015 to 70,594 tons in 2020, then remain constant. The following figure presents the estimated industrial waste generation throughout the planning period.

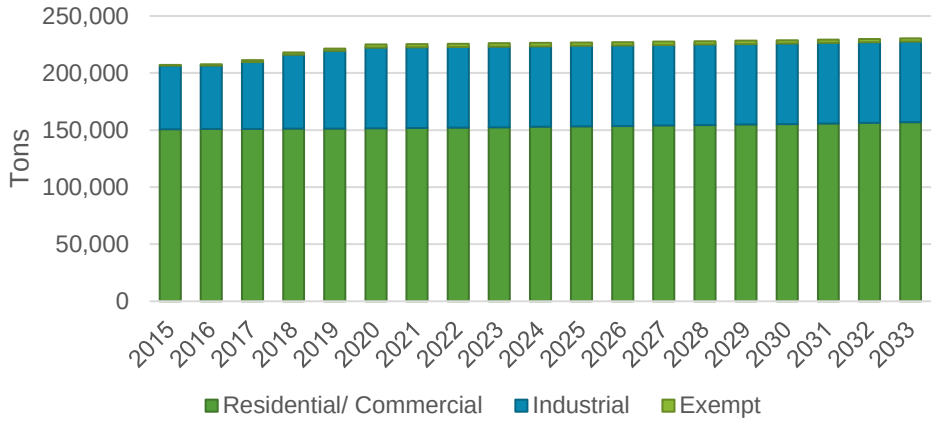
District Industrial Waste Generation (2015 – 2033)



Total Waste Generation

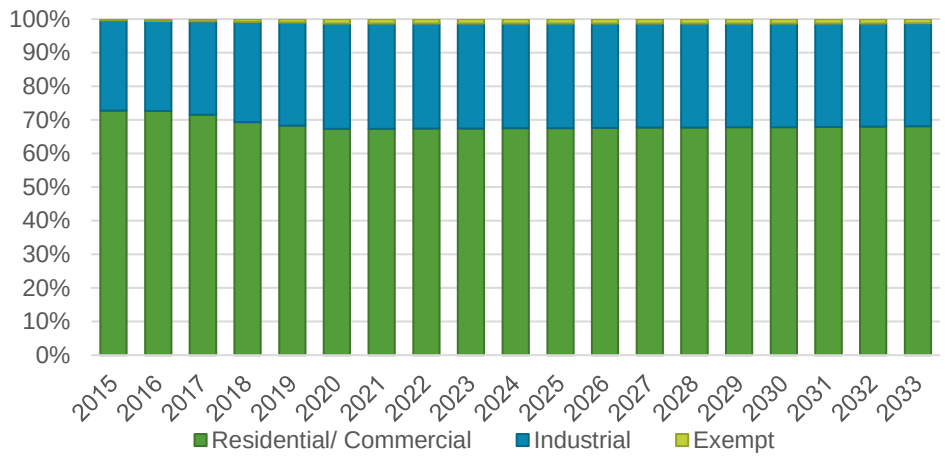
Total waste generation projections for the District during the planning period are presented in Table V-4, "Total Waste Generation for the District during the Planning Period (in TPY)". The total waste generation estimate for the 2015 reference year was 207,165 tons. This includes residential/commercial waste (150,723 tons), industrial waste (55,711 tons), and exempt waste (731 tons).

District Total Waste Generation (2015 – 2033)



The following graph depicts the waste generation per sector as a percentage of the total waste generation.

District Total Waste Generation Distribution (2015 – 2033)



3. Waste Reduction and Recycling Strategies through the Planning Period

The District must continue to develop recycling and waste reduction strategies to meet the goals established in the 1995 State Plan and to pursue continuous improvement in meeting the 1995 State Plan goals. The following table summarizes the program, initiatives and strategies for the planning period and which goals each program meets.

District Strategies by State Plan Goal

Program	Program #	1995 State Plan Goals						
		#1	#2	#3	#4	#5	#6	#7
Clark County Recycling Center	CC-1		✓					
Curbside Recycling	CC-2	✓	✓					
Drop-Off Recycling	CC-3	✓	✓					
Yard Waste Management	CC-4		✓					
Household Hazardous Waste Collection	CC-5		✓			✓		
Electronics Recycling	CC-6		✓			✓		
Lead-Acid Battery Recycling	CC-7		✓			✓		
Scrap Tire Collection	CC-8					✓		
Government Office Paper Recycling	CC-9		✓					
Business Paper Recycling	CC-10		✓					
Education and Awareness	CC-11			✓	✓			
Business Waste Reduction Assistance (BWRAP)	CC-12		✓	✓	✓			
Litter Prevention/Clean-Up Programs	CC-13							
Health Department Funding	CC-14							
Legal and Consulting	CC-15							
Other Facilities	CC-16		✓					

Program	Program #	1995 State Plan Goals						
		#1	#2	#3	#4	#5	#6	#7
Curbside Recycling Grants	CC-17	✓	✓					
Food Waste Management	CC-18		✓					
Disaster Debris Management	CC-19							
Number of Strategies Per Goal		**3**	**14**	**2**	**2**	**4**	**0**	**0**

Details for each program listed above including changes, update and new programs are included in Section V.

E. Section VI. Methods of Management: Facilities and Programs to be Used

Section VI presents the District's methods for managing solid waste. It includes management methods, a siting strategy, and a demonstration of capacity for the planning period 2019 to 2033.

1. District Methods for Management of Solid Waste

The net tons to be managed by the District in 2016 are calculated to be 207,165 tons. The landfill total in Table VI-1 is calculated by subtracting recycling, yard waste composted, and net incinerated tonnage from the net tons to be managed. The District projects 221,533 tons of solid waste will need to be managed in 2019 and by the end of the planning period in 2033, the District will need to manage 230,411 tons.

2. Demonstration of Access to Capacity

During the reference year, 13 landfills managed 95,083 tons of solid waste generated by District residents, businesses and industries.

Regional Capacity Analysis

The District's assessment of regional landfill capacity demonstrates there is sufficient permitted capacity available to manage the District's waste until December 31, 2033. The 13 landfills utilized by the District either directly or indirectly through transfer stations have permitted capacity to manage the District's solid waste through 2033.

3. Identification and Designation of Facilities

The District continues to support an open market for the collection, transport and disposal of solid waste. As required in Section 3734.53(A)(13)(a) of the Ohio Revised Code, 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. The District is also identifying recycling and composting programs and facilities that are identified in Section III Inventories.

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

The Board is authorized to establish facility designations in accordance with Section 343.013 and 343.014 of the Ohio Revised Code. In addition, facility designations, if adopted, will be supported by applicable District rules.

4. Siting Strategy for Facilities

The District has a rule that requires that anyone interested in constructing, enlarging or modifying a solid waste facility within the District has to obtain approval by the Board after review of the general plans and specifications of the proposed solid waste facility or modification of an existing solid waste facility. See Sections VI and IX for more details.

5. Contingencies for Capacity Assurance and District Program Implementation

The District will implement the contingency plan outlined in Section VI of the *Plan Update* if landfills or transfer facilities that service the District are required to close operations for a period of time that would be detrimental to the health and safety of District residents.

F. Section VII. Measurement of Progress Toward Waste Reduction Goals

The District annually conducts a comprehensive survey that has consistently provided high quality waste reduction data over the last several years. This data, coupled with District waste generation, has resulted in the District achieving, in the reference year, a 40% waste reduction rate in the residential/commercial sector and a 93% waste reduction rate in the industrial sector. Based on this data and past historical performance, the District has demonstrated compliance with Goal #2 of the 1995 State Solid Waste Management Plan. Goal #2 requires solid waste districts to:

- Reduce or recycle at least 25% of the residential/commercial waste generated; and

- Reduce or recycle at least 50% of the industrial waste generated.

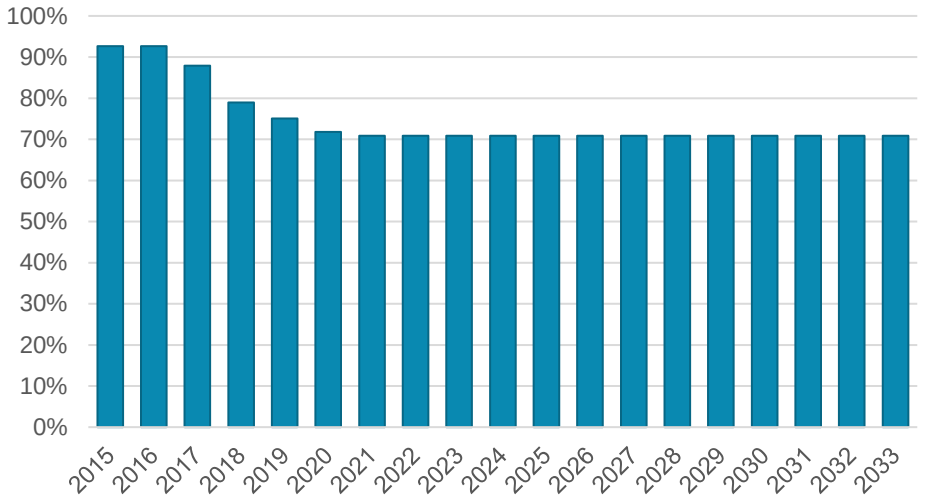
1. Compliance with Goal #2

In the 2015 reference year, approximately 40% of the District's residential/commercial waste stream was reduced. This percentage reflects tonnage that was diverted from landfill disposal by recycling and composting. The residential/commercial waste reduction percentage rate is expected to gradually decrease to more than 37% by the end of the planning period as depicted by the following chart.

Residential/Commercial Waste Reduction Percentage (2015 – 2033)

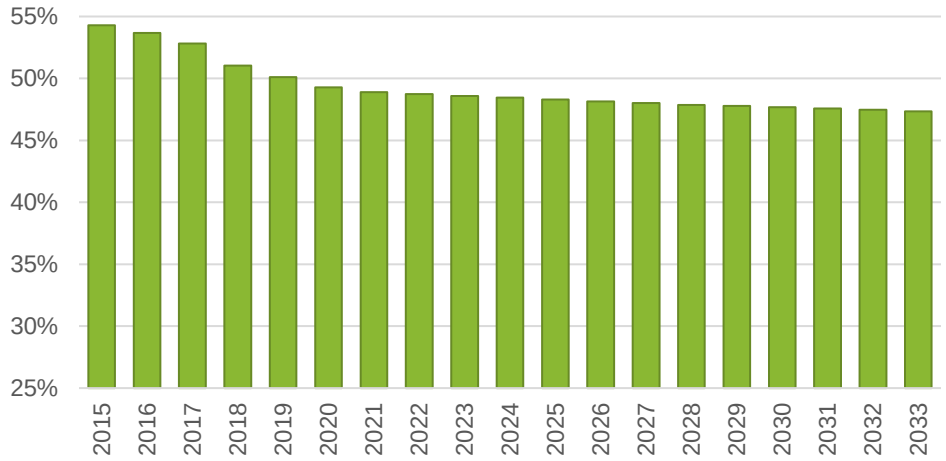
The industrial sector had a waste reduction rate of approximately 93% in 2015 and will decrease down to 71% by 2020 and remain steady throughout the remainder of the planning period as indicated by the following chart.

Industrial Waste Reduction Percentage (2015 – 2033)



The District's annual waste reduction rate for the reference year was 54%. The District projects the total waste reduction rate will decrease to 47% by the end of the planning period (2033). The following figure depicts the District's projected waste reduction rate over the planning period for the residential/commercial and industrial sectors combined:

Total District Waste Reduction Percentage (2015 – 2033)



G. Section VIII. Cost of Financing Plan Implementation

1. Funding Mechanisms

a. District Disposal Fees

The District's in-district solid waste disposal fee is $2.00 per ton. The District's out-of-district solid waste disposal fee is $2.00 per ton. Out-of-state waste is charged the same rate as in-district solid waste at $2.00 per ton.

With no in-District landfill in operation or no permit to install for a new landfill or transfer station currently being reviewed by Ohio EPA, it is not possible for the District to estimate the annual disposal quantities that an in-District landfill or transfer station would receive. Subsequently, the level of any disposal fee that will be required to generate adequate revenue to implement the District's plan cannot be estimated.

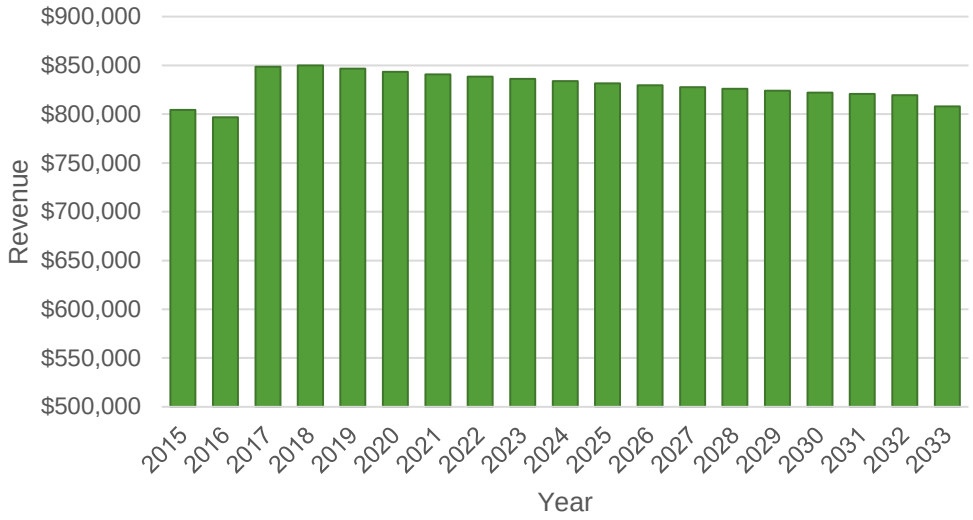
b. Generation Fee

In accordance with Section 3734.573 of the Ohio Revised Code and under the District's current solid waste management plan, the District

instituted an $8.50 per ton generation fee. The generation fee will continue to be collected by the receiving transfer stations, landfills or any other applicable solid waste facility for each ton of solid waste originating within the District and disposed in the State of Ohio. These monies will be forwarded to the District pursuant to Section 3745-28-03 of the Ohio Administrative Code.

The following graph depicts the actual and projected generation fee revenue for this *Plan Update*:

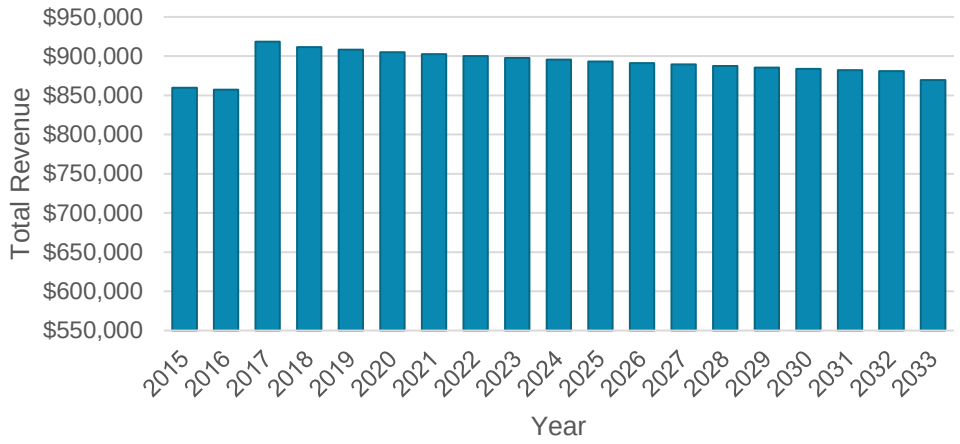
Generation Fees (2015 – 2033)



Estimated revenues include generation fees, user fees, recycling revenue, grants, reimbursements and miscellaneous revenue.

The following graph depicts the District's total actual and projected revenue from 2015 – 2033 and includes all anticipated revenue sources identified above.

District Revenue (2015 – 2033)

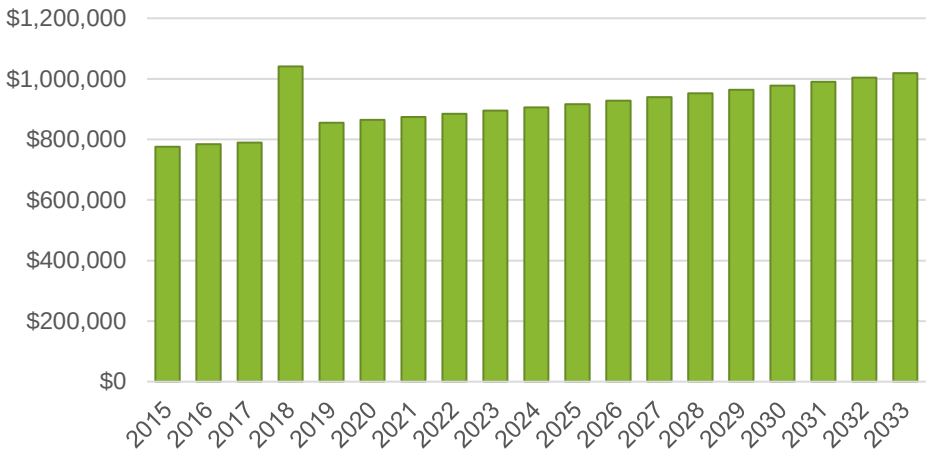


2. Cost of Plan Implementation

Section VIII includes the strategies, facilities, activities and programs that the District will use to implement the *Plan Update*.

The District is projecting to spend $854,979 in 2019, the first year of the planning period and $1,018,481 in 2033, the final year of the planning period. The following chart summarizes the District's actual and projected expenses throughout the planning period.

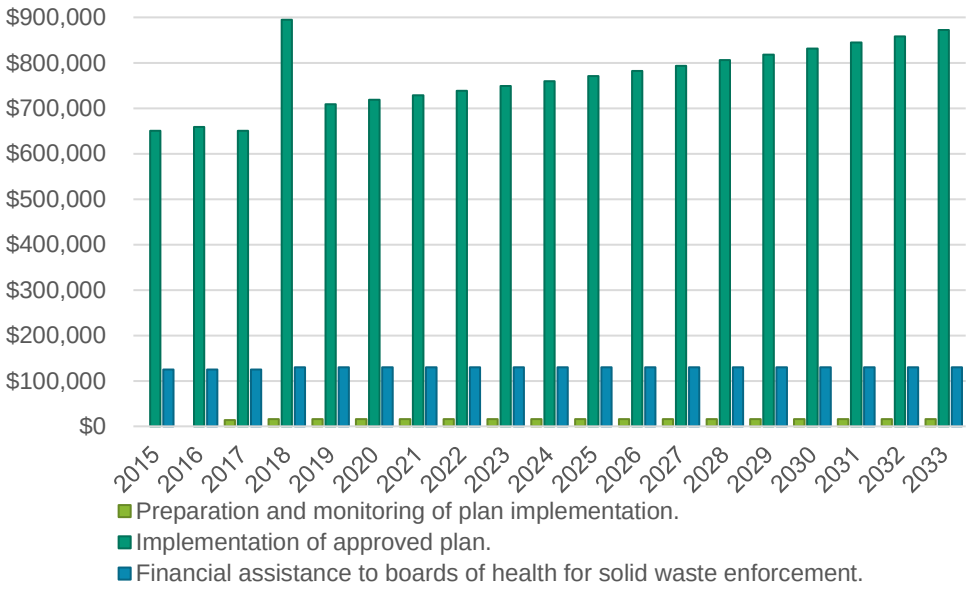
District Expenses (2015 – 2033)



The District's budget falls into three categories: preparation and monitoring of plan implementation, implementation of the approved plan, and solid waste enforcement.

The following graph depicts the District's annual expense to implement this *Plan Update*:

District Expense Distribution (2015 – 2033)



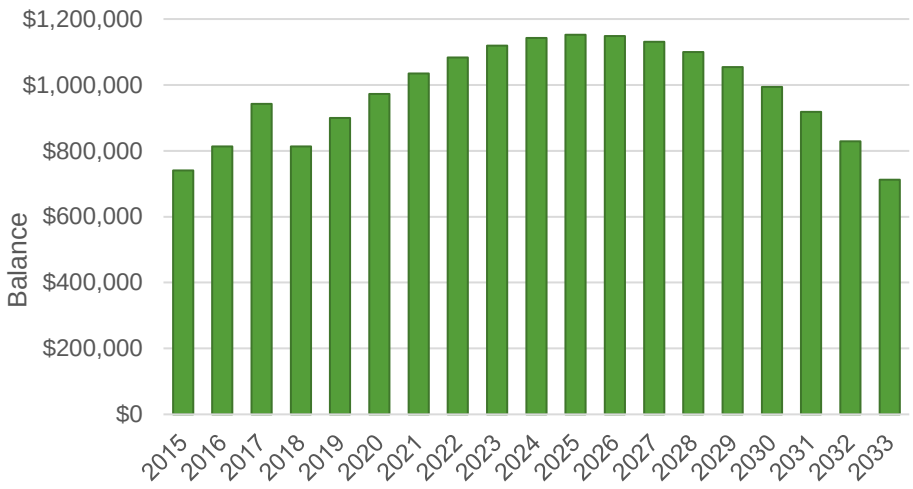
3. Contingent Funding

The District and its Board do not consider funding to be an issue of concern during this planning period. The following contingent funding procedure includes options for increasing the District's generation fee if warranted. Prior to increasing the generation fee, the District will evaluate the estimated expenditures in Table VIII-5 to determine the minimum annual budget to sustain the District's essential strategies, facilities, programs and activities and finance implementation of the District Plan. If an increase in the generation is justified, the District Board will request that the District Policy Committee approve the increase of the generation fee and obtain ratification of that increase.

4. Summary of Costs and Revenues

A summary of District revenues and expenditures for each year of the planning period is included in Table VIII-8. The District has a positive year end cash flow for each year of the planning period. At the end of the planning period in 2033, the District projects a carryover of approximately $828,400. The following figure presents the District's year-end cash flow from 2015 through 2033.

District Fund Balance (2015 – 2033)



H. Section IX. District Rules (ORC Section 3734.53(C))

1. Existing Rules

The District has one rule (1-796) that was adopted on March 16, 2000. This rule governs the construction and modification of solid waste facilities in the District. See Section IX for the full text of the rule.

The District continues to reserve the right to adopt rules specifically authorized by the Ohio Revised Code (ORC). Section 343.01 (G) of the ORC provides the Board of County Commissioners with the authority to adopt, publish and enforce rules if the District Plan authorizes rule adoption under ORC Section 3734.53 (C).

2. Proposed Rules

The Board of Directors of the Clark County Waste Management District have decided that at this time no rules will be made, published, or enforced in accordance with divisions (G)(1), (2), and (3) of Section 343.01 of the Ohio Revised Code and divisions (C)(1), (2), (3), and (4) of Section 3734.53 of the Ohio Revised Code.

Table ES-1
General Information

District Name: Clark County Solid Waste District		
District ID #	Reference Year 2015	Planning Period: 2019-2033
(for OEPA use only)		
Plan Status (underline one)		
D RD DR Approved (date) / / OI (date) / / DA		Reason for Plan Submittal: Mandatory five year update

Abbreviations: D=draft; RD=ratified draft, DR=draft revised, OI=ordered to be implemented, DA=draft amended

Table ES-2
District/Coordinator/Office

Name: Mr. Chuck Bauer		
Address: 1602 W. Main Street		
City: Springfield	State: Ohio	Zip: 45504
Phone: (937) 521-2020	Fax: (937) 327-6648	

Table ES-3
Plan Data Summary

Plan Data		Reference Year 2015	2019 (year 1)	2023 (year 5)	2028 (year 10)	2033 (year 15)
Population		**135,959**	**133,822**	**132,177**	**130,543**	**129,311**
Generation	Industrial	55,711	67,931	70,594	70,594	70,594
	Res/Comm	150,723	151,394	152,548	154,466	156,872
	Exempt	731	2,207	2,945	2,945	2,945
Total Generation (tons)		**207,165**	**221,533**	**226,087**	**228,006**	**230,411**
Waste Reduction	Industrial Source Reduction	0	0	0	0	0
	Industrial Recycling	51,605	50,978	50,038	50,038	50,038
	Res/Comm Source Reduction	0	0	0	0	0
	Res/Comm Recycling	18,844	18,091	18,154	17,920	17,879
	Yard Waste Composting	41,632	40,954	40,403	39,883	39,883
	MSW Composting	0	0	0	0	0
	Incineration	0	0	0	0	0
Total Waste Reduction (tons)		**112,081**	**110,023**	**108,594**	**107,840**	**107,800**
Disposal	In-District Landfills	1	1	1	1	1
	Out of District Landfills	95,082	107,019	116,281	117,997	120,861
Total Landfill (tons)		**95,083**	**107,021**	**116,282**	**117,998**	**120,862**
Waste Reduction Rate	Industrial	**92.6%**	**79.0%**	**70.9%**	**70.9%**	**70.9%**
	Residential/Commercial	**40.1%**	**39.0%**	**38.5%**	**37.5%**	**37.5%**

Source(s) of information: Tables IV-1, IV-5, IV-6, V-2, V-3, V-4 , V-6, and VI-4A

Table ES-4
Existing Disposal Facilities

Name	County	District Tons	Total Tons	Years Left
In-District Landfills				
None				
Out-of-District Landfills				
American Landfill, Inc.	Stark	1	80,529,082	84.5
Carbon Limestone Landfill LLC	Mahoning	49	58,495,106	60.7
Celina Sanitary Landfill	Mercer	1	305,573	6.6
Cherokee Run Landfill	Logan	67,963	14,634,978	29.1
Crawford County Sanitary Landfill	Crawford	1	1,733,787	12.1
Franklin County Sanitary Landfill	Franklin	8	23,725,463	22.3
Pike Sanitation Landfill	Pike	56	17,402,740	75.1
Pine Grove Regional Facility	Fairfield	8	14,490,356	60.1
Rumpke Waste Inc Hughes Rd Landfill	Hamilton	879	23,619,742	14.2
Stony Hollow Landfill, Inc	Montgomery	26,111	5,045,570	16.7
Suburban Landfill, Inc	Perry	5	8,069,759	20
Beech Hollow Landfill	Jackson	0	21,024,800	61.7
Out-of-State Landfills				
South Side Landfill	Marion (IN)	0.24	31,763,615	20.09
Total/Average		**95,083**	**300,840,571**	**38.59**

Source(s) of information: 2015 Ohio Facility Data Report Tables, Table III-1, and Table VI-4A

III. Inventories [ORC Section 3734-53(A)(1)-(4)]

This section of the *Plan Update* provides a review of the solid waste management system during the 2015 reference year for the District. The reference year is the year used for data collection for solid waste programs, facilities and activities in the *Plan Update*. Projections developed in later sections in this *Plan Update* are based on the reference year inventories and data. Tables providing the narrative for Section III can be found at the end of the Section III.

This section also describes the facilities and/or entities used to collect, compost, recycle, dispose and process solid waste and recyclables in the reference year.

A. The Reference Year

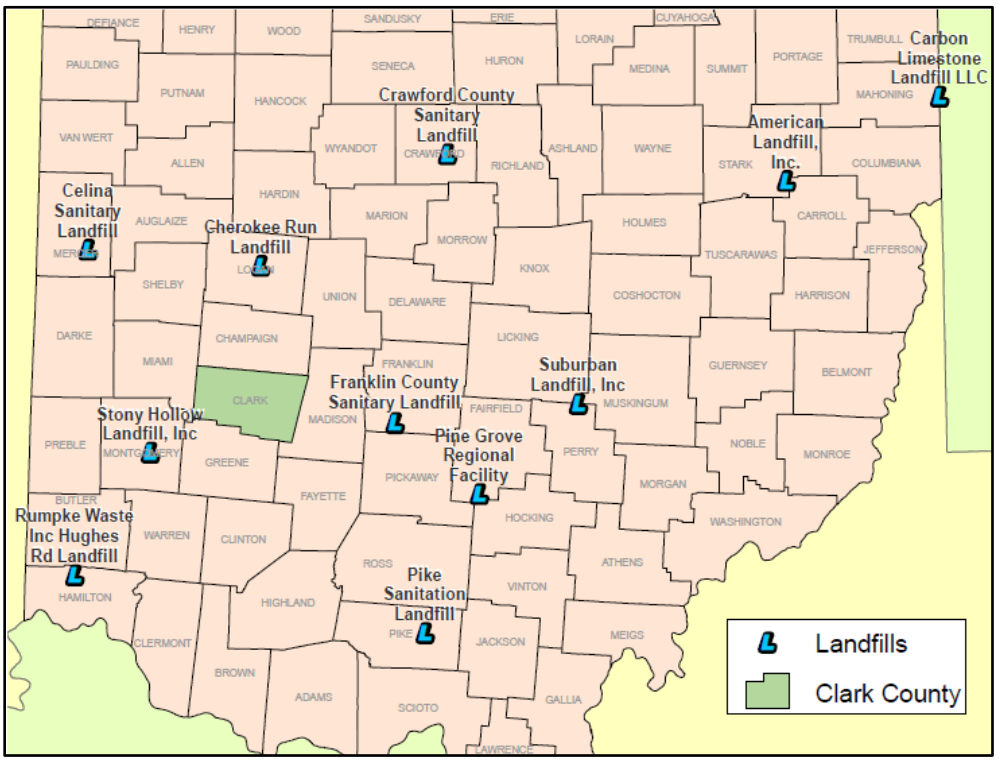
The reference year for this *Plan Update* is 2015. All of the survey data and information presented in this *Plan Update* are based on 2015 data unless otherwise noted.

B. Existing Solid Waste Landfills

Table III-1, "Landfills Used by the District", presents a list of the landfill facilities where residential, commercial, industrial and exempt wastes were delivered directly to landfills for disposal. This table also includes the total amount of Clark County solid waste that was delivered to treatment facilities or transfer facilities prior to being sent to a landfill in order to demonstrate the total amount of solid waste disposed in 2015.

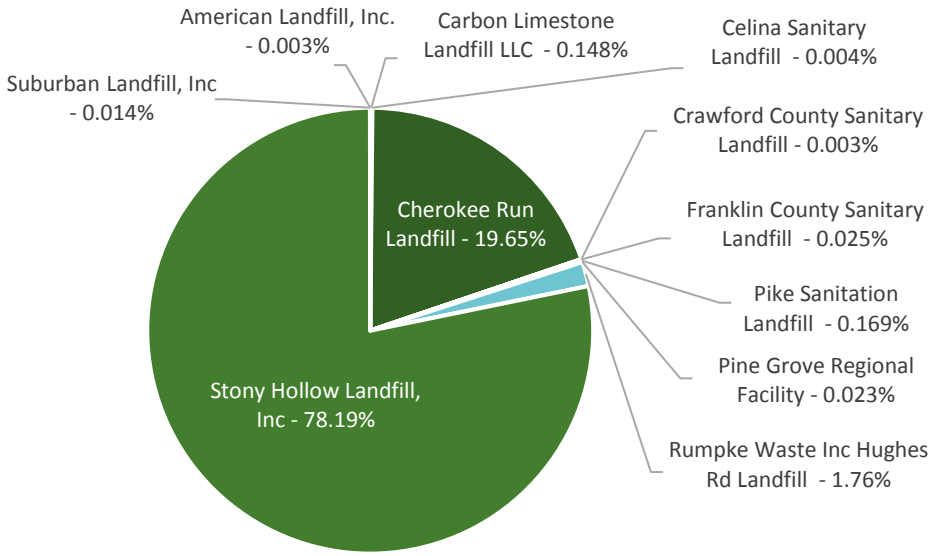
The District utilized 11 out-of-district landfills that provided disposal capacity for District waste. Approximately 33,000 tons of solid waste was disposed by District residents, commercial businesses and industry in 2015. Of this total, 28,500 tons of solid waste came from the residential/commercial sector. The industrial sector disposed of 4,100 tons of solid waste and the District disposed of 728 tons of exempt waste in 2015.

Landfill Facilities Used for Clark County Solid Waste (2015)



The following chart depicts the out-of-district landfills used in 2015:

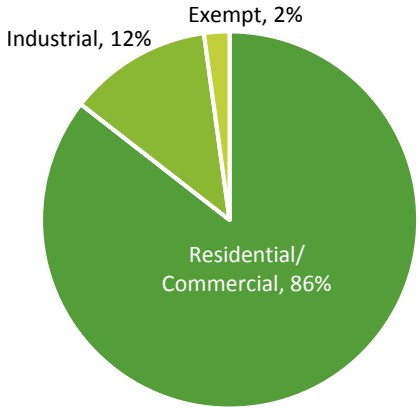
Landfill Facilities Directly Receiving District Solid Waste (2015)



The chart above shows that the District utilized Stony Hollow Landfill the most at 26,111 tons or 78.2% of the total tonnage followed by Cherokee Run Landfill at 6,561 tons or 19.6%, Rumpke Landfill at 588 tons or 1.7%, and the remaining landfills listed used collectively managed less than 1% of the District's total waste disposed in landfills.

Landfill disposal was the District's primary method of waste disposal. The District's disposal distribution by sector, as indicated in the chart below, resulted in approximately 28,500 tons or 86% of solid waste being disposed by the residential/commercial sector, 4,100 tons or 12% by the industrial sector and the remaining 728 tons or 2% was classified as exempt waste.

Waste Tonnage Landfilled by Sector (2015)



Finally, a regional capacity analysis will be performed to determine if adequate disposal capacity is available for the entire fifteen-year planning period. The regional capacity analysis is presented in Section VI.

C. Existing Incinerators and Resource Recovery Facilities

Table III-2, "Solid Waste Incinerators and Waste-to-Energy Facilities Used by the District," presents a list of all publicly available and captive existing solid waste incinerators and waste-to-energy facilities used by the District. This listing includes all in-District, out-of-District, and out-of-state facilities. No publicly available incinerators or resource recovery facilities currently exist within the District in 2015. Information in this section has been obtained through results from surveys and direct inquiry.

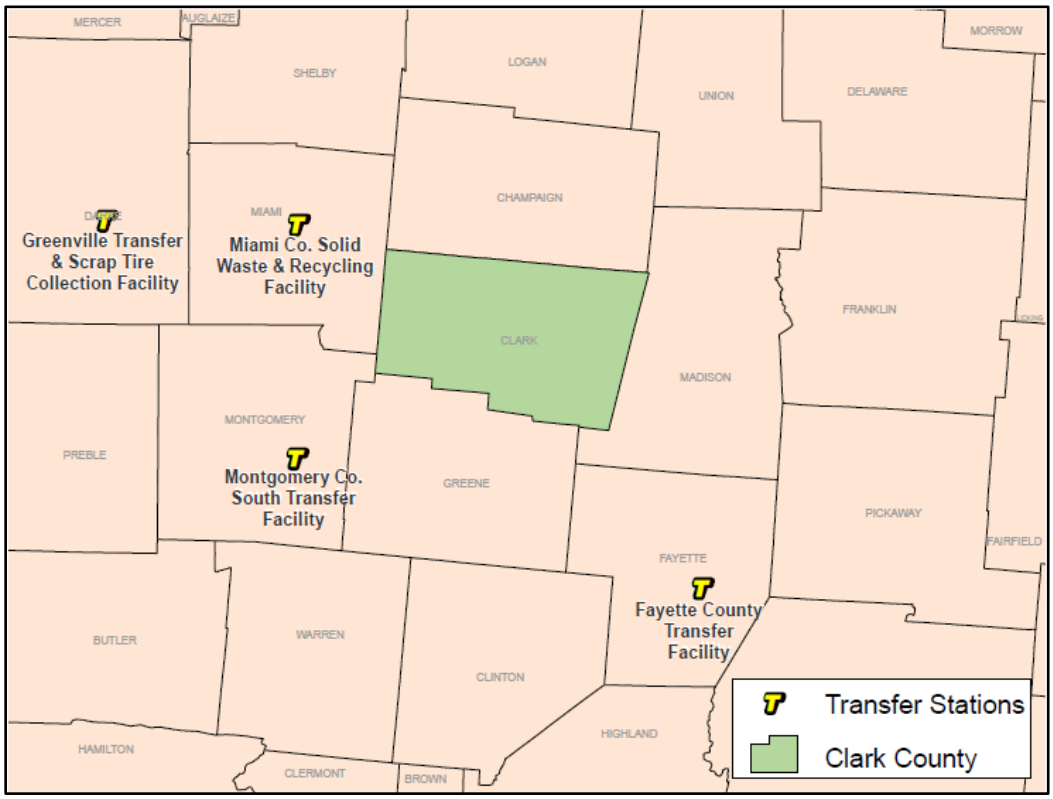
D. Existing Transfer Facilities

Table III-3, "Solid Waste Transfer Facilities Used by the District", presents a listing of all transfer facilities used by the District in 2015. The District does not use

out-of-state transfer facilities. Information in this section has been obtained through the results of surveys, transfer station records and direct inquiry.

Total transferred solid waste from the District in 2015 was 61,692 tons. There were no in-district transfer stations. There were 4 out-of-district transfer facilities that processed over 61,000 tons of District solid waste in 2015.

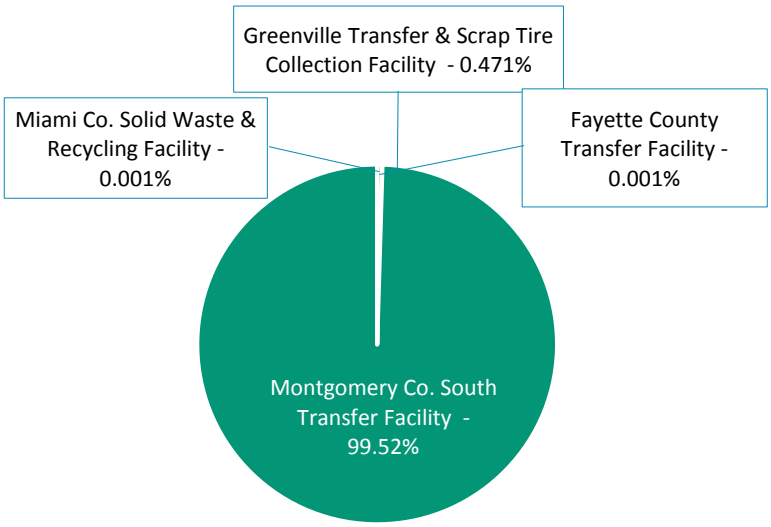
Transfer Facilities Used by the District (2015)



The Montgomery County South Transfer Station accepted more than 99% of the District's transferred waste (61,400 tons), followed by the other three transfer facilities Greenville Transfer & Scrap Tire Collection Facility, Miami Co. Solid Waste & Recycling Facility, and Fayette County Transfer Facility which combined managed less than 1% (291 tons) in 2015.

The following graph depicts the transfer stations used by the District in 2015 and their respective market share.

Transfer Stations Used by the District (2015)



E. Existing Recycling and Household Hazardous Waste Collection Activities

Table III-4, "Residential Curbside Recycling Activities Used by the District", presents a listing of residential curbside recycling activities used by the District in 2015. Information in this table is based on results of surveys, facility records and direct inquiry.

There were 2 non-subscription curbside recycling programs and 17 subscription curbside recycling programs in 2015. The subscription programs were serviced by 5 waste haulers. The non-subscription recycling programs and the subscription programs recycled 2,137 tons in 2015.

- Corrugated Cardboard
- Paperboard
- Newspapers
- Magazines
- Mixed Papers
- PET Bottles
- HDPE Bottles
- Glass
- Bi-Metal Cans
- Aluminum Cans
- Aseptic containers

In addition to waste haulers collecting recyclables, the District operated three Residential Recycling Stations and the Clark County Specialty Recycling Center. Additionally, many outlets existed for drop off by residents.

Table III-5, "Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District", contains a list of drop-off recycling facilities, buyback recycling facilities and household hazardous waste collection programs used by the District in 2015. Information in this table is based on results of surveys, facility records and direct inquiry.

The District had a total of 3 full time multi-material recycling drop-off facilities located throughout the District in 2015. The drop-off facilities collected aluminum cans, steel cans, glass and plastic. In addition, the facilities collected cardboard and mixed paper. Total recycling tonnage for these facilities in 2015 was 773.

In addition to the drop-offs, there were several other material recovery facilities, scrap dealers and recyclers that accepted materials from the residential/commercial and industrial sectors within the District. These facilities accepted a wide range of materials including aluminum, steel, cardboard, mixed paper, office paper, white goods, other metals and other materials. The total recyclables processed from these facilities in 2015 was 19,111 tons.

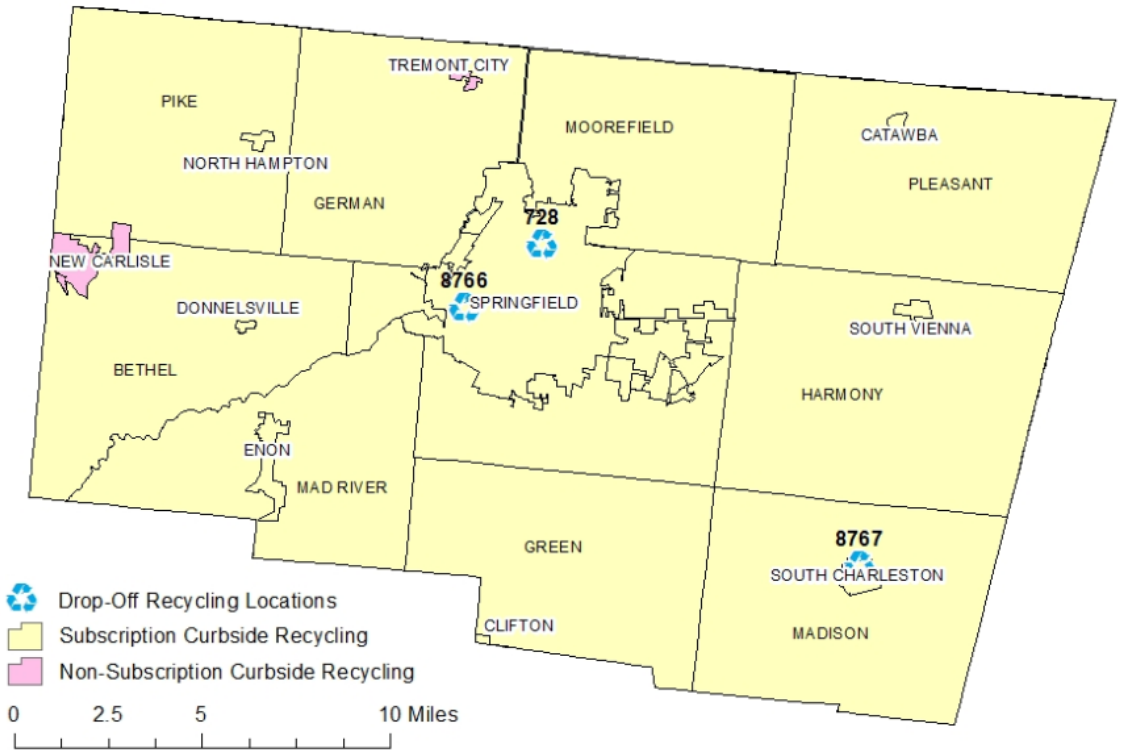
The District conducted regular collections in 2015 for HHW (3 tons), latex paint (15 tons), electronics (32 tons), shredded documents (5 tons), scrap tires (22 tons) and fluorescent bulbs (1,179 bulbs).

Ohio EPA reported 1,479 tons of scrap tires recycled in the District during 2015.

Finally, unreported processors, brokers, and generators from the Commercial/Industrial survey yielded 46,224 tons of materials being recycled.

The total recycling tonnage in Table III-5 collected by all drop-off facilities, brokers, processors, haulers and District special collection programs in 2015 was approximately 70,449 tons. Provisions for double counting of material will be addressed in Section IV of this *Plan Update*. The following figure displays the District's residential curbside recycling activities, drop-off centers, and brokers in the District.

Drop-Off Program Locations (2015)



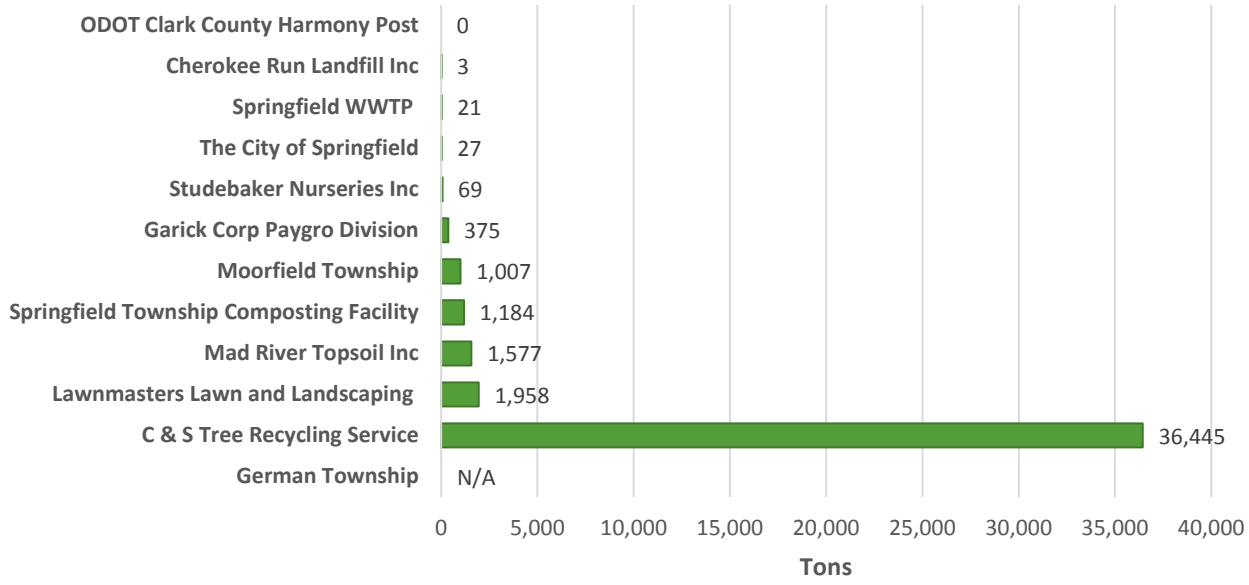
F. Existing Composting/Yard Waste Management Facilities

Composting facilities located within the District are identified in Table III-6, "Composting/Yard Waste Management Activities used by the District". The District had 12 compost/yard waste management facilities/programs in 2015 of which 9 were registered or licensed compost facilities with Ohio EPA. The information presented in this section was obtained through surveys, direct inquiry and Ohio EPA compost facility annual report data.

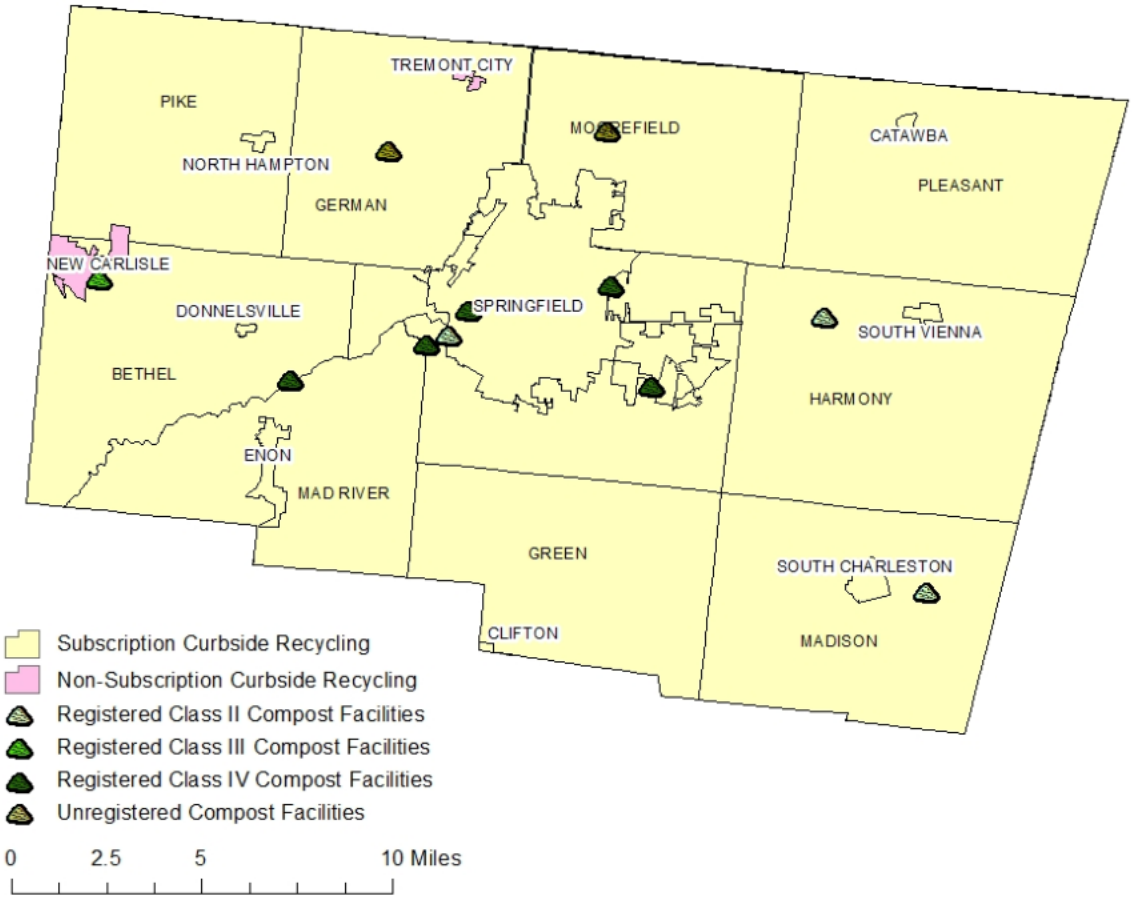
Of the facilities that reported, there were 41,632 tons of yard waste collected and recycled in 2015. The District had reported to Ohio EPA on the 2015 Annual District Report (ADR) in the implementation schedule that 1,007 tons were removed from this table because Moorfield Township sent the yard waste to a registered facility that reported the 1,007 in their tonnage.

The following chart depicts the tonnage collected and recycled by facility.

Residential/Commercial District Yard Waste Recycle Tons by Facility/Program (2015)



Yard Waste Composting Facilities and Activities (2015)



G. Facilities Used by the District Which are Located Outside Ohio

Table III-7 includes additional data on six out-of-state facilities used by the District to manage solid waste in 2015. All of the out-of-state treatment facilities or landfills were located in Indiana.

H. Existing Open Dumps and Waste Tire Dumps

There were no open dumps or waste tire dumps in the District during 2015. This is a result of Clark County's very strong support of the Health District and Environmental Enforcement Program.

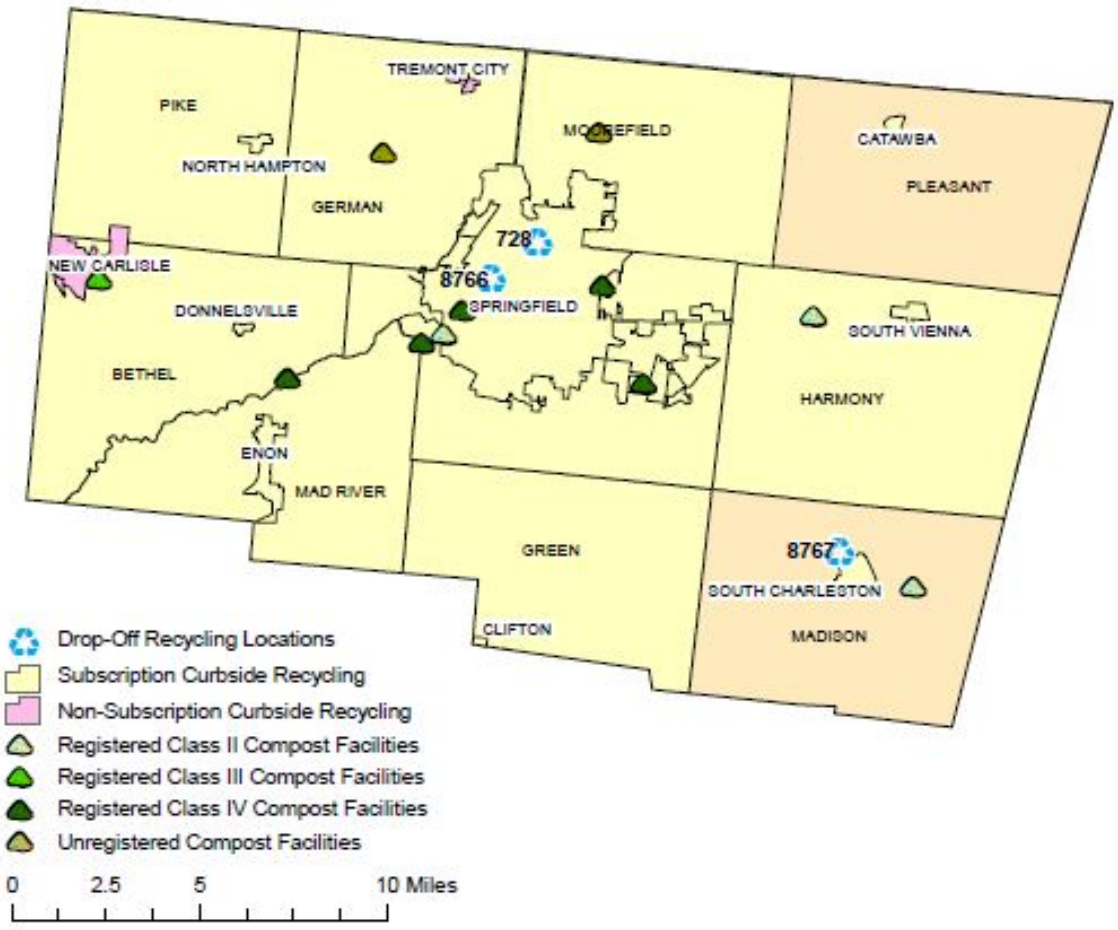
I. Ash, Foundry Sand, and Slag Disposal Sites

Table III-9, "Ash, Foundry Sand, and Slag Disposal Sites Used by the District", summarizes the ash and slag sites that were located in the District in 2015. There were no foundry sand/slag disposal sites in the District in 2015.

J. Map of Facilities and Sites

A map of the District's facilities is included in Appendix E. The following figure is a smaller version of this map which has been included for reference.

District Facilities (2015)



K. Existing Collection Systems – Haulers

All haulers identified during this inventory were found to use trucking/motor freight. No haulers were identified as using rail, river barge, or any other method of transport.

There are 5 private sector haulers listed in Table III-10 that provide a majority of the service to the District. In 2015, the haulers did not report data for solid waste collected to the District. The District did obtain data from Rumpke that indicated 2,136 tons of recyclables was collected and delivered to their Dayton MRF in 2015 by certain haulers. The following map presents each private sector hauler's current service area within the District:

Haulers Servicing Clark County (2015)

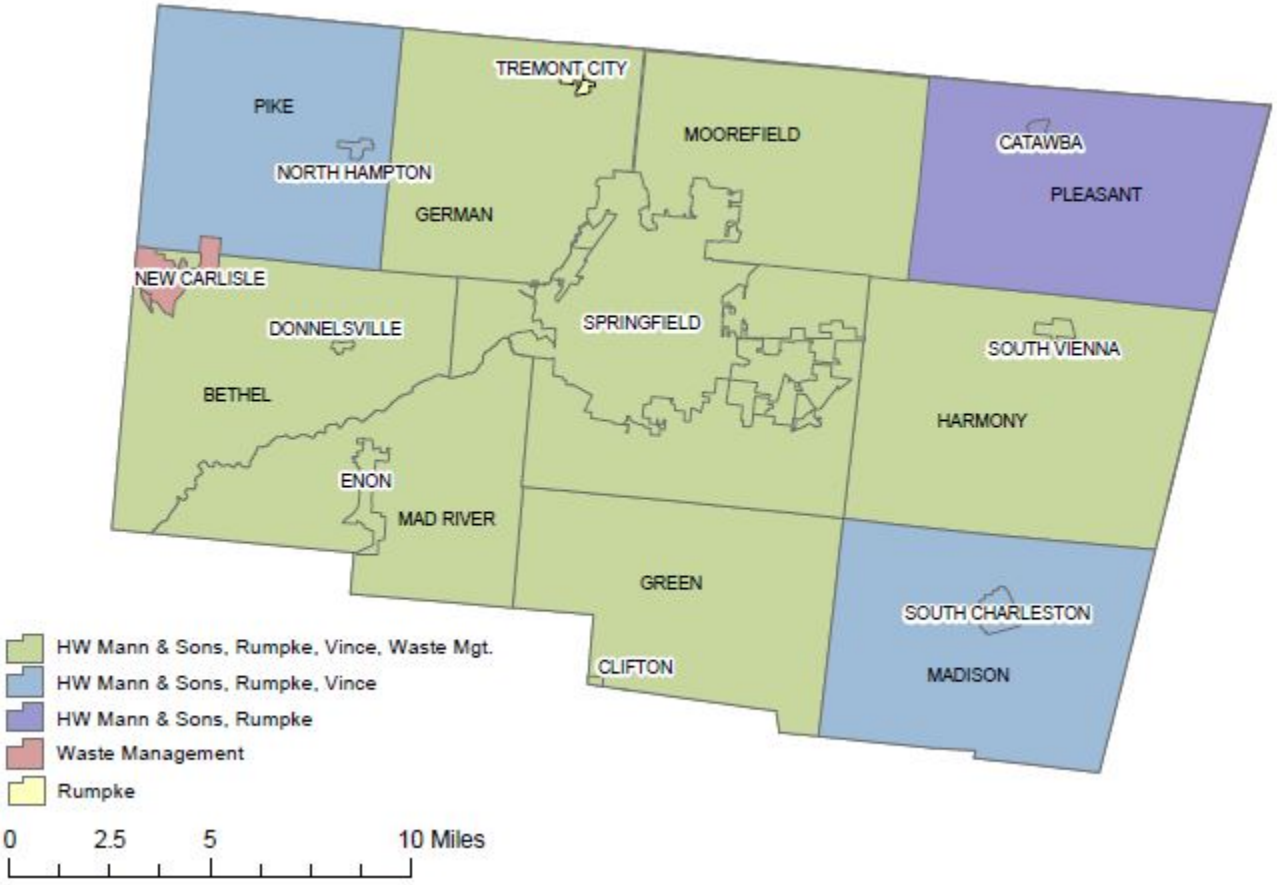


Table III-1
Landfills Used by the District

Facility Name	Type	Location		Waste Received from the SWMD (TPY)			
		County	State	Residential/ Commercial	Industrial	Exempt	Total
In-District Landfills							
None	N/A	N/A	N/A	0	0	0	0
Out-of-District Landfills							
American Landfill, Inc.	PO	Stark	OH	0.00	1.14	0.00	1.14
Carbon Limestone Landfill LLC	PO	Mahoning	OH	0.00	49.28	0.00	49.28
Celina Sanitary Landfill	PO	Mercer	OH	0.00	0.00	1.42	1.42
Cherokee Run Landfill	PO	Logan	OH	3,932.60	2,507.60	121.36	6,561.56
Crawford County Sanitary Landfill	PA	Crawford	OH	0.00	0.00	1.11	1.11
Franklin County Sanitary Landfill	PA	Franklin	OH	8.42	0.00	0.00	8.42
Pike Sanitation Landfill	PO	Pike	OH	0.00	56.27	0.00	56.27
Pine Grove Regional Facility	PO	Fairfield	OH	7.56	0.00	0.00	7.56
Rumpke Waste Inc Hughes Rd Landfill	PO	Hamilton	OH	471.91	116.39	0.00	588.30
Stony Hollow Landfill, Inc	PO	Montgomery	OH	24,136.22	1,370.90	604.30	26,111.42
Suburban Landfill, Inc	PO	Perry	OH	0.00	4.52	0.00	4.52
Out-of-State Landfills							
None	N/A	N/A	N/A	0.00	0.00	0.00	0.00
Landfill Total				**28,556.71**	**4,106.10**	**728.19**	**33,391.00**
Waste-to-Energy Transfer Facilities							
Various (See Table III-2)	PA, PO	Various	IN	0	0	0	0
Out-of-District Transfer Facilities							
Various (See Table III-3)	PA	Various	Ohio	61,689.79	0.00	2.56	61,692.35
Total Disposal				**90,246.50**	**4,106.10**	**730.75**	**95,083.35**

PA = publicly available, PO = privately-operated, GO = government-operated, N/A = not applicable

Note: Tonnage managed at transfer stations and other treatment facilities is included in this table to demonstrate the total amount send to disposal facilities in 2015.

Source(s) of information: Ohio EPA, 2015 Ohio Facility Data Report Tables, Indiana Department of Environmental Management, 2015 Complete Solid Waste Quarterly Report Database

Table III-2
Solid Waste Incinerators, Waste-to-Energy, and Processing Facilities Used by the District

Facility Name	Type	Location		Waste Received from the SWMD (TPY)					Total Ash Produced (TPY)
		County	State	Residential/ Commercial	Industrial	Exempt	Total	Volume Reduction (TPY)	
In-District Facilities									
None	N/A	N/A	N/A	0	0	0	0	0	0
Out-of-District Facilities									
None	N/A	N/A	N/A	0	0	0	0	0	0
Out-of-State Facilities									
None	N/A	N/A	N/A	0	0	0	0	0	0
Totals				**0**	**0**	**0**	**0**	**0**	**0**

Table III-3
Solid Waste Transfer Facilities Used by the District

Facility Name	Type	Location		Waste Received from the SWMD (TPY)				Recyclables Processed	
		County	State	Residential/ Commercial	Industrial	Exempt	Total	Recovered from Waste	Total
In-District Facilities									
None	N/A	N/A	N/A	0	0	0	0	0	0
Out-of-District Facilities									
Greenville Transfer & Scrap Tire Collection Facility	PO	Darke	OH	287.86	0.00	2.56	290.42	0	0
Miami Co. Solid Waste & Recycling Facility	PA, GO	Miami	OH	0.91	0.00	0.00	0.91	0	0
Montgomery Co. South Transfer Facility	PA, GO	Montgomery	OH	61,400.30	0.00	0.00	61,400.30	0	0
Fayette County Transfer Facility	PA, GO	Fayette	OH	0.48	0.00	0.00	0.48	0	0
Out-of-State Facilities									
EQ Industrial Services Processing Facility	PA, PO	Marion	IN	0.24	0	0	0	0	0
Totals				**61,690**	**0**	**3**	**61,692**	**0**	**0**

PA = publicly available, PO = privately-operated, GO = government-operated

Source(s) of information: Ohio EPA, 2015 Ohio Facility Data Report Tables, Indiana Department of Environmental Management, 2015 Complete Solid Waste Quarterly Report Database

Table III-4
Residential Curbside Recycling Activities Used by the District

Community	Type	Population Served	Collection Frequency	Types of Materials Accepted								Tons Processed from SWMD
				AC	GL	PL	ONP	OCC	SC	MxP	AS	
Non-Subscription Curbside Recycling												
New Carlisle	NS	5,676	Weekly	X	X	X	X	X	X	X	X	
Tremont City	NS	370	Weekly	X	X	X	X	X	X	X	X	
2015 Non-Subscription Curbside Recycling Total												
Subscription Curbside Recycling												
Bethel Township	S	18,157	Weekly	X	X	X	X	X	X	X	X	
Catawba Village	S	265	Weekly	X	X	X	X	X	X	X	X	
Clifton Village	S	47	Weekly	X	X	X	X	X	X	X	X	
Donnelsville Village	S	300	Weekly	X	X	X	X	X	X	X	X	
Enon Village	S	2,393	Weekly	X	X	X	X	X	X	X	X	
German Township	S	7,300	Weekly	X	X	X	X	X	X	X	X	
Green Township	S	2,750	Weekly	X	X	X	X	X	X	X	X	
Harmony Township	S	3,495	Weekly	X	X	X	X	X	X	X	X	**2136.6**
Mad River Township	S	10,975	Weekly	X	X	X	X	X	X	X	X	
Madison Township	S	2,491	Weekly	X	X	X	X	X	X	X	X	
Moorefield Township	S	12,269	Weekly	X	X	X	X	X	X	X	X	
North Hampton Village	S	472	Weekly	X	X	X	X	X	X	X	X	
Pike Township	S	3,657	Weekly	X	X	X	X	X	X	X	X	
South Charleston Village	S	1,661	Weekly	X	X	X	X	X	X	X	X	
South Vienna Village	S	379	Weekly	X	X	X	X	X	X	X	X	
Springfield City	S	59,680	Weekly	X	X	X	X	X	X	X	X	
Springfield Township	S	12,018	Weekly	X	X	X	X	X	X	X	X	
2015 Subscription Curbside Recycling Total												
2015 Total Curbside Recycling Total												**2,137**

NS = non-subscription curbside recycling; S = subscription curbside recycling

AC = aluminum containers; GL = glass containers; PL = plastic containers; ONP = newspaper; OCC = cardboard; SC = steel containers; MxP = mixed paper; AS = aseptic containers

Source(s) of information: 2015 Annual District Report, District records, Material Recovery Facility and Commercial Recycling Data, 2015 Rumpke MRF Clark County Recycling totals

Table III-5
Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Service Area			Hours Available to Public	Tons of from SWMD	% of Tons by Sector
		AC	GL	PL	OCC	SC	LAB	MxP	ST	WG	OM	Oth	County	Twp./ City	Population Served			
Full Time/Full Service Drop-Off Recycling Centers																		
Clark County Solid Waste Management District West Recycling Station 1602 W. Main St. Springfield Ohio 45504 937-521-2020	PA, DO	X	X	X	X	X		X					Clark	District	135,959	7am-7pm 7 days/ week		100% R
Clark County Solid Waste Management District North Recycling Station 525 E. Home Rd. Springfield, Ohio 45502 937-521-2020	PA, DO	X	X	X	X	X		X					Clark	District	135,959	24 hours /day 7 days/ week	773	100% R
Clark County Solid Waste Management District Rural Recycling Station 21 Woodward St South Charleston, Ohio 937-521-2020	PA, DO	X	X	X	X	X		X					Clark	District	135,959	24 hours /day 7 days/ week		100% R
Limited Material Drop-Off Recycling Centers																		
Batteries Plus 937-398-0044	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Jackson Lytle & Lewis 937-399-2822	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Best Buy 937-324-8377	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
PetSmart 937-323-6730	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
City Wide 937-323-3506	PA										X		Clark	District	135,959	Business hours	DNR	100% R
Capitol Dry Cleaning 937-324-7567	PA, DO												Clark	District	135,959	Business hours	DNR	100% R
Dolbeer's Dry Cleaners 937-323-0123	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
New Image Eye Center 937-399-4101	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
United Senior Services 937-323-4948	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R

Table III-5
Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Service Area			Hours Available to Public	Tons of from SWMD	% of Tons by Sector
		AC	GL	PL	OCC	SC	LAB	MxP	ST	WG	OM	Oth	County	Twp./ City	Population Served			
Lenscrafters 937-525-9244	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Shawnee Optical 937-323-1233	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Goodwill, 1961 N. Bechtle Ave. 937-399-9013	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Goodwill, 291 E. Leffel Lane 937-324-8638	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Box King 937-322-8117	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
The UPS Store 937-399-6877	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Compton Power Equipment 937-390-3998	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Suburban Propane 937-864-7327	PA, DO											X	Clark	District	135,959	Business hours	DNR	100% R
Automotive Stores																		
Advance Auto 937-525-9772 (N. Limestone) or 324-5009 (S. Limestone)	A											X	Clark	District	135,959	Business hours	DNR	100% R
Auto Zone 937-324-2112	A											X	Clark	District	135,959	Business hours	DNR	100% R
Grismer Tire 937-322-1074	A											X	Clark	District	135,959	Business hours	DNR	100% R
TSC Farm House Auto Store 937-399-8664	A											X	Clark	District	135,959	Business hours	DNR	100% R
Ohio Transmissions 937-325-0222	A											X	Clark	District	135,959	Business hours	DNR	100% R
Brokers, Processors, and Scrap Yards																		
		AC	**GL**	**PL**	**OCC**	**SC**	**LAB**	**MxP**	**ST**	**WG**	**OM**	**Oth**						
Aramark Uniform Services	PR											X	Clark	District	135,959	Business hours	13.28	100% I
Batteries Plus	PR						X						Clark	District	135,959	Business hours	0.03	100% I
Buck Creek Pallet	PR			X								X	Clark	District	135,959	Business hours	4.00	100% I
Buckeye Diamond	PR, BR											X	Clark	District	135,959	Business	1,384.98	100% I

Table III-5
Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Service Area			Hours Available to Public	Tons of from SWMD	% of Tons by Sector
		AC	GL	PL	OCC	SC	LAB	Mx P	ST	WG	OM	Oth	County	Twp./ City	Population Served			
																hours		
Cloud Blue	PR											X	Clark	District	135,959	Business hours	22.00	100% I
Cohen Brothers	SY										X	X	Clark	District	135,959	Business hours	976.31	100% I
Franklin Iron & Metal	SY	X				X				X	X	X	Clark	District	135,959	Business hours	7,486.56	100% I
Goodwill Ind.	BR											X	Clark	District	135,959	Business hours	29.54	100% I
Green	BR							X					Clark	District	135,959	Business hours	2.00	100% I
L & L Salvage 937-324-0122	SY	X				X						X	Clark	District	135,959	Business hours	DNR	100% R
Nu-Tech Polymers & Hubbard Sales	PR			X									Clark	District	135,959	Business hours	750.00	100% I
OMAC Recycling Center	BR, PA, DO									X		X	Clark	District	135,959	Business hours	DNR	100% R
Pratt Industries	PR				X								Clark	District	135,959	Business hours	35.00	100% I
PSC Metals, Inc. 937-328-3330	BR										X		Clark	District	135,959	Business hours	DNR	100% R
Recycled Fibers	PR				X								Clark	District	135,959	Business hours	250.00	100% I
ReStore 937-325-0369	BR											X	Clark	District	135,959	Business hours	DNR	100% R
River Metals	SY							X			X		Clark	District	135,959	Business hours	50.00	100% I
Royal Paper Stock Company	PR				X								Clark	District	135,959	Business hours	50.00	100% I
Shred-It	PR							X					Clark	District	135,959	Business hours	2.08	100% I
Springfield Recycling	BR										X		Clark	District	135,959	Business hours	1.45	100% I
Staker Alloys	BR, PA										X		Clark	District	135,959	Business hours	461.45	100% I
Urban Elsass	SY										X		Clark	District	135,959	Business hours	202.00	100% I

Table III-5
Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Service Area			Hours Available to Public	Tons of from SWMD	% of Tons by Sector
		AC	GL	PL	OCC	SC	LAB	MxP	ST	WG	OM	Oth	County	Twp./ City	Population Served			
Valicor	PR							X				X	Clark	District	135,959	Business hours	107.09	100% I
Wilmington Iron & Metal	BR, PA										X	X	Clark	District	135,959	Business hours	1,842.34	100% I
Registered Scrap Tire Transporters																		
Liberty Tire	ST								X				Clark	All	135,959	N/A	642	100% R
Other Scrap Tire (from OEPA)	ST								X				Clark	All	135,959	N/A	838	100% R
Material Recovery Facilities																		
Rumpke Dayton MRF	MRF	X	X	X	X	X		X			X	X	Clark	All	135,959	N/A	4,306	33% R, 67% C
Waste Management Dayton MRF	MRF	X	X	X	X	X		X			X		Clark	All	135,959	N/A	1,135	43% R, 57% C
Commercial Box Store Recycling																		
		AC	**GL**	**PL**	**OCC**	**SC**	**LAB**	**MxP**	**ST**	**WG**	**OM**	**Oth**						
Aldi	CB			X	X								Clark	N/A	Internal Program	N/A	87	100% C
Kohls	CB			X	X								Clark	N/A	Internal Program	N/A	105	100% C
Big Lots	CB				X								Clark	N/A	Internal Program	N/A	25	100% C
Dollar General	CB				X			X					Clark	N/A	Internal Program	N/A	219	100% C
Target	CB			X	X			X			X	X	Clark	N/A	Internal Program	N/A	269	100% C
Meijer	CB			X	X								Clark	N/A	Internal Program	N/A	487	100% C
Home Depot	CB			X	X						X		Clark	N/A	Internal Program	N/A	165	100% C
Lowes	CB			X	X						X	X	Clark	N/A	Internal Program	N/A	283	100% C
Walmart	CB	X		X	X	X		X			X	X	Clark	N/A	Internal Progr	N/A	1,223	100% C

Table III-5
Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Service Area			Hours Available to Public	Tons of from SWMD	% of Tons by Sector
		AC	GL	PL	OCC	SC	LAB	MxP	ST	WG	OM	Oth	County	Twp./ City	Population Served			
															am			
Special District Collections																		
HHW Collection												X	Clark	N/A	135,959	N/A	3	100% R
Special Material Collection at the Clark County Recycling Center								X	X			X	Clark	N/A	135,959	N/A	75	100% R
Other Recycling																		
Additional Recycling Reported on Annual District Surveys by Commercial/Industrial Generators	N/A	X	X	X	X	X	X	X	X	X	X	X	Clark	N/A	N/A	N/A	46,144	100% C/I
Totals																	**70,449**	

R = residential; C = commercial; I = industrial; PA = publicly available; PUO = private-use only; A = automotive service store; DO = drop-off; BR = broker; MRF = material recovery facility; CB = commercial box store chain; PR = processor; SC = special collection; ST = scrap tire transporter; SY = scrap yard; N/A = not applicable/not available; DNR = did not report

AC = aluminum containers; GL = glass; PL = plastic; OCC = corrugated cardboard; SC = steel containers; LAB = lead-acid batteries; MxP = mixed paper; ST = scrap tires; WG = white goods/appliances; OM = other metals; Oth = other (household batteries, used oil, wood, etc.)

Source(s) of information: 2015 Annual District Report

Table III-6
Composting/Yard Waste Management Activities Used by the District

Facility Name or Activity	Class	County	Waste Received from the SWMD		
			Address/Phone	Food Waste Tons	Yard Waste Tons
In-District Registered Compost Facilities					
Springfield Township Composting Facility	Class IV	Clark	1516 S. Bird Rd. Springfield, OH 937.322.3459	0	1,184
Garick Corp Paygro Division	Class II	Clark	11000 Huntington Rd S. Charleston, OH	4,949.30	375
ODOT Clark County Harmony Post	Class II	Clark	7875 E National Rd Springfield, OH	0	0

Table III-5
Drop-offs, Buybacks, Hauler Collection, Other Recycling Activities and HHW Collection Used by the District

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Service Area			Hours Available to Public	Tons of from SWMD	% of Tons by Sector
		AC	GL	PL	OCC	SC	LAB	Mx P	ST	WG	OM	Oth	County	Twp./ City	Population Served			
Springfield WWTP	Class II												Clark	965 Dayton Avenue Springfield, OH	0		21	
Studebaker Nurseries Inc	Class III												Clark	11140 Milton-Carlisle Rd Springfield, OH	0		69	
Lawnmasters Lawn and Landscaping	Class IV												Clark	2730 Columbus Ave Springfield, OH	0		1,958	
Mad River Topsoil Inc	Class IV												Clark	5625 Old Lower Valley Pike Springfield, OH	0		1,577	
C & S Tree Recycling Service	Class IV												Clark	2551 Dayton Rd Springfield, OH	0		36,445	
The City of Springfield	Class IV												Clark	965 Dayton Ave Springfield, OH	0		27	
Subtotal															**4,949**		**41,632**	
Out-of-District Registered Compost Facilities																		
Cherokee Run Landfill Inc	Class IV												Logan	2946 US 68 N Bellefontaine, OH	0		3	
Subtotal															**0**		**3**	
Other Activities																		
German Township	N/A												Clark	N/A	0		N/A	
Moorfield Township	N/A												Clark	N/A	0		0*	
Hauler/Kroger/Walmart food waste data	N/A												Clark	N/A	564.76		0	
Subtotal															**565**		**0**	
Grand Total															**5,514**		**41,632**	

NA = not applicable, YW = yard waste

*1,007 tons were removed from this table because Moorfield Township sent the yard waste to a registered facility listed above and avoid double counting.

Source(s) of information: Ohio EPA, 2015 Compost Facility Planning Report; 2015 Annual District Report

Table III-7
Facilities Used by the District Which are Located Outside Ohio: Additional Data

Facility Name	Facility Mailing Address	Facility Owner	Facility Operator	2015 Tons Received	Operating Days/Year
EQ Industrial Services Processing Facility	2650 NORTH SHADELAND AVENUE INDIANAPOLIS IN 46219-1740	BRYAN SCHULTZ 2701 N. I-94 SERVICE DRIVE YPSILANTI MI 48198	JAMES TRELOAR 317-247-7160	0.24	310

Source(s) of information: Indiana Department of Environmental Management, 2016 Authorized Operating Solid Waste Facilities

Table III-8
Open Dumps and Waste Tire Dumps Located in the District

Site Location (description)	Land Owner Contact Information	Description of Materials Dumped	Approximate Size of Site	Time Period Site has Existed	2014 Update
Open Dump Sites					
None.	N/A	N/A	N/A	N/A	N/A
Waste Tire Dump Sites					
None.	N/A	N/A	N/A	N/A	N/A

N/A=Not available

Source(s) of information: Clark County Health Department

Table III-9
Ash, Foundry Sand, and Slag Disposal Sites Used by the District

Site Location (describe briefly)	Land Owner Contact Information	Description of Materials Dumped	Approximate Size of Site	Time Period Site has Existed
None	N/A	N/A	N/A	N/A

Source(s) of information: Clark County Health Department

Table III-10
Solid Waste Haulers Operating in the District

Hauler	Mailing Address	Service Area	Materials Collected	Trash Collected	Recyclables Collected	Name of Facility Used by Hauler
Private Sector Haulers						
First Choice Disposal	893 S Main St #128, Englewood, OH 45322	Clark and others	SW	DNR	0	DNR
H.W. Mann and Sons	2614 Rocket Ave, Springfield, OH 45505	Clark	Commercial and residential SW, YW and R.	DNR	170	DNR
Rumpke	1932 E. Monument Dayton, OH 45402	Clark and others	Commercial and residential SW, YW and R.	DNR	1,087	DNR
Vince Refuse	301 Neosha Ave. Springfield, OH 45505	Clark	Commercial and residential SW, YW and R.	DNR	45	DNR
Waste Management	1700 N. Broad St. Fairborn, OH 45324	Clark and others	Commercial and residential SW, YW and R.	DNR	835	DNR
Public Sector Haulers						
None						
Total				**N/A**		

SW = solid waste, R = recyclables, FW = food waste

Note: Tons not available.

IV. Reference Year Population, Waste Generation and Waste Reduction [ORC Section 3734.53(A)(5)-(6)]

This section of the *Plan Update* presents information regarding the District's population, waste generation, and waste reduction estimates for the reference year.

A. Reference Year Population and Residential/Commercial Waste Generation

Table IV-1, "Reference Year Population and Residential/Commercial Generation," includes an estimate of the 2015 population for the District. The population estimate of 135,959 for Clark County is based on the Ohio Development Services Agency (ODSA) publication entitled, "*2015 Population Estimates by County, City, Village, and Township", May 2016*. This population estimate does not include adjustments for political subdivisions located in more than one solid waste district.

Population Adjustments

The following adjustments were made for political subdivisions that shared borders with surrounding solid waste districts and the District.

- The Village of Clifton had less than 50% of the population living inside Clark County and more than 50% living inside Greene County. The population of this community in Clark County (47) was subtracted from the District population total.

The total adjusted population for the District in 2015 was 135,912.

B. Residential/Commercial Waste Generation

The District projected the 2015 residential/commercial waste generation using historical data, which is summarized in the following table:

Year	Waste + Recycling	Population	Per Capita Gen Rate (lbs/person/day)	Average Rate of Change for Per Capita Gen Rate
2011	142,192	138,380	5.63	-2.93%
2012	137,678	137,917	5.47	-1.37%
2013	135,355	137,455	5.40	9.55%
2014	149,145	136,992	5.97	1.83%
2011 – 2014 Average Per Capita Generation Rate and Change in Rate:			**5.61**	**1.77%**

The reference year residential/commercial waste generation was projected by decreasing the per capita generation rate reported in 2014 (5.97 PPD) by the average annual rate of change in per capita residential/commercial waste generation from 2011 through 2014 (1.77%) based upon the generation rates reported on the Annual District Reports.

The 2015 per capita residential/commercial waste generation projection was 6.07 pounds per person per day. Table IV-1 shows the formula used for estimating the residential/commercial waste generation. This methodology calculated the District's residential/commercial waste generation to be 150,584 tons in 2015. This estimate is **138** tons less than the **150,722** tons of residential/commercial waste generated that was recorded by landfills and transfer stations (90,247 tons) plus reported recycling and source reduction activities for 2014 (**60,477** tons). For further discussion on reconciling the waste generation values, see Section IV.H of this *Plan Update*.

C. Industrial Waste Generation

The District conducted an Industrial Survey in 2015 to support this *Plan Update*. A summary of the industrial survey results is included in Appendix F. Table IV-2 presents the results of the District's 2015 Industrial Survey. The District used information from industries responding to the survey as well as Appendix JJ of the Ohio EPA Plan format to estimate the total waste generated by the industrial sector in the District during 2015.

The District identified a total of 464 industries in SIC codes 20 and 22-39. Approximately 8% of the industries (38) responded to the survey, which represented 33**%** of the total industrial sector employees in Clark County. Approximately 51,007 tons of recycled and disposed waste was reported on the surveys.

The following table presents the types of industries that reported the largest per capita solid waste generation rates:

SIC Code	Description	Solid Waste Generation Rate (Tons/Employee)	Total Tons Reported on Survey
26	Paper and Allied Products	41	5,241
33	Primary Metal Industries	88	1,752
34	Fabricated Metal Products, Except Machinery and Transportation Equipment	21	12,007

Two of the three types of industries (SIC codes 26 and 34) that reported the highest per capita solid waste generation rates were also in the top three industry groups based on the highest tonnage.

Using the survey responses, generation rates and tons of waste generated per employee were calculated for each SIC code. Then, an estimate of the tonnage generated by industries that operate in the District but did not respond to the survey was calculated. For those industries that did not respond, generation rates from Appendix JJ of the Ohio EPA Plan Format were used to estimate total waste generated. Using this projection methodology, a total of 104,960 tons of waste was generated by non-responding industries. The resulting estimate of the industrial sector's total generation for both responding and non-responding industries was 155,967 tons.

D. Exempt Waste

Exempt waste is material that is not defined as solid waste, such as construction and demolition debris. Exempt wastes can be managed in landfills that have different and often less stringent environmental control requirements. Table IV-3 shows that the total exempt waste generated by the District was 731 tons. This includes the exempt waste reported by the landfills and transfer stations receiving the District's waste in Table III-1. The generation rate was 0.03 pounds per person per day.

E. Total Waste Generation (based on national statistics and projections)

Table IV-4, "Reference Year Total Waste Generation for the District," presents the total waste generated using national and industrial projections. Using the national averages adjusted by Ohio EPA, the District projected 307,282 tons of waste was generated in 2015 from all sectors. The generation rate in pounds per person per day is estimated at 12.39. This included residential/commercial waste generation of 150,584 tons (Table IV-1), 155,967 tons (Table IV-2) of projected industrial waste and 731 tons of exempt waste (Table IV-3). The total waste generation listed in Table IV-4 was 100,118 tons less than the total in Table IV-8 as calculated using landfill data and reported recycling and waste reduction, including exempt waste. For further discussion on reconciling the waste generation values see Section IV.H.

F. Reference Year Waste Reduction

Per Ohio EPA's instructions, survey response data for 2014 and 2013 were incorporated into the total tonnage for entities that continued to operate in 2015 that did not provide 2015 data. Residential/commercial waste reduction reported in Table IV-5 and industrial waste reduction reported on Table IV-6 was obtained from these surveys as reported in the Annual District Report. The District was careful to eliminate double counting as described in the sections below.

The District annually surveys communities, commercial businesses, and industrial facilities to obtain recycling statistics. The surveys used are designed for generators versus brokers or processors. To avoid double-counting, surveys requested the broker or processor used to manage each material recycled. If the District used data reported by material recovery facilities, brokers, or processors in addition to data reported by generators to calculate the total recycling for a material, responses were carefully reviewed. Tonnage reported by generators that did not specify a broker/processor were excluded, as were responses that identified any facilities that were included in the existing calculation. Tonnage from businesses indicating their recyclables were delivered to the District's recycling drop-off sites were also eliminated to avoid double counting.

In addition to survey data, the District's reference year recycling total was calculated using recycling tonnage included in Ohio EPA's annual reports for composting facilities, scrap tire recyclers, and material recovery facilities.

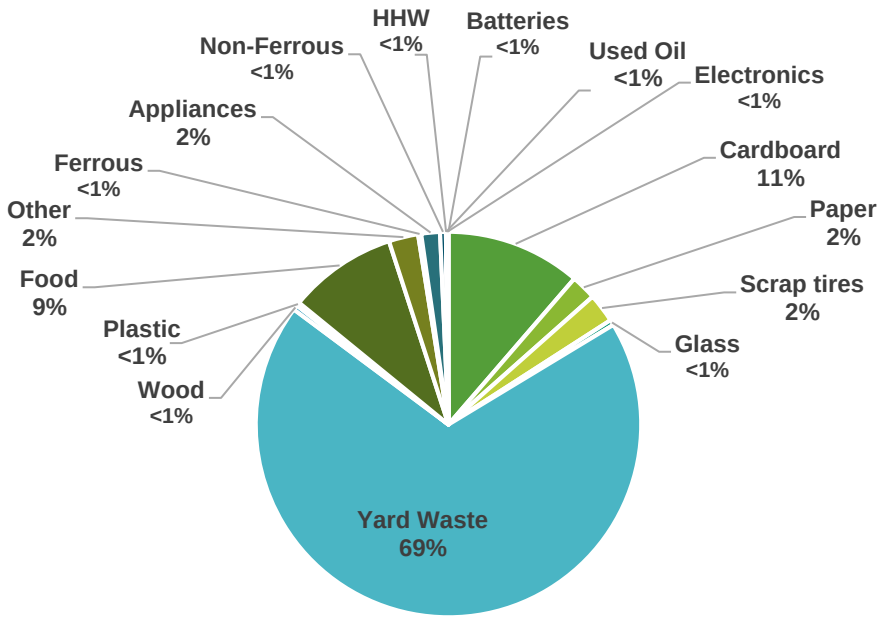
Residential/Commercial Data

Table IV-5, "Reference Year Residential/Commercial Waste Reduction in the District," identifies that 60,476 tons of residential/commercial waste was recycled. This included 41,632 tons of composted yard waste (69% of the material recycled. The largest components of the residential/commercial recycling stream included cardboard (11%), food (9%), scrap tires (2%), and paper (2%). These components comprised 24% of the materials recycled during 2015. The "Other" category includes textiles (745 tons), commingled (484 tons), and miscellaneous materials (264 tons). The following table summarizes the residential and commercial recycling totals by commodity:

Commodity	2015 Tons
Cardboard	6,853
Paper	1,282
Scrap tires	1,479
Glass	271
Wood	246
Plastic	179
Food	5,514
Other	1,493
Ferrous	156
Appliances	949
Non-Ferrous	294
HHW	15
Used Oil	0
Electronics	112
Batteries	0
Composting	41,632
Total	**60,475**

The following figure presents the waste reduction percentages by material for the residential/commercial sector.

Residential/Commercial Waste Reduction (2015)



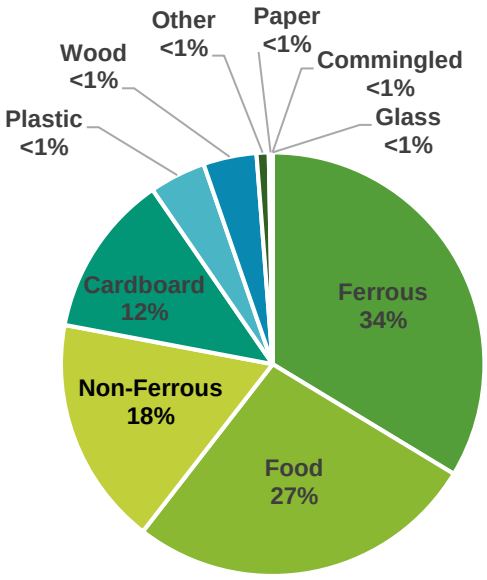
Industrial Data

Table IV-6, "Reference Year Industrial Waste Reduction in the District" indicates that 51,605 tons of industrial waste were recycled in 2015. Ferrous metals accounted for nearly 34% of the industrial sector recyclables. Food represented the second largest component, comprising 27% of the industrial sector's recycling. The following table summarizes the industrial recycling totals by commodity:

Commodity	2015 Tons
Ferrous	17,373
Food	13,849
Non-Ferrous	9,014
Cardboard	6,417
Plastic	2,223
Wood	2,098
Other	480
Paper	142
Commingled	10
Glass	0.02
Total	**51,605**

The following figure presents the commodities recycled by the industrial sector in 2015.

Industrial Waste Reduction (2015)



G. Existing Waste Reduction/Recycling Activities for Residential, Commercial and Industrial Sectors

The strengths and challenges of District programs are presented following each program description.

CC-1 District Specialty Recycling Center

The center for which residents can recycle special wastes (such as electronics, latex paint, used tires, appliances, fluorescent lamps, lead acid batteries, NiCad batteries, etc.) regularly throughout the year. These services are available to Clark County residents only (no businesses, farms, schools, or government agencies).

Specialty Recycling requires a small fee (cash and checks only).

<table>
<tr><th>Location</th><th colspan="2">Hours</th></tr>
<tr><td rowspan="2">1602 W Main St
Springfield, Ohio 45504</td><td colspan="2">Thursdays
9 a.m.-6 p.m.</td></tr>
<tr><td>First Saturday of each month
9 a.m. - noon</td><td>When the first Saturday falls on a holiday weekend, the Center will open on the second Saturday</td></tr>
</table>

Accepted Materials

Electronics (see CC-6 for more information)

- Televisions and monitors, 10¢ a pound. (Limit 5 per visit).
- Note: TV tubes by themselves are a flat $10 fee.
- All other electronics are FREE. We take computer systems, stereo equipment, VCR's, DVD players.

Paint (see CC-5 for more information)

- 30¢ a pound fee.
- Limit 10 gallons per visit.
- Both latex and oil-based are accepted.

Used Tires (see CC-8 for more information)

- 10¢ a pound fee.
- Passenger and light truck tires only.
- Limit 10 tires per visit.

Fluorescent Bulbs

- 50¢ each fee.
- HID (High Intensity lamps) $1 each and UV lamps $2 each.
- No crushed bulbs.

Rechargeable and Dry-Cell Batteries (see CC-7 for more information)

- Free.

Appliances Containing CFC's

- Refrigerators, freezers, air conditioners, dehumidifiers.
- $5 each. (other appliances accepted for free).
- Limit 5 per visit.

Secure Document Destruction

- 15¢ per lb.
- Limit 2 bankers boxes per visit.

Household Hazardous Waste (see CC-5 for more information)

- $1.00 per lb.

Cooking Oil

- Cooking oils and greases accepted free, but must be given to a staff member for pouring into the proper container.
- Please strain all food pieces out of the oil.

Propane Cylinders

- Tanks for backyard grills, usually 10-20 pounds, are accepted free.
- The small cylinders used for camping are accepted for $1 a pound.

The following table summarizes the program details:

Program Summary	
Description	**Details**
OEPA Program Number	6138, 6166, 6164, 6168, 6165, 6167, 8768
Entity Responsible for Maintaining Program	Private Sector
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	$113,661.56
Program Operator/Contractor	District

Strengths of the program include:

- Provides significant opportunity for residents and businesses to recycle materials.
- Offers the District the opportunity to connect with generators for niche services not offered by the private sector.
- Assists District with achieving Goal #5 of the State Plan.

Challenges of the program include:

- The facility has reached its capacity for storage and growth.
- Additional special materials and services cannot be added based on limitations of the facility and property.

CC-2 Curbside Recycling

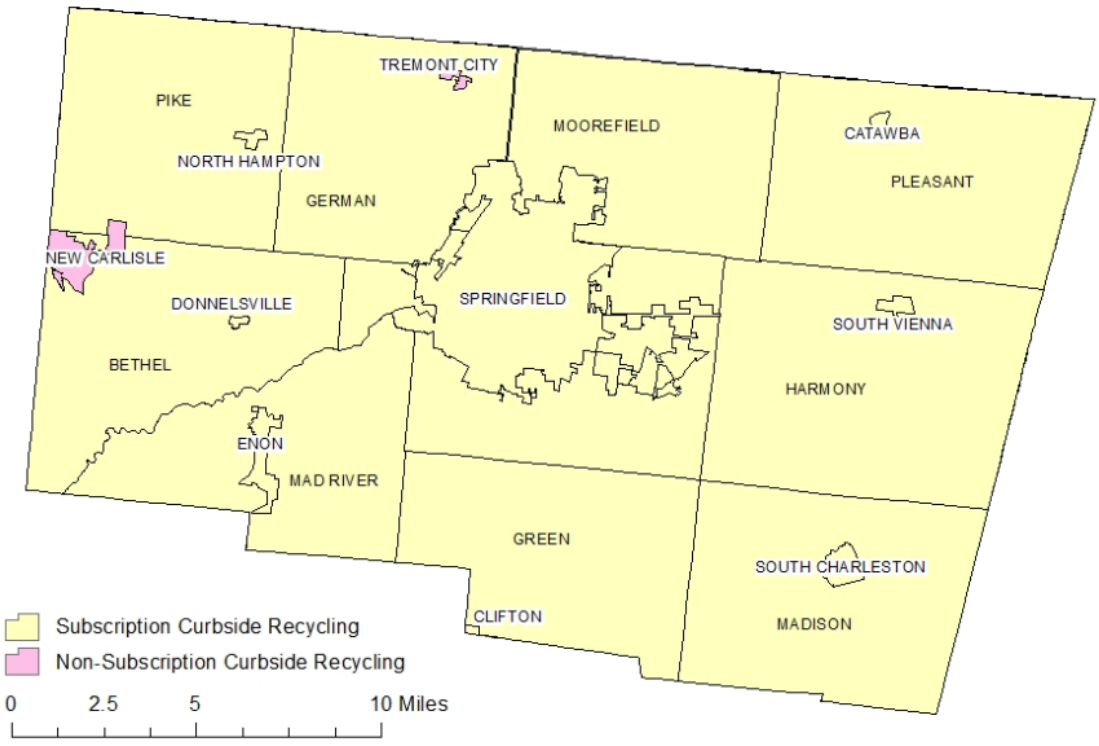
Two non-subscription curbside recycling programs and seventeen subscription curbside recycling programs operated during 2015. The District does not fund or operate any of the curbside recycling programs. Each curbside program accepted the following materials:

- Paper (junk mail, magazines, newspaper, phone books, and office paper)
- #1 and #2 Plastic bottles & jugs
- Corrugated cardboard
- Paperboard
- Aluminum cans
- Steel cans
- Glass bottles and jars (clear, brown, and green)
- Aseptic containers (flat top and gable top)

Five privately-operated companies provide collection and processing services for the curbside recycling programs in the District.

The following figure presents the coverage and type of curbside recycling programs throughout the District.

Curbside Recycling Programs (2015)



Curbside Recycling Technical Assistance

The District's overall goal in 2015 and the rest of the planning period was to maintain all existing curbside programs, enhance or upgrade them if possible, add new programs and increase participation. The following summaries of planned technical assistance and or actions by the District was conducted in the reference year or beyond.

Assist Communities that Ceased Curbside Programs

For any planned or existing curbside recycling program that ceases to operate during the planning period, the District will implement the following initiative.

- If a program is eliminated, the District to will try to intervene with calls or meetings with either the hauler and or the community.

There were no programs eliminated in 2015 or in 2016 and 2017 that required the District to intervene with calls or meetings with either the hauler and or the community.

Curbside Recycling Enhancement and Growth Assistance

The District recognized that an effort to promote curbside recycling among residents can only be successful when sound and affordable curbside recycling is available. When haulers provide the service inconsistently or for an additional

charge to the customer, it is a greater challenge. Therefore, in order to support local governments to take the necessary steps to contract for curbside waste and recycling during this planning period, an important strategy will be for the District to stimulate demand among residents for contracted collection services. The following section summarizes the District efforts in 2015 and beyond.

Conduct Meetings with Haulers and Stakeholders for Curbside Issues

There were no meetings with stakeholders in 2015. There was no need for meetings as there were no issues preventing contracting of curbside services.

Conduct Awareness Campaigns to Targeted Communities

The District launched "Take it to the Curb" to encourage curbside recycling and consideration of community contracts as a way to encourage curbside recycling (for more information see CC-11, section 3). The campaign had a dedicated website, take2curb.org, and a Facebook page. District personnel did presentations to civic groups, political subdivisions, and businesses.

The District's statistics show that between 10-15% of households in Clark County currently recycle, when composting is excluded in the data (typically the largest portion of diversion tonnage). Non-subscription curbside recycling could help residents save money and boost residential recycling numbers above 35% and help the District meet or surpass the State Plan Goal of 25% residential recycling. In 2015, the District kicked off a new education campaign to promote curbside recycling. The "Take it to the Curb" campaign included the following initiatives:

- Encourage residents to increase recycling at their homes with curbside recycling.
- Raise recycling awareness to promote contracted curbside recycling.
- Greater levels of trash service at a lower cost for residents.
- An increase in recycling across the entire community.
- Reduced carbon footprint.
- One Trash Day for the entire neighborhood throughout the week.
- Less litter and illegal dumping.
- Fewer accidents involving trash trucks.
- Decreased road deterioration, maintenance and repair by heavy trash trucks.

This initiative is further discussed in the education program later in this section.

Evaluate Options of Conducting Regional Cooperative Contracts

This initiative was designed for multiple smaller villages and cities for assistance with curbside waste and recycling services. This option was presented as part of Take It to the Curb discussions.

Annual Promotion of Curbside Recycling Grant Program

In September of 2015, the District had a press release published announcing that the grants would be available in 2016-17. The District also sent a letter about the grants to every elected official and executive of all political subdivisions in the District.

Conduct Stakeholder Meetings with Community Leaders and Haulers

There were no meetings that were conducted in 2015. The District planned to conduct stakeholder meetings with community leadership including township trustees and public service personnel, residents, and haulers to understand the issues preventing contracting of curbside services and to determine possible solutions.

Curbside Recycling Survey Report

The District surveyed residents from targeted political subdivisions on their willingness to support the community in contracting with a single waste hauler to provide non-subscription curbside waste and recycling services with bulky item pick-up. This initiative was used to complement other initiatives in this strategy if deemed appropriate by the District and/or the targeted community.

An online survey was posted at take2curb.org and got more than 200 responses. More than 70% of respondents said they would want curbside recycling if it were cheaper than their current contract. Reference Appendix H for a complete report on the survey.

Assist Communities for Non-Subscription Curbside Services

The District was available to work with communities to develop suitable bid specifications and contract documents for non-subscription curbside waste and recycling services. There were no communities that needed assistance in 2015.

Cost of Service Score Board

In 2013, the District created a cost of service score board by community to educate residents on how their services compare to other communities in and out of District. This Cost of Service Score Board was used as a reference in 2015 when considering education within those communities.

The following table summarizes the operation of the program in the reference year:

Curbside Recycling Program Summary	
Description	**Details**
OEPA Program Number	723, 8747, 8757, 8748, 8749, 8750, 8751, 8758, 8759, 8760, 8762, 8761, 8763, 8752, 8764, 8753, 8754, 8755, 8765, 8756, 8773, 8774, 8775, 8776, 8777, 8778, 8779, 8780, 8781
Entity Responsible for Maintaining Program	Clark County Communities
Service Area for Program	New Carlisle, Tremont Village, Bethel Township, Catawba Village, Clifton Village, Donnelsville Village, Enon Village, German Township, Green Township, Harmony Township, Mad River Township, Madison Township, Moorefield Township, North Hampton Village, Pike Township, South Charleston Village, South Vienna Village, Springfield City, Springfield Township, Tremont City
Materials Reduced/Recycled	Mixed Paper, #1-#2 Plastic Bottles and Jugs, Corrugated Cardboard, Paperboard, Aluminum Cans, Steel Cans, Glass Bottles and Jars (Clear, Brown, Green), Aseptic Containers
2015 Recycled Tonnage	1,205
2015 Program Costs	$0
Program Operator/Contractor	Rumpke, Vince Refuse, Waste Management, H.W. Mann and Sons, First Choice Disposal

The strengths of the Curbside Recycling program include:

- Most residents have subscription curbside recycling service available to them in Clark County.
- All non-subscription residents have curbside recycling at no extra charge, and volume based service options available that give some incentive to recycling.
- Residents with subscription recycling have the choice of hauler and many have strong local preferences.

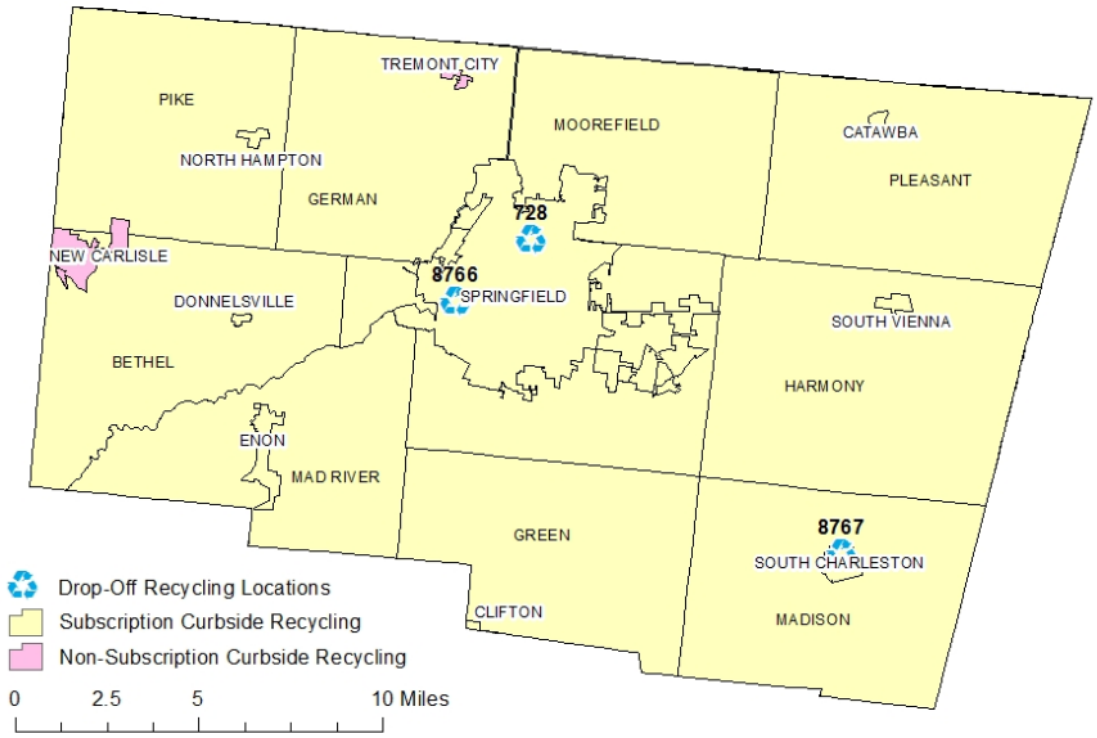
The challenges of the Curbside Recycling program include:

- The District efforts to promote curbside recycling development have not yielded any new programs to date.
- Only 2 communities in the District have non-subscription curbside recycling.
- Subscription curbside recycling data is not directly available to measure the success of the program.

CC-3 Drop-off Recycling

The drop-off recycling program, which consisted of three full-time publicly available sites, collected 773 tons of recyclables in 2015. Full-time drop-off sites must be available for a minimum of 40 hours per week. Two of the District's publicly available sites were open 24 hours a day and one open 7 days a week from 7am to 7pm. The following figure presents the locations of drop-offs located throughout the District.

District Drop-Offs (2015)



The District contracted with privately-owned companies to collect and process recycling from the program. All locations accepted the following materials:

- Paper (junk mail, magazines, newspaper, phone books, and office paper
- #1 and #2 Plastic bottles & jugs
- Corrugated Cardboard
- Paperboard
- Aluminum cans
- Steel Cans
- Glass (clear, brown, and green bottles and jars)
- Aseptic containers (flat top and gable top)

Evaluation of Drop-Off Program Efficiency

The District evaluated the cost of operation and a compaction system for the drop-off program versus using the private sector. Based on the results of the evaluation, the District, in 2015, began contracting with Rumpke to provide and service bins for commingled materials. Rumpke was able to add bins at popular locations to handle increasing use of the stations. This was done at little additional cost, whereas for the District to service the bins would have meant adding a truck and a driver.

The following table summarizes the operation of the drop-off program in the reference year:

Drop-Off Recycling Program Summary	
Description	**Details**
OEPA Program Number	8782, 8783, 8784, 8785, 8767, 728. 8766
Entity Responsible for Maintaining Program	District
Service Area for Program	Clark County
Materials Reduced/Recycled	Mixed Paper, #1-#2 Plastic Bottles and Jugs, Corrugated Cardboard, Paperboard, Aluminum Cans, Steel Cans, Glass Bottles and Jars (Clear, Brown, Green), Aseptic Containers
2015 Recycled Tonnage	773
2015 Program Costs	$53,596.44
Program Operator/Contractor	Rumpke

Strengths of the Drop-Off Recycling Program include:

- The 3 drop-off sites operated in 2015 were highly used by residents, multi-family housing and small businesses.

- The District converted the program to a private contract in 2014 which increased the efficiency and cost effectiveness of the program.

- Provides recycling opportunities when curbside is not available.

Challenges of the Drop-Off Recycling Program include:

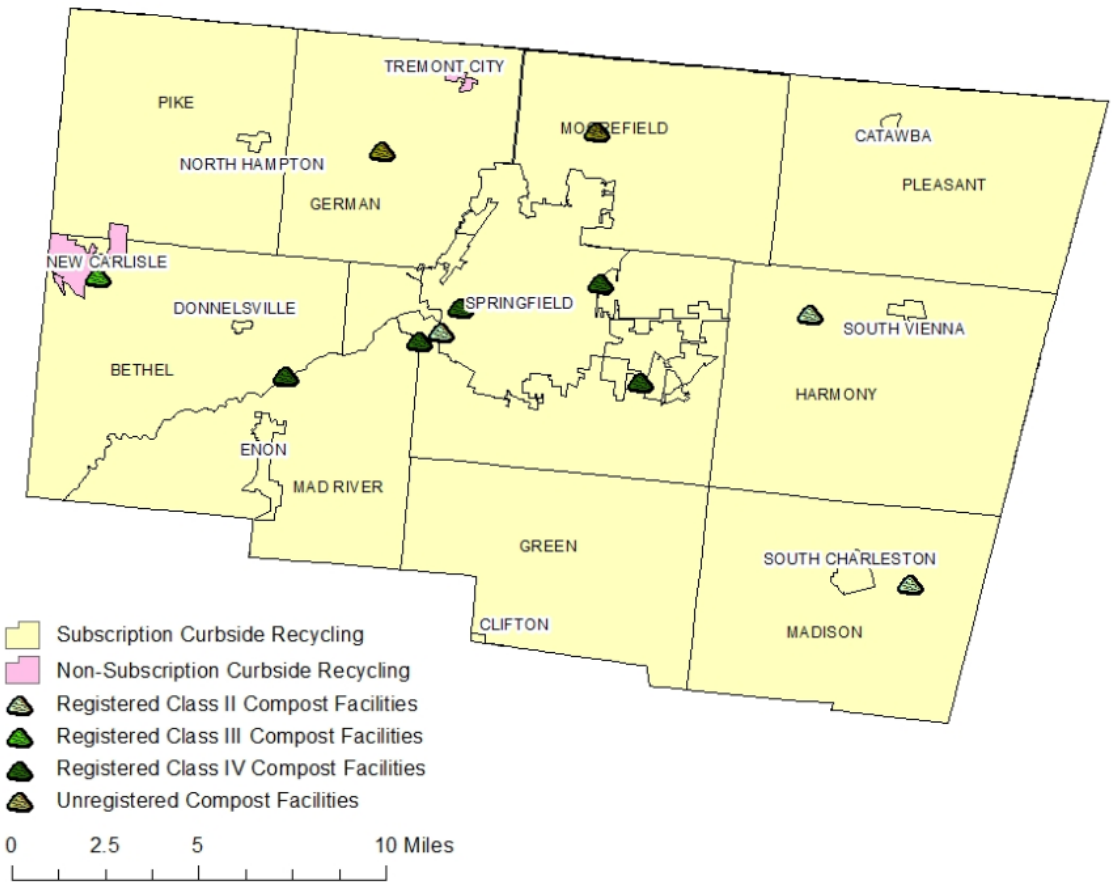
- Because of the high use of the original sites, additional sites were needed to meet demand. Additional sites were added in 2017 to improve this program.

CC-4 Yard Waste Management

In 2015, there were 10 registered yard waste composting facilities that recycled 41,632 tons. There were also 2 non-registered facilities, activities and drop-off centers in the District that recycled 1,007 tons of materials but were sent to other registered compost facilities. In total, these facilities, activities and haulers composted 41,632 tons of yard waste and 5,514 tons of food waste in 2015.

The following figure depicts the compost facilities and yard waste drop-off sites in the District in 2015:

District Yard Waste Management Facilities/Activities (2015)



Yard Waste Information for Residents Available on District's Website

The following are local yard waste drop off sites located in Clark County for residents to take yard waste to a composting facility and avoid the cost of a hauling service fee:

Clark County Recycling Center

Will accept all-natural yard waste from residents for Free. Yard waste bin is serviced by Paygro, the South Charleston-based organics recycler.
1602 W. Main St., Springfield, 521-2020
Open 7:00 a.m. - 7:00 p.m., Monday - Friday;

Mad River Topsoil

Mad River Topsoil is a private, registered Class IV facility that collects yard waste/organics. They will accept all-natural yard waste and Christmas trees from residents for free.
5625 Old Lower Valley Pike, Springfield, 882-6115
Open 8:00 a.m. - 4:00 p.m. Monday - Friday;
Open 8:00 a.m. – 12:00 p.m. Saturday

C&S Tree Service

C&S Tree Service is a private, registered Class IV facility that collects yard waste/organics. They will accept all-natural yard waste and Christmas trees from residents for free.
2551 Dayton Rd, Springfield, 323-4273
Open 7:30 a.m. - 7:30 p.m. Monday - Saturday; 9 a.m. - 5:30 p.m. Sunday

City of New Carlisle

The city picks up brush from storm damage and normal pruning during the second full week of the month from April through October. The service does not include large amounts of brush, such as from removal of a tree. Residents must sign up at least one week in advance.
Call 845-3058 for information.

Springfield Township Composting - Residents Only

Springfield township has a public, registered Class IV facility that collects yard waste/organics. They will accept leaves, brush, grass and Christmas trees.
1516 S Bird Rd., Springfield 322-3459
Open 9:00 a.m. – 3:00 p.m. daily

City of Springfield Leaf Pickup in the Fall

The City of Springfield will pick up leaves at the curb for Springfield Residents.
For information and times call 525-5800

German Township

German Township has a non-registered compost facility for residents. The township collects brush from residents and makes mulch available to residents.

Lawnmasters

Lawnmasters is a private, registered Class IV facility that collects yard waste/organics in Clark County.

Moorefield Township

Moorefield Township is a non-registered compost facility for residents. Most of the yard waste collected was sent to Lawnmasters, but some went back to residents. In addition, Christmas trees were collected and taken to a local reservoir.

Paygro Company

Paygro Company is a private, registered Class II facility that collects yard waste/food waste/organics.

Springfield WWTP

Springfield WWTP is a public, registered Class II facility that collects yard waste/organics (pages III-19 and IV-19 of Plan Update).

Studebakers Nursery

Studebakers Nursery is a private, registered Class III facility that collects yard waste/organics.

The District promotes composting by conducting workshops at related events and offering backyard composting bins for sale at wholesale cost.

In 2015, eight compost bins were sold. There were no compost specific workshops held, but composting was discussed at almost all of the 23 educational presentations, which were attended by 2,839 people.

The following table summarizes the program details:

Yard Waste Management Program Summary	
Description	**Details**
OEPA Program Number	6154, 8770, 6152, 8743, 6155, 6159, 6153, 6161, 6158, 8745, 8744
Entity Responsible for Maintaining Program	District political subdivisions and private sector compost facilities
Service Area for Program	Clark County
Materials Reduced/Recycled	Yard waste, food waste, brush, leaves, grass, wood
2015 Recycled Tonnage	41,632 Yard Waste 5,514 Food Waste
2015 Program Costs	$0
Program Operator/Contractor	Various political subdivisions and private sector compost facilities

The strengths of the Yard Waste Management program include:

- Many opportunities in the District for free local disposal of yard wastes well as holiday trees.
- District hosts workshops and sells backyard composting bins at the Clark County Special Waste Recycling Center.
- Select townships collect brush curbside.
- The City of Springfield provides two free bagged leaf collections during the fall season.
- Yard Waste programs are implemented at no cost to the District.

The challenges of the Yard Waste Management program include:

- None noted.

CC-5 Household Hazardous Waste (HHW) Collection

The District expanded the collection of HHW from bi-annual collections to weekly collections in late 2015 and into 2016. The District's Specialty Recycling Center accepts household hazardous waste for $1.00 a pound during Specialty Recycling hours. Specialty Recycling occurs every Thursday, 9 a.m. to 6 p.m. and the first Saturday of the month, 9 a.m. to noon, except on major holidays.

The following materials were accepted:

- Battery acid
- Bug sprays
- Car wax with solvent
- Furniture polish
- Glue (solvent based)
- Lighter fluid
- Photographic chemicals (mixed & properly diluted)

- Cutting oil
- Floor care products
- Fuel
- Fungicides, herbicides, insecticides, rat poison, and weed killer
- Mercury
- Metal polish with solvents
- Mothballs
- Swimming pool (hydrochloric acid)
- Wood preservatives

A total of 6,483 pounds or 3.24 tons of HHW were collected from Clark County Recycling Center in 2015.

Evaluation of HHW Charge at the Specialty Recycling Center

The District evaluated the costs of providing weekly, monthly, or quarterly collection at the Specialty Recycling Center and whether to charge residents a price per pound for proper management. In 2015, the District changed the HHW collection to include a user fee of $1.00 per pound and to conduct collections weekly at the Specialty Recycling Center. This change occurred to create a simple system to provide HHW collection opportunities for residents.

The District also provides valuable information on its website on alternatives to hazardous products:

Safer Substitutes	
All-purpose cleaner	In 1-quart warm water, mix 1 teaspoon liquid soap, borax, lemon juice, and/or white vinegar.
Glass cleaner	Mix 1 tablespoon vinegar or lemon juice in 1-quart water. Spray on & use newspaper to dry.
Drain cleaner	Pour boiling water down drain once weekly. Use a plunger or snake.
Oven cleaner	Clean spills as soon as the oven cools using steel wool & baking soda; for tough stains, add salt. (Do not use this method in self-cleaning or continuous clean ovens.)
Toilet bowl cleaner	Use a toilet brush with baking soda or vinegar.
Furniture polish	Wipe with mixture of 1 teaspoon lemon oil in 1-pint mineral or vegetable oil.
Rug deodorizer	Sprinkle carpet liberally with baking soda. Wait 15 minutes then vacuum.
Plant spray	Wipe leaves with mild soap & water, then rinse. Cleans plants and repels insects.
Roach & ant repellent	Sprinkle powdered boric acid in cabinet edges, around baseboards, and in cracks.
Mothballs	Try cedar chips, lavender, rosemary, mint, or white peppercorns.
Flea & tick repellent	Mix brewer's yeast or garlic in your pets' food; sprinkle fennel, rue, rosemary, or eucalyptus seeds or leaves around animal sleeping areas.
Lighter fluid	For charcoal barbeque starter, use dryer lint (it is extremely flammable). For campfires and fireplaces, stuff dryer lint into empty cardboard toilet paper roll.
Bleach	Use hydrogen peroxide to whiten clothing.

To advertise the availability of the HHW collection site, the District posts information on their website for open hours and accepted materials. The following table summarizes the operation of the program in the reference year:

HHW Collection Program Summary	
Description	**Details**
OEPA Program Number	755, 756
Entity Responsible for Maintaining Program	District
Service Area for Program	Clark County
Materials Reduced/Recycled	Battery acid, bug sprays, car wax with solvent, cutting oil, floor care products, fuel, fungicides, herbicides, insecticides, rat poison, and weed killer, furniture polish, glue (solvent based), lighter fluid, mercury, metal polish with solvents, mothballs, photographic chemicals (mixed & properly diluted), swimming pool (hydrochloric) acid, wood preservatives
2015 Recycled Tonnage	3.24
2015 Program Costs	$ 10,854.17
Program Operator/Contractor	Veolia

Strengths of the Household Hazardous Waste (HHW) Collection program include:

- Weekly opportunity to accept HHW from residents.
- A majority of the HHW material collected is able to be recycled and properly disposed.
- Uses website to give alternatives for HHW to be a safer substitute for the environment and reduce the amount of HHW in the District.
- Relatively high cost of HHW recycling ($1.00 per pound) encourages waste reduction.
- The HHW collection gives opportunity for the District to educate residents on HHW management issues as well as other District initiatives.

Challenges of the Household Hazardous Waste (HHW) Collection program include:

- The Special Recycling Center is operating at maximum capacity with little room to grow the HHW program or other services offered by the District at the Center.

CC-6 Electronics Recycling

The District accepts a wide range of electronics at the District Specialty Recycling Center. These materials included:

- Televisions
- CPUs
- Keyboards and mice and other peripherals
- Monitors
- Printers, scanners, copiers, fax machines
- Hard drive
- Most other electronics

Other locations which accept electronics:

- Best Buy also recycles electronics.
- Goodwill Industries also recycles computers.

In 2015, a total of 32.6 tons of computer and electronic materials were recycled. At the recycling center, the District charged ten cents per pound for televisions and monitors in 2015. A flat rate of $10.00 for TV tubes was also charged. All other electronics were accepted for free.

The following table summarizes the program details:

Electronics Recycling Program Summary	
Description	Details
OEPA Program Number	6139
Entity Responsible for Maintaining Program	District
Service Area for Program	Clark County
Materials Reduced/Recycled	Electronics
2015 Recycled Tonnage	32.6
2015 Program Costs	$ 25,404
Program Operator/Contractor	Green Wave Computer Recycling
Program Implementation	2007

The strengths of the Electronics Recycling program include:

- Thirty-two and a half tons of electronics, of which 16.7 tons were TVs and computer monitors, were recycled in 2015.

- All of the electronic material collected is recycled by Green Wave Computer Recycling.

- The Specialty Recycling Center is available to residents year-round during operating hours.

- The Specialty Recycling Center accepts electronics and other special or hard-to-recycle materials, making the drop-off a convenient "one-stop shop" for residents.

- The program has minimal costs for District residents.

The challenges of the Electronics Recycling program include:

The Special Recycling Center is operating at maximum capacity with little room to grow the HHW program or other services offered by the District at the Center.

CC-7 Lead-Acid Battery Recycling

Lead-acid batteries (LABs) and car battery cores were accepted year-round at the District Specialty Recycling Center starting in 2016. Battery collection for Specialty Recycling and the District Recycling Center is free of charge.

Lead-Acid Battery Recycling Program Summary	
Description	Details
OEPA Program Number	8795
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	LABs, Battery Cores
2015 Tons Recycled	0
2015 Program Costs	N/A
Program Operator/Contractor	Veolia

The strengths of the Lead-Acid Battery Recycling program include:

- The Specialty Recycling Center is available to residents year-round for battery recycling and other materials.

- The program is free to District residents and incurs only minimal costs to the District.

The challenges of the Lead-Acid Battery Recycling program include:

- The Special Recycling Center is operating at maximum capacity with little room to grow the HHW program or other services offered by the District at the Center.

CC-8 Scrap Tire Collection

The District collects scrap tires at the District Specialty Recycling Center.

- Illegally dumped tires are also accepted from townships and from the PRIDE program.
- Tires at the Specialty Recycling Center are accepted at a fee of ten cents per pound for residents.
- Tires are accepted from low-income community cleanups for no charge.

In 2015, the District collected and recycled 22.34 tons of scrap tires through Specialty Recycling.

The District does not charge fees or put limits on how many illegally dumped tires will be accepted from townships and other government entities. The entity bringing in the tires must provide the location where the tires were dumped. Most dumped tires are disposed through the OEPA Scrap Tire program

City of Springfield's Reserve a Roll-Off program may provide coupons for free tire disposal. The City of Springfield provides roll-off containers for neighborhoods that organize annual cleanups. Coupons are provided to residents in these neighborhoods. Each coupon is good for up to 8 tires. The district absorbs the cost of recycling the tires.

Scrap Tire Collection Program Summary	
Description	Details
OEPA Program Number	6137, 8769
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	Passenger and light truck tires
2015 Recycled Tonnage	22.3 tons
2015 Program Costs	$4771.55
Program Operator/Contractor	Rumpke

The strengths of the Scrap Tire Collection program include:

- A majority of the scrap tires were collected and recycled in the District for very little cost to customers and to the District.

The challenges of the Scrap Tire Collection program include:

- The Special Recycling Center is operating at maximum capacity with little room to grow the HHW program or other services offered by the District at the Center.

CC-9 Government Office Paper Recycling

The county recycles paper through Quest and delivers cardboard to the Specialty Recycling Center where it is baled and sold. Every county office is supplied with recycling containers. In 2015, the following buildings participated in this program:

- Springview Government Center
- Administration
- AB Graham
- County Jail
- Juvenile Detention
- District Office

In 2015, this program recycled 8.9 tons. The following table summarizes the program details:

Government Office Paper Recycling Program Summary	
Description	Details
OEPA Program Number	732
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	Office Paper, OCC
2015 Recycled Tonnage	8.9
2015 Program Costs	$4,227.60
Program Operator/Contractor	District

* Program costs are difficult to calculate as the material is delivered at no cost by other county department employees in order to save on the cost of collection service to the county. Baling is done by PRIDE inmates for free. Balers and a fork lift were purchased years ago with grant dollars. The facility and staff who load trucks serve many other programs as well.

Strengths of the Government Office Paper Recycling program include:

- Clark County government workers recycle at these buildings:

  - ✓ Springview Government Center
  - ✓ AB Graham Building
  - ✓ Public Admin Building
  - ✓ County Courthouse
  - ✓ Juvenile Court Building
  - ✓ Public Safety Building

Challenges of the Government Office Paper Recycling program include:

- The program recycling volumes dropped from peaking in 2012 with 13.8 tons to 8.9 tons in 2015. This tonnage decrease may be caused by the increase in electronic documents.

CC-10 Business Paper Recycling

This program offers businesses the use of the District's 3 Recycling Stations for recycling paper and cardboard in 2015 and the new sites in 2017.

Since many businesses do not generate enough paper and/or cardboard to justify a separate recycling bin at their location, the District promoted to businesses the opportunity to use one of the District's three recycling drop-off stations. Businesses also delivered truckloads of cardboard directly into the recycling center for convenience. Promotion for business recycling is on the District's website.

The District also promotes the Royal Oak recycling boxes which are located throughout Clark County to the local businesses.

The following table summarizes the program details:

Business Paper Recycling Program Summary	
Description	Details
OEPA Program Number	6144
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	Office Paper, OCC
2015 Recycled Tonnage	266 tons (includes drop-off recycling stations)
2015 Program Cost	$0
Program Operator/Contractor	District

Strengths of the program include:

- Businesses that generate little fiber waste have the opportunity to recycle office paper and cardboard where they would not otherwise be able to.
- The District generates revenue from the sale of paper and cardboard.

Challenges of the program include:

- Royal Oak's accounting system does not give consistent weights for paper collected.

H. RESIDENTIAL EDUCATION AND AWARENESS PROGRAMS

CC-11 Education and Awareness Programs

The District utilizes a variety of efforts to provide education and awareness to all sectors in Clark County for youth and adult audiences, small and large businesses and institutions. The program was designed with the following initiatives:

- Close the Loop Campaign
- School Support/Education Grants
- Community Outreach
- Informing the Public

The following section summarizes the District's education and awareness initiatives for 2015.

1. Close the Loop Campaign

In an effort to remind people to purchase recycled content products, the District included information on the website and in the main brochure "Reduce, Reuse, Recycle".

In addition, the Recycling Center office was developed with many recycled materials that carry permanent signage that demonstrate the recycled value to all visitors. The District also, almost exclusively, purchased recycled content promotional items to distribute and prints exclusively on recycled content paper (identified as such).

The message that, "It isn't really recycling until you are purchasing recycled content materials." is used regularly when recycling is promoted.

Even though no campaign was conduct in 2015, the District continues to promote the initiative of Close the Loop on website and in educational presentations.

Strengths of this Initiative:

- Matching grants support local purchases that demonstrate the value of recycling and the valuable products created.

- Distribution of pencils, bags, rulers and other items to kids is a good way to demonstrate the value of "Closing the loop".

- Utilizing recycled content materials at the Recycling Center has initiated many questions and encouraged the use of some of the same materials.

Challenges of this Initiative:

- None noted.

2. School Support/Education Grants

District provides materials to teachers for grades Pre-K-12 about waste reduction and other solid waste issues, newsletters, skits and workshops. In 2015, there were presentations made to 12 schools and 12 other youth organizations, with 2,839 students reached.

The District also offered up to $3,000 in mini-grants for educators to provide environmental education programs relating to waste reduction. In 2015, the District provided $1,000 in grants to two schools and $160 worth of recycling containers for two more schools were awarded for waste reduction classroom activities. Since 2009, the District continues to perform a skit "Keep Clark County Beautiful" that targets first and second grade students. The script was reviewed by a panel of educators and intended to meet age appropriate learning objectives. The performers are District staff and one contracted storyteller. The results after 800 students enjoyed the show were outstanding, and the District has continued to perform the skit regularly with a goal of having all Clark County students see it in either the second or third grade.

The District has historically offered workshops to teachers on a variety of subjects. In 2015, there were no workshops conducted due to lack of interest.

THE THREE R'S:
REDUCE, REUSE, RECYCLE

Resources for Educators — Fall, 2015

Clark County Solid Waste District

School Presentations

Solid Waste District offers programs for various grade levels

The Clark County Solid Waste District can provide a variety of educational presentations to fit many age levels and subjects.

Here are brief descriptions of the district's programs for schools.

1. "Keep Clark County Beautiful" is an interactive, humorous skit aimed at 1st- and 2nd-graders. Local storyteller Lisa Holmes and Steve Schlather, the district's program coordinator, portray characters who show the good, the bad, and the beautiful of putting waste in its proper place.

Since the skit debuted in April 2009, it has been seen by over 9,000 children in every public school in Clark County and in a few non-school performances. Teachers have praised the skit as an entertaining and effective way to present solid waste issues to young people.

2. Steve Schlather does solo presentations, either in costume as the Wizard of Waste or in a more straightforward style (usually for older students). Presentations can be for any grade level and on a variety of topics: waste reduction, recycling, landfills, composting, and more.

3. Tours of the Clark County Recycling Center help to demonstrate facts about recycling. Tours usually are limited to groups of no more than 25. Tours can be offered during daytime hours or in the evenings.

4. The District can provide technical assistance for a school that wants to start or expand a recycling program. This can include consultations, help with an awareness program, help with a waste audit, and/or referrals to businesses that offer recycling services.

For more information about the district's programs, contact Steve Schlather at 521-2022 or sschlather@clarkcountyohio.gov.

Mother Earth and the Wizard of Waste show how to recycle.

The Clark County Solid Waste District is dedicated to providing learning opportunities and resources to promote waste reduction practices. **For more information,** contact Steve Schlather at 521-2022, or 1602 W. Main St., Springfield, OH 45504 or e-mail at sschlather@clarkcountyohio.gov.

IN THIS ISSUE

Springfield HS Composting — **Page 2**
RiverMobile is available — **Page 3**
Take It to the Curb campaign — **Page 4**

District surveys teachers to understand how to assist with environmental education and how to best maximize solid waste management issues for their use.

A newsletter is sent to all teachers in Clark County twice a year.

In 2015, the District provided two newsletters (Spring and Fall) to every teacher in the county (including home schools).

Strengths of this Initiative:

- The newsletter allowed the District to promote its programs, grants and services and was simple to produce.

- The mini-grants allowed teachers, administrators, and even students to get some help with projects that either promote waste reduction and recycling or implement waste reduction and recycling in the school. The application form is available on web site. This program is always mentioned in twice-a-year newsletter sent to all teachers in county. The Program Coordinator reviews applications submitted to the District.

- The KCCB skit has been a great success in entertaining while educating students at the right age about the value of recycling and litter prevention. It has received rave reviews.

- Teachers attended workshops when useful and relevant information that met their learning objectives were offered and they had time available.

Challenges of this Initiative:

- None noted.

3. Community Outreach

The District offered a broad community outreach effort in 2015 that included public campaigns, presentations, booths and displays.

The District employs a full time Program Coordinator and Program Assistant who have a strong focus on education and outreach.

"Take it to the Curb"

In 2015, the District launched a six-month awareness campaign, "Take it to the Curb." This campaign encourages the residents of Clark County to increase curbside recycling in their homes. This campaign was intended to evaluate options of conducting regional cooperative contracts for multiple smaller villages and cities for curbside waste and recycling services. The District presented to civic groups, political subdivisions, and businesses. The District has a campaign website: https://take2curb.wordpress.com/

Recycling is an easy and inexpensive way to protect and sustain the environment for many generations to come, but it can be a time-consuming task, especially when trips to a recycling drop-off location are required. That's why curbside recycling is the ideal option when it comes to increasing recycling efforts in Clark County. It's an easy, hassle-free way to empty your recycling bin without ever leaving home.

Since not all trash haulers in the area offer curbside recycling or charge extra for the service, a contracted trash service is the best way to provide curbside recycling for an entire community. In communities that have already implemented contracted curbside recycling, like the City of New Carlisle in Clark County, Hamilton County and Genoa Township in Delaware County, residents have experienced the numerous benefits of a contracted trash service, such as a reduced cost for waste and recycling removal, better service from the hauler and less trash truck traffic, all while increasing the overall recycling rate of the community.

These benefits, for both residents and the environment, have inspired the Clark County Solid Waste District to educate county residents on the impact of community-wide curbside recycling and the means to attain it – a contracted trash service.

Curb Your Hassle

- Simply put all of your household recyclables into one container and take it to the curb.
- Empty your recycling bin without ever leaving your home.
- Save time, money and miles on your vehicle with the convenience of curbside recycling.

Curb Your HASSLE
Curb Your WASTE
Curb Your IMPACT

Curb Your Waste

- Save time, money and miles on your vehicle with the convenience of curbside recycling.
- Keep usable resources out of the landfill and in the economy by increasing the recycled materials available to make new products.
- 75 percent of solid waste is recyclable, including paper, cardboard, and many food and beverage containers.
- Contracted curbside recycling will increase recycling in our community.

Curb Your Impact

- Turn your chore into something more – an act that benefits the local community and the environment.

- Reduce emissions by eliminating trips to the recycling drop-off closest to your home.
- Feel good about Trash Day, knowing that your recycling bin is bigger than your trash can.

The Take it to the Curb campaign was honored as the Solid Waste Innovator of the Year by the Ohio Buckeye Chapter of the Solid Waste Association of North America (SWANA).

Keep Clark County Beautiful:

In 2007, the District started a local Keep America Beautiful Affiliate, Keep Clark County Beautiful (KCCB). The mission of KCCB is "To engage residents to take pride, ownership, and responsibility for enhancing their community's environment". This has helped to increase awareness for recycling and litter prevention. KCCB broadens the District's impact with the contributions of an energized board, new funding opportunities, national awareness campaigns, and a friendly name for some of our initiatives. The KCCB performs a skit "Keep Clark County Beautiful" as mentioned in the School Support/Education Grants section above.

Strengths of this Initiative:

- The Take it to the Curb campaign has increased awareness of curbside recycling.

- The District is involved as a sponsor, a participant, or a partner in many community events and enjoys engaging a broad range of people in various locations with our messages.

- KCCB has been a huge asset for expanding community outreach and has helped to put a face on many of our programs and messages.

Challenges of this Initiative:

- The Take it to the Curb campaign has not increased curbside recycling contracts by communities for non-subscription services.

4. Informing the Public

The District maintained brochure racks in four strategic locations at the Public Library, the County Administrative Building, Springfield City Hall and the Clark County Recycling Center. Info Racks are located at the Recycling Stations with information on how to use that program.
Brochures that identify all local recycling opportunities and how to reduce waste such as Reduce, Reuse, Recycle, Home Composting, Tackle Toxic Trash, the Clark County Specialty Recycling Center, the Clark County Recycling Drop-off

Stations, and Keep Clark County Beautiful are the standards that were always available. Additionally, information on special events is provided here as well.

Brochures are distributed at all presentations, special events and info booths as well.

Other information avenues included:

- Digital signage is used at the Recycling Center (on Main Street in Springfield) which made the residents aware of programs and services offered by the District.
- Monthly ads, press releases, Facebook posts and media coverage advertise the Recycling Center and other programs.
- Information on HHW and Great America Cleanup is broadcasted on the local public access channel.

Strengths of this Initiative:

- Brochures are all designed in-house and normally printed in-house for cost savings. Each major program has its own brochure.
- The Reduce, Reuse, Recycle brochure has all recycling information in the county in one place.
- Numerous brochures are distributed each year throughout the County.
- The Info Racks have been in place for 15+ years so residents know where to find information.
- The website is a reliable source for providing instant information for many programs the Districts performs (www.32TRASH.org).
- The District regularly advertises and employs many free and low-cost avenues for informing the public.
- Awareness is strong in the community for our programs and services as is evidenced by strong participation.

Challenges of this Initiative:

- None noted.

The following table summarizes the program details:

Residential Education and Awareness Programs Summary	
Description	Details
OEPA Program Number	739, 8794, 6146, 746, 743, 6129, 747, 8771
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	$46,537.71
Program Operator/Contractor	District

I. COMMERCIAL, INSTITUTIONAL AND INDUSTRIAL SECTOR PROGRAMS

CC-12 Business Waste Reduction Assistance Program (BWRAP)

The District offered technical assistance and education/awareness to commercial and industrial sector businesses and institutions in 2015.

Elements of this program included:

- Provide direct assistance to encourage Clark County businesses and institutions to employ waste reduction programs.
- Maintain a web page specific to business assistance.
- Encourage bars and restaurants to recycle by offering free receptacles.

The District has always worked with companies to provide technical waste reduction assistance on the basis that they contact the District. Assistance with waste reduction is provided to businesses who approach the District.

<u>Recycling Makes $ense</u>

- Recycling in your business can affect your bottom line.
- Recycling paper and cardboard will reduce the amount of waste that your business disposes.
- Recycling can save money by reducing the size of your waste dumpster or by decreasing the number of times that dumpster is serviced.
- Reducing the amount of paper and cardboard that goes into a landfill saves natural resources and protects the environment.

During 2015, assistance was provided to **five** businesses in the District.

The following table summarizes the program details.

Business Waste Reduction Assistance Program Summary	
Description	Details
OEPA Program Number	6149, 6145, 6148
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	N/A
Program Operator/Contractor	District

Strengths of the program include:

- The District invites and encourages more businesses to develop waste reduction programs.
- Creates good working relationship with commercial/industrial businesses.
- The District is able to promote recycling and waste reduction.
- Business recycling rates increased for the District.

Challenges of the program include:

- District staff time is limited and assistance is provided on a first come first served basis.
- Only 5 businesses received technical assistance from the District in 2015. Limited staff time decreases promotion of the program and to support more businesses. This program mainly relies on businesses to request assistance.

J. CLEAN-UP PROGRAMS

CC-13 Litter Prevention/Clean-Up Programs

The District utilizes a variety of efforts to provide outstanding litter prevention and cleanup services to all sectors in Clark County. The program was designed with the following key elements:

- Adopt-a-Road/Spot
- Earth Day Community Clean-Ups (Great American Cleanup)
- Environmental Enforcement/PRIDE Program
- Litter Hotline

The District sponsors many successful programs to help prevent and clean up litter:

Adopt a Road/Spot

The District offers assistance to groups and individuals interested in the Adopt-a-Road and Adopt-a-Spot programs, providing clean-up supplies such as trash bags, gloves, litter grabbers, safety equipment, etc. In 2015, there were 12 groups that performed 19 cleanups.

Earth Day Community Clean-Ups (The Great American Cleanup)

In 2015, over 1,790 volunteers from churches, 4-H groups, Girl Scout and Boy Scout Troops, schools, businesses, Adopt-a-Road groups and others picked up over 800 bags of litter and debris from more than 100 public areas during this three-month opportunity.

Prizes were donated from the following:

- Young's Jersey Dairy
- Putt-Putt Golf and Games
- Lee's Famous Recipe Chicken
- Columbus Zoo
- National Trail Parks and Recreation
- Chakeres Theaters
- Fast Lane Car Wash
- Victory Lanes
- Springfield Health and Fitness
- 800 Paint Place
- Foreman-Blair
- Los Mariachis
- Family Video
- Clark County Waste Management District
- The Oasis

Environmental Enforcement/PRIDE Program

(**P**roviding **R**esponsibilities for **I**nmates thru **D**uties for the **E**nvironment)

The District funds the PRIDE Program to utilize inmates for clean-up activities in all public areas, to support District special events and provide labor for the Recycling Center, including baling cardboard, removing tires from rims, dismantling appliances for best scrap price and various maintenance duties. In 2015, inmates picked up 42 tons of trash, plus 907 tires and hundreds of other bulk items. Additionally, they also cleaned 44 miles of roads and helped at cleanups and special events. Two deputies supervised inmate crew and enforced litter and dumping laws. For more details on the enforcement program see CC-14.

Litter Hotline

The District operates and advertises a 24-hour hotline to report litter or illegal dumping on 180 signs in the county. Each call is investigated by the District Environmental Enforcement Deputies. In 2015, 471 calls were received which produced 260 cleanups, 183 investigations, and 17 arrests in Clark County.

Community Clean-Up Trailer

The District developed a new program in 2012 to assist communities and civic groups in the management of litter.

General Guidelines

The Community Cleanup Trailer is available for loan free of charge to Clark County residents and community volunteer groups (minimum of five households or groups with at least five volunteers). The Community Cleanup Trailer should be used for neighborhood cleanups, for beautifying public areas, or for clearing vacant lots, not for an individual's property or for commercial purposes.

The Clark County Solid Waste District (CCSWD) will deliver and pick up the trailer at the designated project area. The trailer is loaned on a first-come, first-served basis. A $25 deposit is required. The deposit is returned once all equipment is returned in good condition and the Cleanup Report Form is turned in.

To Use the Community Cleanup Trailer:
Submit the Application Form, Project Coordinator's Waiver, and Participants List at least two weeks before your Community Cleanup Trailer scheduled cleanup.

The Participants Waiver must be filled out on the day of the cleanup and returned with the trailer.

The Cleanup Report Form should be returned within seven days of completing your project.

Participation requirements:

- Must be used in Clark County.

- Minimum of five households involved in the project or a group of at least five volunteers.
- Trailer may be borrowed for a maximum of three days.
- Project must have a designated coordinator.
- Designated coordinator will assume responsibility for the following:

  - ✓ Completion and submittal of the Community Cleanup Trailer Application.
  - ✓ Coordinator's Waiver.
  - ✓ Participant List at least two weeks prior to event.
  - ✓ Ensuring all participants using the equipment from the trailer are at least 18 years old and have completed the Participants Waiver.

  - ✓ Meeting CCSWD staff when the trailer is delivered and picked up at your project site. Staff person will not wait longer than 15 minutes to meet you at the site.
  - ✓ Confirmation of equipment inventory with CCSWD personnel upon delivery of the trailer and upon return of the trailer.
  - ✓ Distributing supplies to participants and ensuring all equipment is operated safely. Retrieving supplies once the project is completed.
  - ✓ Properly securing the trailer and its contents.
  - ✓ Ensuring trailer is free of trash and debris upon return.
  - ✓ Ensuring a proper parking location for the trailer in the project area.
  - ✓ Replacement of any missing items or items not returned in the condition they were received (normal wear and tear excluded).
  - ✓ Completion of a Cleanup Report Form within seven days.

The following table summarizes the program details:

Program Summary	
Description	**Details**
OEPA Program Number	6132, 6135, 762, 763, 764
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	OCC, tires, bulk items
2015 Recycled Tonnage	907 Tires
2015 Annual Program Costs	$77,899.94
Program Operator/Contractor	District

Strengths of the program include:

- The goal of these programs is to target litter and illegal dumping throughout Clark County and is greatly effective as well as provides manpower for the Specialty Recycling Center.
- ODOT pays District to do highway cleanups.

    - ✓ 800 bags were collected in 2015

- Grant funding was used for sponsorships and donations for many of these programs.

- The District had effectively free labor to bale paper and cardboard, and other duties at the Recycling Center and assist with setup and manpower for many other events.

- In 2015, these programs resulted in removing 42 tons of litter and illegally disposed debris.

- Community Cleanup Trailer helps foster a strong partnership between the District and the communities.

Challenges of the program include:

- None noted.

CC-14 Health Department Funding

Since the District was created, it has generously supported the combined health district with funding adequate to provide sanitarians to investigate solid waste facilities and nuisances. In 2015, the Health District completed the following services for the District:

Inspections of Licensed or Other Operations

Type	Annual
Composting Facilities	37
Trash Collection Vehicles	99
C & DD Facilities - Active (licensed)	11
C & DD Facilities - Closed	1
Scrap Tire Accumulations	82
Scrap Tire Transporter	9
Motor Vehicle & Other Salvage Yards	45
Closed Solid Waste Landfills & Dumps	11
Infectious Waste Generators	13
Legal & Illegal Fill Locations	11
Mercury Spill Responses	0
Transfer Facilities	0

Gas Monitoring Reports Received

Facility	Annual
Springfield Landfill C & DD	0
The General Contractors C & DD	0
Tremont Landfill	4
Limestone City Landfill	1

Ground Water Monitoring / Quarterly / Annual Reports Received

Facility	Annual
Springfield Landfill C & DD	1
The General Contractors C & DD	1
Tremont Landfill	9

New Permits / Licenses Issued or Applications Received

Type of Permit / License / Application	Annual
C & DD License Applications Received	2
C & DD Licenses Approved	2
Solid Waste License Applications Received	3
Solid Waste Licenses Approved	3
Notices of Intent to Fill Received	1
Licensed Hauler Permits Given	99

Solid Waste Nuisance Inspections (each visit = inspection)

Descriptions	Annual
Solid Waste Nuisance Inspections	624

Consultations / Meetings

Type	Annual
Committees - Technical Advisory or Policy	2
Community Cleanup / Environmental Enforcement	2
Ohio EPA Survey	6
Solid Waste	161
Workgroups - Health District/Ohio EPA/Ohio Environmental Health Association	8
Mercury	0

Soil & Water Testing

Type	Annual
Soil	0
Water	0

Solid Waste Citations into Municipal Court / Board of Health (BOH) Orders

Type of Citation or Order	Annual
BOH orders – solid waste related *	0
505.08 – odor nuisance - city	0
919.05 – solid waste accumulation	1
919.051 – no contract with licensed hauler	0
922.06 – operating as unlicensed hauler	0
1361.05(c) – dangerous conditions	0
1361.06 – no sanitary facilities	0
3707.48 – violation of BOH order	0
3767.13 – odor nuisance - county	0

Facilities Inspected

Facility	Type
City of Springfield Waste Treatment Plant	Class II Compost
Ohio Dept. of Transportation	Class II Compost
Paygro, Garick Division	Class II Compost
C & S Tree Service	Class IV Compost
City of Springfield Waste Treatment Plant	Class IV Compost
The General Contractors	Class IV Compost
Lawnmasters	Class IV Compost
Mad River Topsoil	Class IV Compost
Springfield Township	Class IV Compost
Northeast Landfill	CDD Landfill
The Springfield Landfill	CDD Landfill
IOOF Home	Closed CDD Dump
L & L Demolition	Closed CDD Dump
Former Mike Hart C & DD	Closed CDD Dump

Facility	Type
Ron Brown Lower-Valley Pike	Closed CDD Dump
Bird Road Dump	Closed Landfill
Crabill Road Landfill	Closed Landfill
Dayton Road Landfill	Closed Landfill
Haulman's Landfill	Closed Landfill
Limestone City Landfill	Closed Landfill
New Carlisle Landfill	Closed Landfill
Plattsburg Road Dump	Closed Dump
Ruscot's Landfill	Closed Landfill
Springfield – I 70 and SR 72	Closed Landfill
Springfield – SR 72 and SR 68	Closed Landfill
Tremont Landfill / Barrel Fill	Closed Landfill
South Charleston	Closed Landfill
Don Blair	Closed Dump
SPFD Waste Water Treatment Plant	Closed Landfill
Walley Auto Parts	Closed Dump
Barrel Fill	Closed Dump

The following table summarizes the program details:

Program Summary	
Description	**Details**
OEPA Program Number	3861
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	$184,060.99
Program Operator/Contractor	Combined Health District

Strengths of the program include:

- The funding for the health department provides necessary services for solid waste management in the county.
- The partnership is valuable for the combined health district for other programs.

Challenges of the program include:

- Obtaining funds for cleanups

CC-15 Legal and Consulting

The District allows for annual legal and technical assistance from lawyers and consultants. GT Environmental, Inc. (GT) conducted an Industrial Survey. Wilt PR created Take it to the Curb campaign and managed for six months.

The following table summarizes the program details.

Program Summary	
Description	**Details**
OEPA Program Number	6169
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	$15,900.22
Program Operator/Contractor	District

CC-16 Other Facilities

In-District Transfer Station

The District operates one facility and is in an on-going process to determine the feasibility of opening and operating an in-district transfer facility.

As reported in the 2015 ADR, the District made arrangements for a study of transfer station feasibility to be conducted in 2016. The District's policy in 2015 was as follows:

Level 1

Support the private sector solution. Assure that the solid waste management plan does not include provisions that would discourage the development of a well sited, privately owned and operated transfer station in Clark County. Educate elected officials, residents and the local waste haulers on the potential benefits of a transfer station.

If Level I does not generate the development of a local transfer facility, the District will consider the Level II strategy and may, or may not, proceed to Level II.

Level II

Issue a Request for Proposals for a privately-owned and privately-operated transfer station.

If the District does not receive any proposals, or an acceptable proposal, it will consider the Level III strategy and may, or may not, proceed to Level III.

Level III

Evaluate the feasibility of a publicly-owned and privately-operated transfer station where the District would own the property.

The District conducted the transfer station feasibility study in 2015 and 2016. Appendix I contains the entire report and the following is a summary of the Study:

In **Section II**, the amount of solid waste disposal was evaluated for District solid waste. The amount of solid waste generated in Clark County and sent for disposal has remained relatively consistent during the past six years. The total disposal of Clark County solid waste has ranged from just over 94,000 tons to slightly more than 103,000 tons for the period 2010-2015. The average tons disposed during this time period was 98,144 tons per year.

Only four facilities received significant portions of Clark County solid waste from 2010 through 2015:

- Cherokee Run Landfill in Logan County, Ohio
- Montgomery County North Transfer Facility in Montgomery County, Ohio
- Montgomery County South Transfer Facility in Montgomery County, Ohio
- Stony Hollow Landfill in Montgomery County, Ohio

The waste received at these four facilities represent more than 99 percent of the total Clark County disposal in each year of the six-year time period.

In **Section III**, results from conducted surveys of solid waste generators located in Clark County, haulers operating within the solid waste management district (SWMD), and transfer stations operating around Ohio processing amounts of waste similar to the tons of waste disposed from Clark County.

The hauler survey resulted in five responses, or 31 percent of those surveyed. The tons collected and hauled by these five respondents represents approximately 30 percent of the total amount of District waste sent for disposal during 2015. Two of the respondents provided only the gate rate charges (or tipping fees) at the Montgomery County South Transfer Facility, so these surveys could not be used to estimate the total hauling costs from Clark County. Based on the remaining three surveys, the total hauling costs from the District is approximately $135 per ton, which includes collection, transportation to the Montgomery County South Transfer Facility, and disposal expenses at this facility. ($135 per ton represents a weighted average based upon the tonnage transported by each hauler.)

The generator survey effort resulted in a total of 19 returned surveys. In addition to the name of the company or institution, most respondents provided the name of the hauler, the number and size of dumpsters, the frequency of pickup, the cost per month, and an estimate of the amount of trash collected. A few surveys included the estimate of trash in both tons and cubic yards, however, in most cases, the amount of trash was provided only in cubic yards. Information was provided for a total of 64 dumpsters, most of which are 6 or 8 cubic yards in size. However, eight large dumpsters 40 to 50 cubic yards in size equipped with a compactor are also included in this total. The estimated costs for most dumpsters is under $60 per ton, with the overall average equal to $36 per ton.

The median cost for all dumpsters is approximately $42 per ton. If the assumptions above are changed to 225 pounds/cubic yards for un-compacted waste, the overall average and median cost estimates become $59 and $42/ton, respectively.

The results of the hauler and generator surveys are surprising, at best. The hauler survey shows an estimated cost per ton of $135, while the overall average for the generator survey is $36 to $59 per ton, depending on the assumptions used in the calculations. The expectation is that the costs paid by the generator would approximate the total costs incurred by the hauler plus any profit for the hauler. However, these results show the generator costs at two to four times less than estimated hauler costs. It is worth noting that only one of the 64 dumpsters included in the generator surveys is serviced by a hauler which returned a survey.

Eight existing transfer stations in Ohio were contacted by telephone to obtain the advertised gate rate for disposing waste at the facility. These facilities were selected because the amount of waste processed by each transfer station is similar to the estimated tons of waste generated from Clark County and sent for disposal. The gate rates ranged from $47 – $66 per ton. It is important to note that the advertised gate rates provided by transfer stations do not necessarily reflect the costs for all haulers which use the facilities. It is not uncommon for haulers to negotiate contracts with facilities for rates which are lower than those advertised by the facility. However, this type of information was not available for the Study.

Section IV summarizes the facilities surveyed and evaluated as a part of this Study. The facilities selected for evaluation included Hardin County Solid Waste & Recycling Facility, Huron County Transfer Station, Kimble Transfer & Recycling Facility – Cambridge, Medina County Central Processing Facility, Miami County Solid Waste & Recycling Facility, Morse Road Transfer Facility, and Richland County Transfer Station. Each of the facilities listed above were mailed a survey to collect the following information:

- Basic information (i.e., address, contact information, etc.);
- Background information about the facility such as size, capacity, hours open to the public, and the year which the facility opened;
- Flow control information;
- Labor requirements;
- Initial start-up costs; and;
- Annual operating costs.

While seven facilities were sent surveys, only two responded to the survey and provided 2015 data: Hardin County and the Solid Waste Authority of Central Ohio (SWACO) for the Morse Road facility. However, after examining the data provided for these facilities, it was determined that the cost information from an earlier survey (2013) conducted by GT for another client was more accurate. As a result, the annual operating cost data was based upon 2013 data which has

been inflated to 2015 dollars using the consumer price index. (The annual operating costs for Medina are the only exception to this statement, and these costs are based upon published information which captures the change in operation of the Medina facility to private operation in 2015.) No data is available for the privately-owned and operated Richland County Transfer Station or the Kimble Transfer and Recycling Facility except the tons received.

The data and information from this section were used to calculate costs and operating constraints for Section VII.

Section V was added to the Study and was outside the original scope of the project. The reason this evaluation was added was the survey results from Section III were not adequate enough to draw firm conclusions as to the costs using solid waste facilities outside of the District. This section summarizes an evaluation to determine the feasibility of building a transfer station in Clark County, the hauler transportation costs for District waste have been estimated to the Montgomery County South Transfer Station and compared to transportation costs to a location in the City of Springfield which could be used as a transfer station site.

The cost savings were calculated based on miles driven from each of the major communities in the District to either the Montgomery County Transfer Station, Stony Hollow Landfill, and Cherokee Run Landfill or the proposed transfer station located in the City of Springfield. The savings to transport to the closer facility located in Springfield for the purposes of this evaluation ranged from $835,000 – $1,230,000 annually.

It is important to note that the cost savings calculated in this section do not necessarily mean that the generator of the solid waste would realize the projected savings, only that an overall cost savings could result from shorter distances traveled for local haulers.

In **Section VI**, several ownership and operational combinations for transfer stations are possible and are reflected in existing facilities within Ohio. These options include:

1. Publicly-owned and operated
2. Publicly-owned and privately-operated
3. Privately-owned and operated
4. Regional public facility
5. Hybrid models

While each of these options may have certain advantages, only the first (publicly-owned and operated), second (publicly-owned and privately-operated), and fifth (hybrid model) options are evaluated further in this analysis based upon the availability of data, and the circumstances associated with the existing facilities in counties adjacent to Clark. Data is not available for a privately-owned and operated facility (option 3), and a regional facility with the ability to attract

waste from adjacent counties (option 4) does not seem feasible given the locations of existing facilities.

In **Section VII**, an analysis was completed of the various capital and operational costs of the transfer stations included in Section VI to obtain average baseline data to be used in this economic analysis. The economic analysis includes three scenarios to assist the District in determining the full spectrum of the risks and rewards of developing the proposed transfer station. Baseline costs from the three scenarios ranged from $52 – $56 per ton.

Also, sensitivity analysis was applied to certain cost factors to determine a range of possible costs. This analysis included key cost factors which were varied in order to develop a range of likely costs for a Clark County transfer station. The variable key factors included capital debt retirement, landfill disposal costs and transportation costs. Results of this analysis ranged from $55 – $94 per ton to operate the proposed transfer station depending on the variable key factor applied.

All of the estimated costs were compared to the adjusted cost to transport and dispose of solid waste at the Montgomery County Transfer Station. This facility charges a fee of $50.25/ton for Clark County solid waste. In addition, in Section V, transportation cost savings were calculated that conservatively equaled $8.52 per ton. The combination of these two amounts yielded a breakeven total of $58.77 per ton that a proposed Clark County transfer station gate fee would need to meet to be competitive.

Section VIII presents the options available regarding the use of contracts and designations as it relates to District facilities for operations and flow control. In order for any District operations to be successful, there must be an adequate flow of materials for processing. All solid waste management facilities that process, dispose or transfer solid waste/recyclable materials require a certain level of volume (or throughput) to sustain the operation economically.

Ohio law authorizes solid waste districts to direct the flow of solid waste to public sector facilities. This power ensures that publicly-invested dollars have the requisite revenues to pay the debt for the facility.

Section IX presents a road map for decision making regarding the options for developing a transfer station in Clark County or remaining status quo.

The District decided to not pursue any of the options to develop a transfer station at this time but reserves the right to re-evaluate development of a facility in the future.

The following table summarizes the program details:

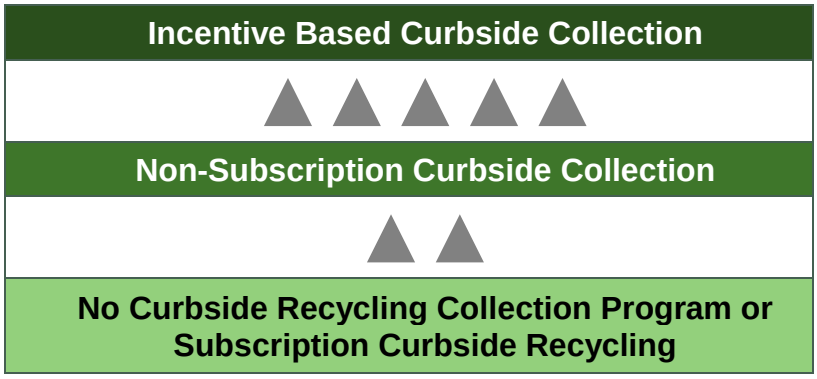
Business Paper Recycling Program Summary	
Description	Details
OEPA Program Number	8799, 8797, 8798
Entity Responsible for Maintaining Program	District

OTHER PROGRAMS

CC-17 Curbside Recycling Grants

The District provided economic incentives for political subdivisions to either start new programs or enhance existing programs that assist the District with maintaining or exceeding its goals as written in this *Plan Update*.

To achieve this objective, the District would award incentive funds based on the District's preferred curbside recycling program hierarchy:



To accomplish this goal, the District budgeted for one-time grants to communities that meet the objectives of this program. In order for political subdivisions to yield the best incentive payment for either new program creation or enhancements to existing programs, the District requires that the residents who use the program also pay for the program. Funds awarded under this program would be paid directly to the political subdivision upon award of a contract that meets the program objectives.

Curbside Recycling Grant Program

If a community creates a new curbside recycling program through either operating it themselves or contracting for the service with the private sector, the following table summarizes the one-time funds available for new program creation:

Qualified Programs	Funds for Populations 1 to 10,000 (Per Capita)	Funds for Populations 10,001 to 20,000 (Per Capita)	Funds for Populations > 20,000 (Per Capita)
IBCC	$10.00	$6.00	$1.60

Qualified Programs	Funds for Populations 1 to 10,000 (Per Capita)	Funds for Populations 10,001 to 20,000 (Per Capita)	Funds for Populations > 20,000 (Per Capita)
NSCC	$5.00	$3.00	$0.80

Under the above one-time grant per capita allowances, the political subdivisions in Clark County could realize the following total grant amounts:

Political Subdivision	2009 Population	IBCC Per Capita Allowance	NSCC Per Capita Allowance	IBCC One Time Grant	NSCC One Time Grant
Catawba	313	$10.00	$5.00	$3,130.00	$1,565.00
Clifton	48	$10.00	$5.00	$480.00	$240.00
Donnelsville	282	$10.00	$5.00	$2,820.00	$1,410.00
Enon	2,534	$10.00	$5.00	$25,340.00	$12,670.00
New Carlisle	5,617	$10.00	n/a	$56,170.00	n/a
North Hampton	352	$10.00	$5.00	$3,520.00	$1,760.00
South Charleston	1,773	$10.00	$5.00	$17,730.00	$8,865.00
South Vienna	449	$10.00	$5.00	$4,490.00	$2,245.00
Springfield	62,060	$1.60	$0.80	$99,296.00	$49,648.00
Tremont City	341	$10.00	n/a	$3,410.00	n/a
Bethel Twp.	12,488	$6.00	$3.00	$74,928.00	$37,464.00
German Twp.	7,234	$10.00	$5.00	$72,340.00	$36,170.00
Green Twp.	2,764	$10.00	$5.00	$27,640.00	$13,820.00
Harmony Twp.	3,254	$10.00	$5.00	$32,540.00	$16,270.00
Madison Twp.	1,143	$10.00	$5.00	$11,430.00	$5,715.00
Mad River Twp.	9,023	$10.00	$5.00	$90,230.00	$45,115.00
Moorefield Twp.	11,104	$6.00	$3.00	$66,624.00	$33,312.00
Pike Twp.	3,596	$10.00	$5.00	$35,960.00	$17,980.00
Pleasant Twp.	2,972	$10.00	$5.00	$29,720.00	$14,860.00
Springfield Twp.	12,324	$6.00	$3.00	$73,944.00	$36,972.00

The funds listed above were available on a first come first serve basis for qualifying programs. Funding was available only in 2015 and 2016. No communities applied for the grant in 2015 or 2016.

Program Summary	
Description	**Details**
OEPA Program Number	8787
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	$0.00

Program Summary	
Description	**Details**
Program Operator/Contractor	District

Strengths of the program include:

- Funding was available to all communities in the District for developing curbside recycling programs.

Challenges of the program include:

- The original schedule for grant applications has expired.
- Communities did not apply for the grant.

CC-18 Food Waste Management

The District was committed to growing the management of food waste and other organic waste materials in the County in 2015. To accomplish this goal, the following initiatives were conducted in 2015:

Work with Paygro to Promote Food Waste Recycling

The District hosted a brush collection bin for Paygro to supplement its food waste material in 2015. The District has a good relationship and helps coordinate pick up of the yard waste bins. The District promotes the compost recycling by providing information to local businesses, institutions, and residents who ask about the compost program. In Paygro's early years, the District worked to spread the word about their programs. At this point, Paygro is an established part of the District's recycling infrastructure.

Evaluation of Other Solid Waste District Activities for Food Waste

In 2015, the District staff attended training events at which food waste strategies were discussed.

Work with Paygro to Obtain Grants

The District informed Paygro of grant opportunities in 2015. No grants were applied for in 2015 by Paygro.

Community Promotion of Food and Organics Waste

For the Curbside Recycling Grant, the District promoted collection of food and organics waste. No grants were applied for in 2015.

Evaluation of Anaerobic Digestion Technology

The Waste Water Treatment Plants (WWTP) in Clark County was not generating energy using anaerobic digestion and therefore did not look for supplemental feed streams, like food scraps, to help co-generate power at this time. The District continued to look for partnerships that may lead to co-gen facilities at WWTPs in the County that could use food scraps.

District hosts a brush collection bin for Paygro to supplement its food waste material. The brush collection bin is meant primarily for residents. It supports Paygro's food waste management because they need more woody material to mix with the food waste.

Program Summary	
Description	**Details**
OEPA Program Number	8788, 8789, 8790, 8791, 8792
Entity Responsible for Maintaining Program	Private Sector
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	Included in District Administration
Program Operator/Contractor	Private Sector

Strengths of the program include:

- The District worked hard to engage in food waste management options and initiatives in the planning period and beyond.

Challenges of the program include:

- No meaningful programs or additional tonnage diverted resulted from the District efforts in 2015.

CC-19 Disaster Debris Management

Responding to natural disasters, such as flood events, tornados, and severe storms, requires a significant effort of coordination and time from all levels of government. Natural disasters including disease (pandemic bird flu) can also significantly impact communities and specifically solid waste services. Man-made disasters, although unlikely, may also require management of significant amounts of debris. The Ohio EPA is encouraging all solid waste management districts to outline a strategy and plans to be prepared in the event a natural or man-made disaster occurs.

Since 2010, the District has worked cooperatively with the Clark County Emergency Management Agency to develop a Disaster Debris Management Plan that was adopted in 2011. The Plan identifies the services and needs of the local jurisdictions in the event a debris management emergency or a solid waste management service emergency exists. The District acts as Debris Coordinator as part of the Emergency Operation Command in collaboration with the county EMA when called upon to do so in order to implement this Plan.

The Disaster Debris Management Plan provides guidance to officials in the event of a disaster event.

- Understanding the roles of various agencies in responding to a disaster event is important. The Plan identifies each organization and their potential role in a debris management emergency. These include the following:

    - Townships, villages and cities
    - The Clark County EMA
    - The Ohio EMA
    - The Federal EMA
    - The County Health Department
    - The Ohio EPA Southwest District Office
    - Landfill owners/operators
    - Composting facility owners/operators
    - Waste hauling companies

- Establishing and monitoring local collection areas.

- Assisting with coordination of response activities.

Clark County's Solid Waste District and Emergency Management Agency co-chair the Debris Management Planning Team. Complete team membership includes representation by the following: Clark County Solid Waste District, Clark County Emergency Management Agency, Clark County Combined Health District, Clark County Engineer, City of Springfield, and officials from local jurisdictions, Ohio Emergency Management Agency, and Ohio Environmental Protection Agency.

Specific Operations - Debris Operations

- Clark County Debris Coordinator (DC) will coordinate all disaster-related debris management activities and serve as technical advisor to local jurisdiction during debris generating events.
- The Debris Coordinator will be activated as soon as possible following the discovery that an event has generated debris that is hazardous or in large quantities.
- The Solid Waste District Director or designee will serve as the County DC, and will be responsible for operational functions;
    - Contact with each affected jurisdiction,
    - Scheduling and coordination of resources, and
    - Conducting debris operations to include debris quantity calculations using the Debris Calculation Worksheet located in the Debris Management: A Section of the Clark County Emergency Operations Plan.

District Roles and Responsibilities

- Provide a representative to serve on Debris Management Planning Team
- Serve as County Debris Coordinator for debris generating events.
- Coordinate Debris Managers in regards to contracted workers and government work forces through the County EOC.
- Coordinate debris management activities with affected jurisdictions by working with local area Debris Managers through the EOC.
- Prepare and submit debris calculations.
- Coordinate debris management plans.
- Provide monitors for temporary debris storage and reduction sites, as needed & if available.
- Participate in EOC Briefings.
- Provide information to the County PIO for publication and distribution.

The District allocated up to 5% of excess District funding or up to $15,000 for any potential disaster debris project in 2015. There was no need for emergency Clark County Disaster Debris funding in 2015.

Program Summary	
Description	**Details**
OEPA Program Number	8793
Entity Responsible for Maintaining Program	District
Service Area for Program	District
Materials Reduced/Recycled	N/A
2015 Recycled Tonnage	N/A
2015 Annual Program Costs	$0
Program Operator/Contractor	District

Strengths of the program include:

- The District budgeted funds to assist communities with solid waste disaster debris in 2015.

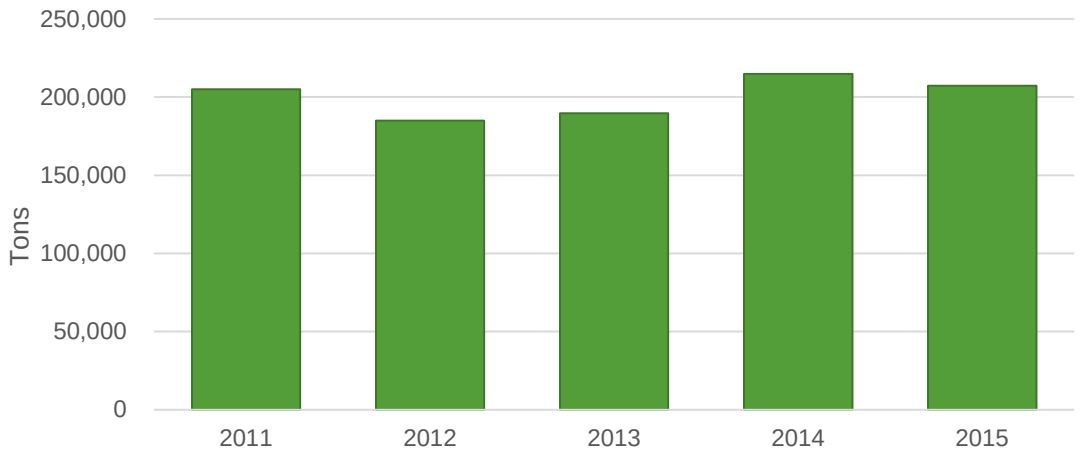
Challenges of the program include:

- None.

K. Total Waste Generation: Historical Trends Plus Waste Reduction

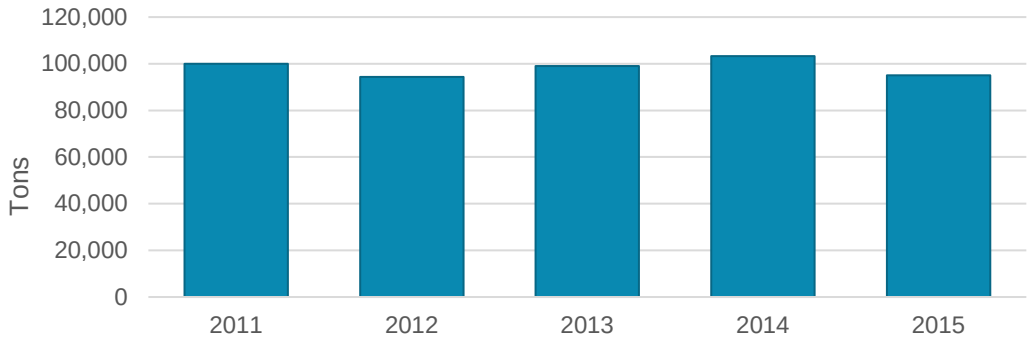
Table IV-7, "Total Waste Generation Based Upon Disposal Plus Waste Reduction", presents total waste generation based upon disposal plus waste reduction. In 2015, the District generated 207,165 tons of solid waste based on landfill disposal, yard waste composting and recycling. Since 2011, the District generated a high of approximately 214,877 tons in 2014 and a low of 184,954 in 2012. Waste generation has fluctuated over the past five years as depicted by the following graph.

District Historical Total Generation (2011-2015)



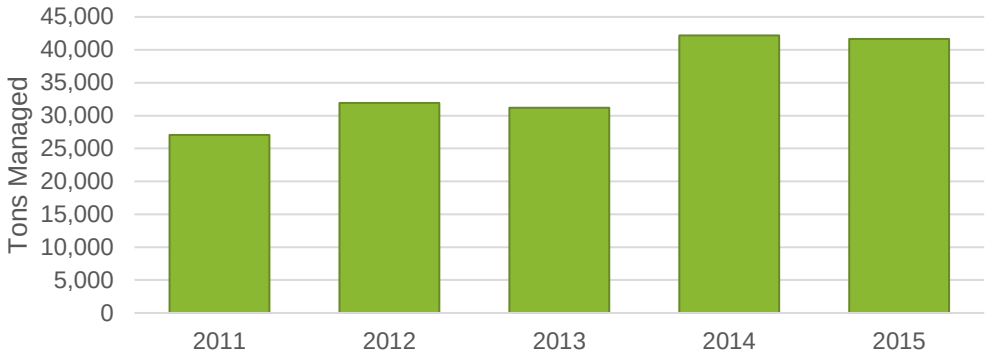
Landfilled waste tonnage has stayed level between 2011-2015. Landfilled waste has ranged from a high of 103,265 in 2014 to a low of 94,407 in 2012. The following graph depicts the historical landfill totals which include residential, commercial, industry, and exempt waste from 2011-2015.

District Historical Landfill Disposal (2011-2015)



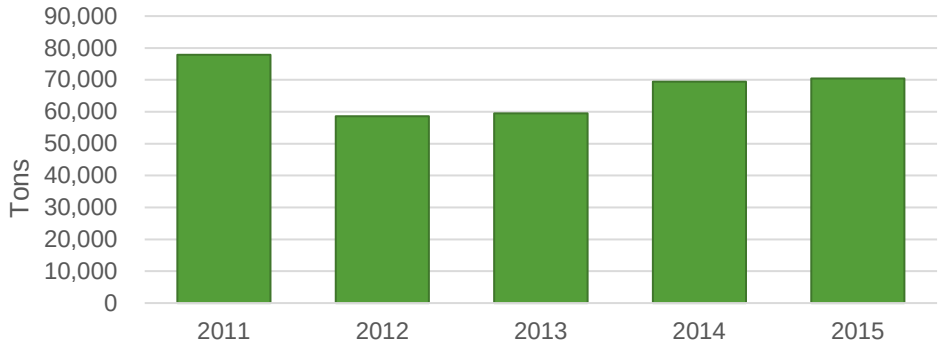
Yard waste generally increased from 2011-2015. A jump occurred from 2013 to 2014 by approximately 11,000 tons. Yard waste has ranged from a low in 2011 of 27,042 tons to a high of 42,167 in 2014. The following graph depicts the historical yard waste totals from 2011 – 2015.

District Historical Yard Waste Management (2011-2015)



Waste reduction had decreased from 2011 to 2012 but then rose steadily from 2012 – 2015. Waste reduction has ranged from a low in 2012 of 58,612 tons to a high of 77,882 in 2011. In 2015, the District reached up to 70,449 tons of resource reduction & recycling. The following graph depicts the historical waste reduction totals from 2011-2015.

District Historical Waste Reduction (2011-2015)



L. Reconciliation of Waste Generation

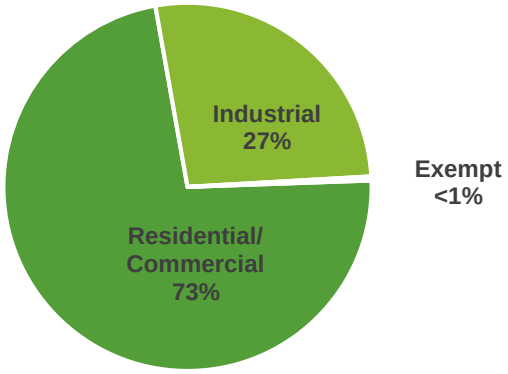
Table IV-8, “Adjusted Reference Year Total Waste Generation for the District”, presents adjusted reference year total waste generation for the District. This is based on actual reported recycling and disposal.

The District calculated waste generation using two methods. The first method outlined in Part E of this Section (see page IV-4) uses statewide generation estimates to determine industrial waste generation projections. Residential/commercial generation was determined based upon the rate of change in generation rate observed within the District during the past several years. Finally, exempt waste was obtained from actual landfill and transfer station operating reports. Using this methodology, the District estimated 307,283 tons of solid waste generated in 2015. The resulting total generation rate was 12.39 pounds per person per day (Table IV-4).

The second method used to calculate solid waste generation is based on actual reported recycling and disposal in the District during the reference year (Table IV-8). For 2015, District residents, businesses, and industry generated 207,165 tons. The total generation rate was 8.35 pounds per person per day (Table IV-8), which includes recycling and waste disposal from all sectors. The residential/commercial sector generated 150,723 tons or 6.08 pounds per person per day, which includes recycling and yard waste composting. Industrial generation was calculated to be 55,711 tons or approximately 2.25 pounds per person per day. Exempt waste generation was 731 tons or approximately 0.03 pounds per person per day.

The District selected the second method as the most accurate method of projecting waste generation because waste at the landfills and transfer stations is weighed. This method of collecting solid waste data has been fairly consistent for several years. The first method of projecting waste generation is based on surveys, projections, and secondary data sources, which are generally not as accurate as actually weighing the materials. The following figure depicts the reference year waste generation by sector based upon using the second method of waste generation estimation.

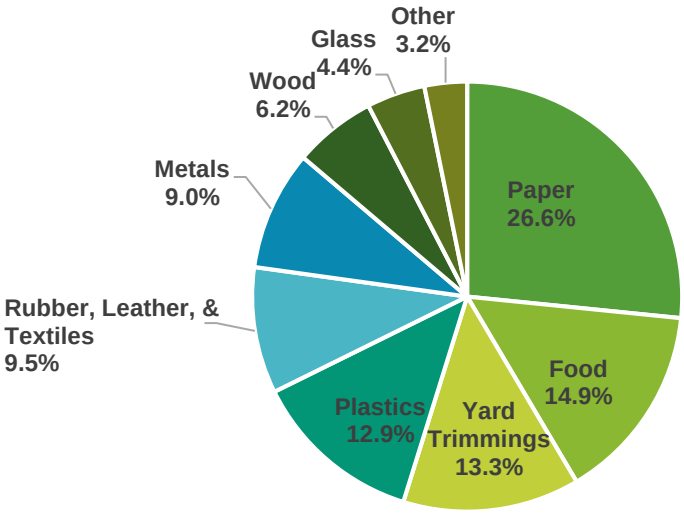
Adjusted Waste Generation by Sector (2015)



M. Waste Composition

The District estimated the composition of the total residential/commercial waste stream in Table IV-9, "Estimated Residential/Commercial Waste Stream Composition for the District for the Reference Year", using the most recently available national averages from US EPA (2013). The averages represent the total tons of waste materials generated before recycling. The largest component of the residential/commercial waste stream is projected to be paper and paperboard at 26.6% (40,092 tons), followed by food waste at 14.9% (22,458 tons), and yard trimmings at 13.3% (20,046 tons). The following figure presents the residential/commercial waste composition for the reference year.

District Estimated Residential/Commercial Waste Stream Composition (2015)



Similar to the residential/commercial waste stream, the purpose for reviewing the industrial waste stream is to determine what types of materials comprise the largest volumes and then determine if the necessary programs are in-place to manage these materials.

Industrial waste composition was estimated based on the amount of industrial waste that was landfilled and recycled (Table IV-10). Information for recycling was obtained from industrial facilities responding to the survey effort. Non-hazardous waste, concrete, ash and sludge were eliminated from the acceptable waste materials for recycling calculations only. All recycled materials are provided as actual totals. The remainder of material disposed in the landfill is categorized as general solid waste.

The largest component of the District's industrial solid waste stream was ferrous metals (18,457 tons). Food represented the next largest component of the industrial waste stream at 15,126 tons. The following figure presents the industrial waste composition for the reference year.

District Estimated Industrial Waste Stream Composition (2015)

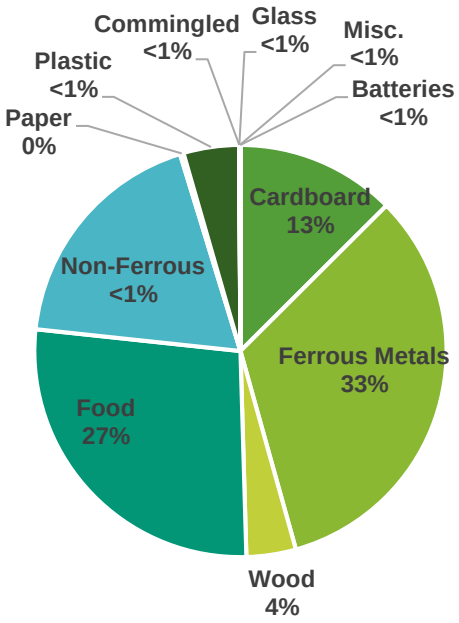


Table IV-1
Reference Year Population and Residential/Commercial Generation

County/Community Name	2015 Population		2015 Generation Rate (lbs/person/day)	2015 District Residential/Commercial Generation (Tons)
	Before Adjustment	After Adjustment		
Clark County	135,959	135,959	6.07	**150,584**
Clifton		(47)		
Total		**135,912**		

Source(s) of information:
Population - Ohio Development Services Agency Office of Research, "2015 Population Estimates by County, City, Village, and Township", May 2015;
Generation Rate - 2015 residential/commercial generation rate was calculated using the District's average change in per capita generation rate from 2011 through 2014 as reported on Ohio EPA's ADR Review Forms.

Adjustments:
Note: The Villages of Clifton had more than 50% of their population living outside Clark County. Therefore, the portion of Clifton in Clark County was subtracted from the population.

Example calculations:

$$\text{Total Res/Com Generation} = \frac{\text{Population} \times \text{Generation Rate (lbs/person/day)} \times 365 \text{ (days/year)}}{2{,}000 \text{ (lb/ton)}}$$

$$150{,}584 \text{ tons} \qquad \frac{135{,}912 \times 6.07 \times 365}{2{,}000}$$

Table IV-2
Industrial Waste Generation Survey Respondents vs. Unreported

Standard Industrial Classification (SIC) Code	Survey Respondents				Amounts Based Upon Secondary Data (Unreported)				Total Industrial Waste Generated
	# of Industries	# of Employees	Tons of Waste Generated	Generation Rate (T/employee)	# of Industries	# of Employees	Generation Rate (T/employee)	Tons of Waste Generated	
20	2	820	13,964	17.03	15	1,341	13.92	18,667	32,631
22	0	0	0	0.00	1	10	9.99	100	100
23	0	0	0	0.00	2	8	2.80	22	22
24	1	24	314	13.07	10	123	51.62	6,349	6,663
25	0	0	0	0.00	1	25	1.79	45	45
26	2	127	5,241	41.27	4	133	17.50	2,328	7,569
27	1	30	5	0.17	19	206	6.70	1,380	1,385
28	2	120	1,238	10.32	5	136	12.43	1,690	2,929
29	0	0	0	0.00	1	30	7.33	220	220
30	3	395	2,086	5.28	10	561	7.29	4,090	6,176
31	0	0	0	0.00	0	0	3.41	0	0
32	0	0	0	0.00	4	24	10.55	253	253
33	1	20	1,752	87.60	11	300	36.93	11,079	12,831
34	9	572	12,007	20.99	37	1,252	11.16	13,972	25,979
35	9	735	2,579	3.51	49	1,471	5.72	8,414	10,993
36	0	0	0	0.00	2	23	2.98	69	69
37	3	2,032	10,917	5.37	8	2,223	3.21	7,136	18,053
38	0	0	0	0.00	3	31	1.74	54	54
39	2	132	1,501	11.37	19	664	4.62	3,068	4,569
Total	**35**	**5,007**	**51,605**	**10.31**	**201**	**8,561**	**N/A**	**78,935**	**130,540**

Source(s) of information:
2015 District Industrial survey responses
Total number of industries and employees as obtained from the Reference USA online database.
Appendix JJ-2 from the Ohio EPA Plan Format 3.0 was used to calculate the unreported data for the Generation Rate (T/employee).

Example calculations (SIC 20):

Survey Respondents:

$$\text{Generation Rate} = \frac{\text{Waste Generated}}{\text{\# of Employees}}$$

$$17.03 \text{ lbs/person/day} = \frac{13{,}964 \text{ tons}}{820 \text{ employees}}$$

Non-Respondents:

Generation Rate x Number of Employees (Unreported) = Tons of Waste Generation

13.92 x 659 = 9,173 tons

Table IV-3
Exempt Waste Generated in the District and Disposed in Publicly Available Landfills

Type of Waste Stream	Generation Rate (lb/person/day)	Total Exempt Waste Generation (TPY)
Construction/Demolition	0.03	731
Total	0.03	**731**

Source(s) of information: Table III-1

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Exempt Waste (tons/yr)} \times 2{,}000 \text{ (lb/ton)}}{\text{Population} \times 365 \text{ days/yr}}$$

Example calculation:

$$0.03 = \frac{731 \times 2{,}000}{135{,}912 \times 365}$$

Table IV-4
Reference Year Total Waste Generation for the District

Type of Waste	Generation Rate (lbs/person/day)	Tons/Year
Residential/Commercial	6.07	150,584
Industrial	5.26	130,540
Exempt	0.03	731
Total Waste Generation	**11.36**	**281,855**

Source(s) of information:
Residential/Commercial - Table IV-1
Exempt - Table IV-3
Industrial - Table IV-2

Example calculation (Industrial):

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Industrial Waste (tons/yr)} \times 2{,}000 \text{ (lb/ton)}}{\text{Population} \times 365 \text{ days/yr}}$$

$$5.26 = \frac{130{,}540 \times 2{,}000}{135{,}912 \times 365}$$

Table IV-5
Reference Year Residential/Commercial Waste Reduction in the District

Type of Waste Source Reduced	TPY	Type of Waste Recycled	TPY	Incineration, Composting, Resource Recovery		
				Total Waste Received	Residual Landfilled	Net Waste Reduced
None	0	Cardboard	6,853	Incineration	Ash	Net Incineration*
		Paper	1,282	0	0	0
		Scrap tires	1,479	Composting	Residuals	Net Compost
		Glass	271	41,632	0	41,632
		Wood	246	Resource Recovery	Ash	Net Resource
		Plastic	179	0	0	0
		Food	5,514			
		Other	1,493			
		Ferrous	156			
		Appliances	949			
		Non-Ferrous	294			
		HHW	15			
		Used Oil	0			
		Electronics	112			
		Batteries	0			
Subtotal	**0**		**18,844**	**41,632**	**0**	**41,632**
Grand Total						**60,476**

Source(s) of information:
2015 District Annual Report and Residential/Commercial Surveys

Table IV-6
Reference Year Industrial Waste Reduction in the District

Source Reduction	TPY	Type of Waste Recycled	TPY	Incineration, Composting, Resource Recovery		
				Total Waste Received	Residual Landfilled	Net Waste Processed
None	0	Ferrous	17,373	Incineration*	Ash	Net Incineration
		Food	13,849	0	0	0
		Non-Ferrous	9,014	Resource	Ash	Net Resource
		Cardboard	6,417	0	0	0
		Plastic	2,223	Composting	Residuals	Net Composted
		Wood	2,098	0	0	0
		Other	480			
		Paper	142			
		Commingled	10			
		Glass	0.02			
Subtotal	**0**		**51,605**	**0**	**0**	**0**
Grand Total						**51,605**

Source(s) of information:
2015 District Annual Report and Industrial Surveys

Table IV-7
Total Waste Generation Based Upon Disposal Plus Waste Reduction

Year	Management Method Used (TPY)								Total Waste Generation
	Source Reduction & Recycling			Yard Waste Composting	Landfill Disposal				
	Res/Com	Industrial	Total		Res/Com	Industrial	Exempt	Total	
2011	21,963	55,919	77,882	27,042	93,187	1,646	5,209	100,042	204,966
2012	13,629	44,983	58,612	31,935	92,114	1,974	319	94,407	184,954
2013	13,392	46,076	59,468	31,176	90,787	6,861	1,355	99,003	189,647
2014	17,840	51,605	69,445	42,167	89,137	4,180	9,948	103,265	214,877
2015	18,844	51,605	70,449	41,632	90,247	4,106	731	95,083	207,164

Source(s) of information:
District Annual Reports and Ohio EPA Facility Data Reports.

Sample calculation (2015):

Total waste generation = Total source reduction & recycling + yard waste composting + total landfill disposal

207,164 tons = 70,449 tons + 41,632 tons + 95,083 tons

Table IV-8
Adjusted Reference Year Total Waste Generation for the District

Type of Waste	Generation Rate (lbs/person/day)	Tons/Year
Residential/ Commercial	6.08	150,722
Industrial	2.25	55,711
Exempt	0.03	731
Total Waste Generation	**8.35**	**207,164**

Source(s) of information:
Exempt -Table IV-3
Residential/Commercial and Industrial - Tables III-1, IV-5 and Table IV-6

Example Calculation:

$$\text{Generation Rate (lbs/person/day)} = \frac{\text{Total Waste (tons/yr) x 2,000 (lb/ton)}}{\text{Population x 365 days/yr}}$$

$$8.35 = \frac{207{,}164 \times 2{,}000}{135{,}912 \times 365}$$

Table IV-9
Estimated Residential/Commercial Waste Stream Composition for the District for the Reference Year

Waste Stream Type	Percentage of the Waste Stream	Tons
Paper	26.6%	40,092
Food	14.9%	22,458
Yard Trimmings	13.3%	20,046
Plastics	12.9%	19,443
Rubber, Leather, & Textiles	9.5%	14,319
Metals	9.0%	13,565
Wood	6.2%	9,345
Glass	4.4%	6,632
Other	3.2%	4,823
Totals	**100.0%**	**150,722**

Source(s) of information:
Total tons - Table IV-8
Total MSW Generation (by material) from US EPA Municipal Solid Waste Generation, Total MSW Generation (by material) 2014 (before recycling)

Table IV-10
Estimated Industrial Waste Composition for the Reference Year in the District

Waste Stream Type	TPY	Waste Stream Type	TPY	Waste Stream Type	TPY
Cardboard	6,927	Paper	153	Misc.	518
Ferrous Metals	18,756	Plastic	2,400	Batteries	0.01
Wood	2,265	Commingled	11	Non-Ferrous Metals	9,731
Food	14,951	Glass	0.02		
Subtotal	42,898	**Subtotal**	2,564	**Subtotal**	10,248.98
Grand Total					**55,711**

Source(s) of information:
Tons generated - Appendix F
Each industrial waste component was projected using the adjustment factor to account for non-respondent industries.

Example Calculation:

$$\text{Adjustment Factor} = \frac{\text{Total Industrial Waste Generated (Table IV-8)}}{\text{Total Industrial Waste Generated (Table IV-2 - Survey)}}$$

Adjustment Factor = 1.0796 = 55,711 tons ÷ 51,605 tons

Type of Industrial Waste Generated (tons) = Type of Industrial Waste Generated (Appendix F) x Adjustment Factor

6,927 (tons of cardboard) = 6,416.68 (tons of cardboard from Appendix F) x 1.0796

V. Planning Period Projections and Strategies [ORC Section 3734.53(A)(5)-(6)]

This Section of the *Plan Update* includes population projections for the District, including a community that is located in more than one county. Projections and estimates are also provided for solid waste generation and recycling for the planning period. Existing District programs and activities that will continue are presented. Most of the detailed descriptions for existing programs refer the reader back to Section IV for details. The details for new programs and activities are described in this section of the *Plan Update*.

A. Planning Period

Solid waste management plans must provide projections for population, waste generation, and waste reduction for a planning period covering a minimum of ten years. Plans must also provide strategies to manage the District's current and foreseen waste management needs of the residents, businesses, and institutions. This *Plan Update* is based on a fifteen-year planning period. The planning period for this *Plan Update* is January 1, 2019 to December 31, 2033. The projections and tables in this *Plan Update* include the years 2015 through 2033.

B. Population Projections

The District's population projections from the reference year (2015) through the end of the planning period are presented in Table V-1. The Ohio Development Services Agency's (ODSA) 2015 population estimates by county, city, village, and township were used to calculate a base population for the District. Using a second ODSA publication which presents population projections by county in 10-year intervals from 2010 to 2040, District population projections were interpolated for intermediate years using a straight-line average.

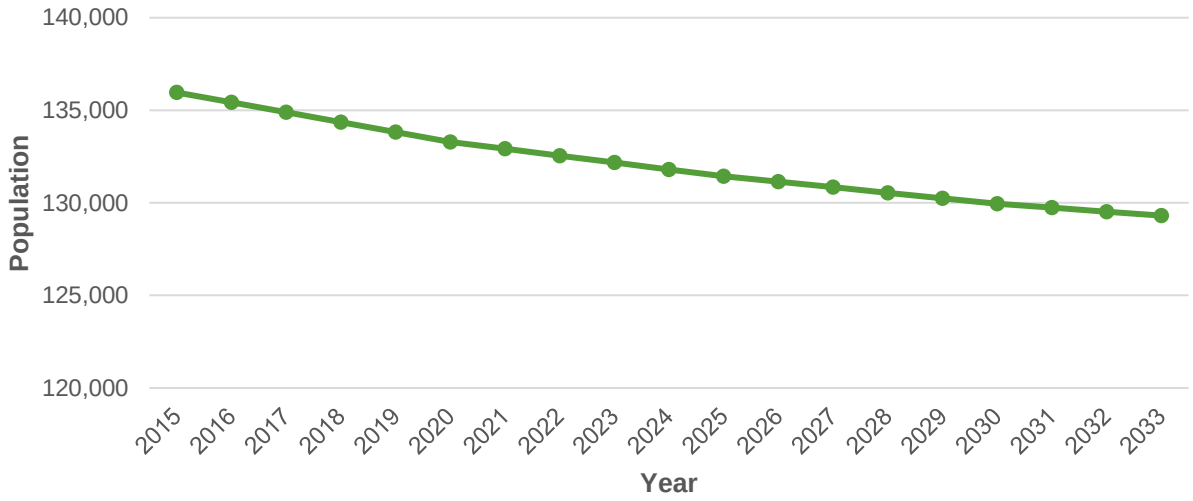
Ohio Law requires that the population of a political subdivision that lies within two or more solid waste management districts shall be credited to the district where the majority of the population resides. The District's reference year population was therefore adjusted from Clark County's base population of 135,959 to exclude the portion of the Village of Clifton's population residing in Greene County (47) because the majority of this political subdivision's residents live outside Clark County. The District's total adjusted reference year population was 135,912.

Population is expected to decrease throughout the planning period. Population is expected to decrease by 4,510 residents or 3% throughout the planning period. The District is projected to start the planning period in 2019 with a population of 133,774 and end in 2033 with a total population

of 129,264. The following figure presents the estimated District population from the reference year to the end of the planning period.

The following graph depicts the estimated total District population throughout the planning period.

Figure V-1 – District Population Estimate (2015 – 2033)



C. Waste Generation Projections

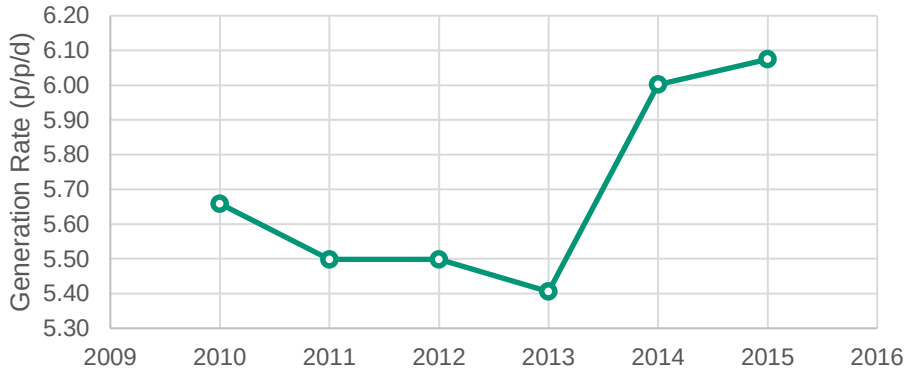
1. Residential/Commercial Sector

The District's residential/commercial waste generation projections are presented in Table V-2, "District Residential/Commercial Waste Generation (TPY)." Waste generation is presented for the 2015 reference year and each subsequent year through 2033. In 2015, the District calculated the per capita generation rate based on Ohio EPA's Facility Data Reports for disposal and from the District's 2015 Annual District Report for recycling (with adjustments). The following data was used for this calculation:

2015 Disposal tonnage:	90,247 tons
2015 Recycling tonnage:	60,476 tons
2015 Total generation:	150,723 tons
2015 Residential/commercial per capita generation rate:	6.08 pounds

Historic generation rates among the residential/commercial sector have fluctuated; rates increased from 2013 to 2014; in 2015, the residential/commercial sector generated 150,723 tons, a 1.2% increase from the previous year (see following figure).

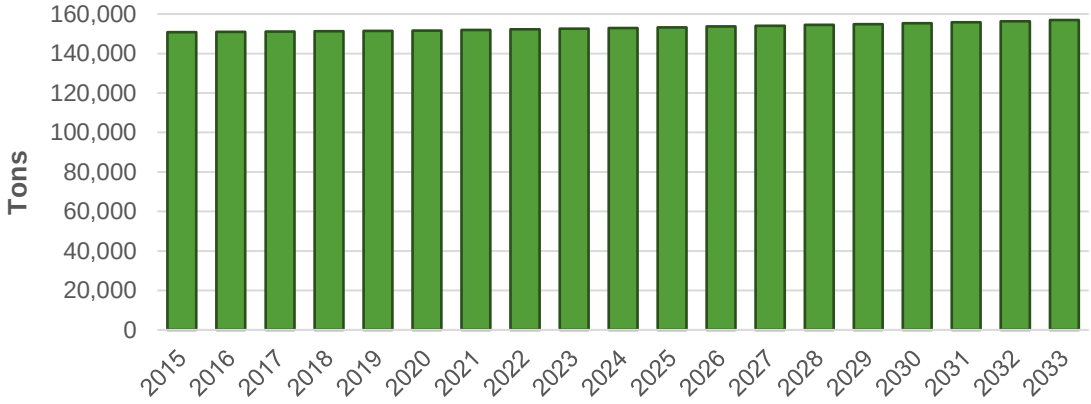
Figure V-2 – 2010-2015 District Residential/Commercial Per Capita Daily Generation Rates



Per capita generation rates have increased, on average, by 1.5% annually from 2011-2015 and -.1% annually if 2010 was included in the average.

Table V-3 presents the residential and commercial sector waste generation projections for the reference year through the end of the planning period. This table includes the actual generation amounts for 2015. In order to be conservative, the District has applied an annual increase of .5 percent per year to the 2015 generation rate to calculate the generation rate for years 2016 through 2033. The District believes that the actual average annual change in the generation rate of 1.5 percent discussed above would result in an unrealistic large increase in R/C generation.

Figure V-3 – District Residential/Commercial Waste Generation (2015 – 2033)



2. Industrial Sector

The District's industrial waste generation projections are presented in Table V-3. Industrial waste generation is presented by Standard

Industrial Classification (SIC) code for the 2015 reference year through 2033.

The industrial waste generated by each SIC code in 2015 is based on the ratio of waste reported by industries in industrial SIC codes in Table IV-2. The totals have been adjusted to correspond to the total industrial waste generation in Table IV-8, which is based on volumes recorded by landfills and transfer stations, plus recycling and composting.

Industrial waste generation projections are based on historical data trends. The following table presents the District's historic generation totals for the industrial sector.

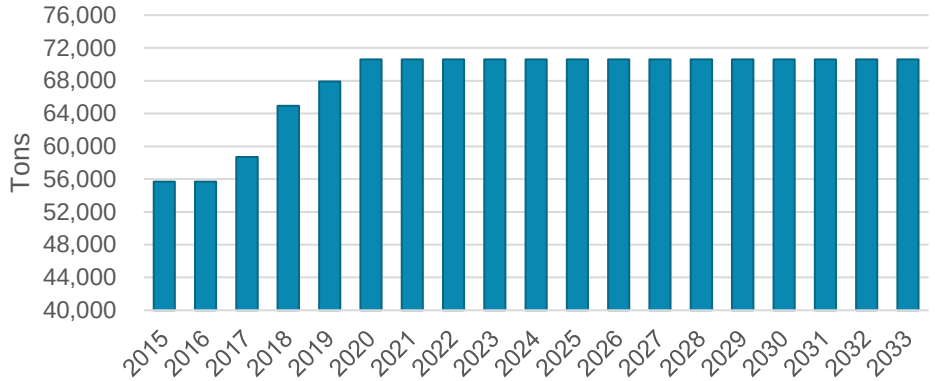
Table V-3A – 2011-2015 District Industrial Sector Generation

Year	Recycling	Disposal	Total Generation
2011	55,919	1,646	57,565
2012	44,983	1,974	46,957
2013	46,076	6,861	52,937
2014	51,605	4,180	55,785
2015	51,605	4,106	55,711
Average	***50,038***	***3,753***	***53,791***

Recycling and disposal in 2020 are projected to be equal to the average tons generated from 2011 to 2015. Generation projections were interpolated for intermediate years using a straight-line average.

The District projects industrial waste decrease from 55,711 tons in 2015 to 53,774 tons in 2020, then remain constant. The following figure presents the estimated industrial waste generation throughout the planning period.

Figure V-4 – Industrial Generation (2015 – 2033)

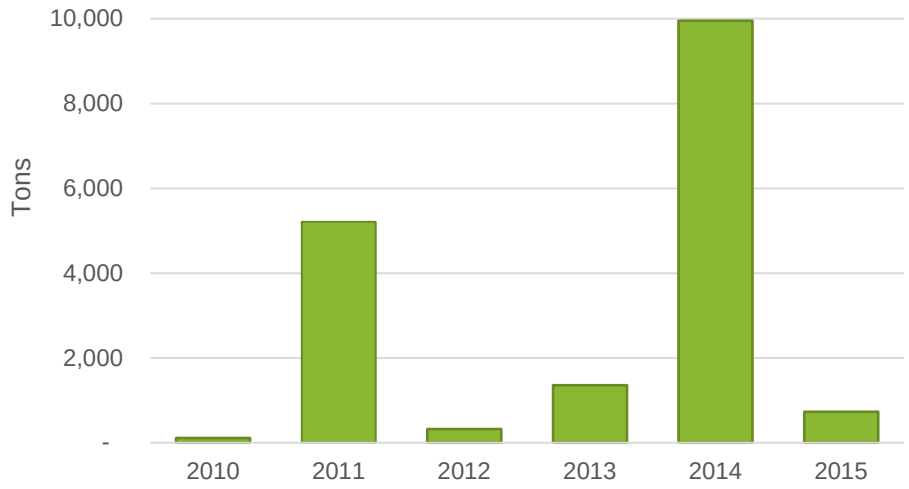


3. Total Waste Generation

Total waste generation projections for the District during the planning period are presented in Table V-4. In 2015, the District generated a total of 207,165 tons. This includes residential/commercial waste (150,723 tons), industrial waste (55,711 tons), and exempt waste (731 tons).

Exempt waste does not have a direct correlation to population or market/economic factors. Exempt waste is a term used to describe construction and demolition debris, nontoxic fly ash and bottom ash, spent nontoxic foundry sand, slag, and other materials excluded from the definition of solid waste in the Ohio Revised Code (ORC) § 3734.01(E). The figure below presents the District's exempt waste generation totals from 2010 to 2015.

Figure V-5 – 2010-2015 District Exempt Waste Generation

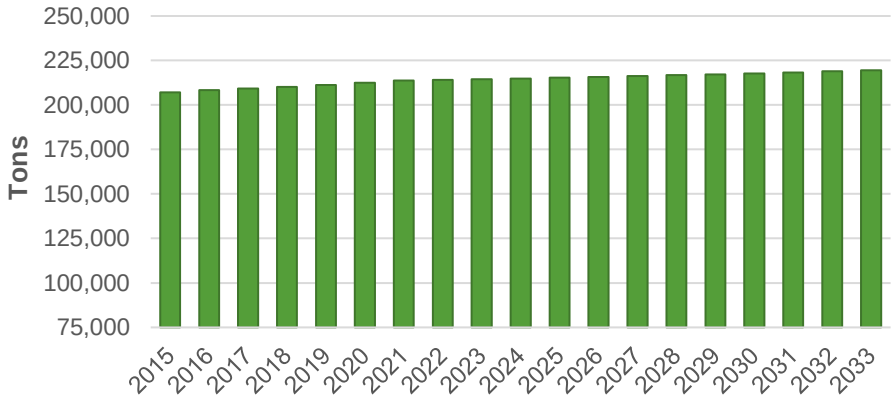


Generation patterns have varied from 2010 to 2015 and increased significantly in 2014. Exempt waste in 2020 was projected using the 2015 tonnage and the population projections. Generation projections were applying the average decrease of population per year (0.3%) to the Exempt Waste.

The overall generation rate which includes residential/commercial, industrial, and exempt waste generation in pounds per person per day (PPD) for the reference year is 8.35. The projected per capita generation rate will increase slightly to 10.00 PPD in the final year of the planning period. Total waste generation is projected to increase from 207,165 tons in the first year of the planning period (2019) to 213,592 tons in the last year of the planning period (2033), which is an increase of 6,427 tons or 3.1%.

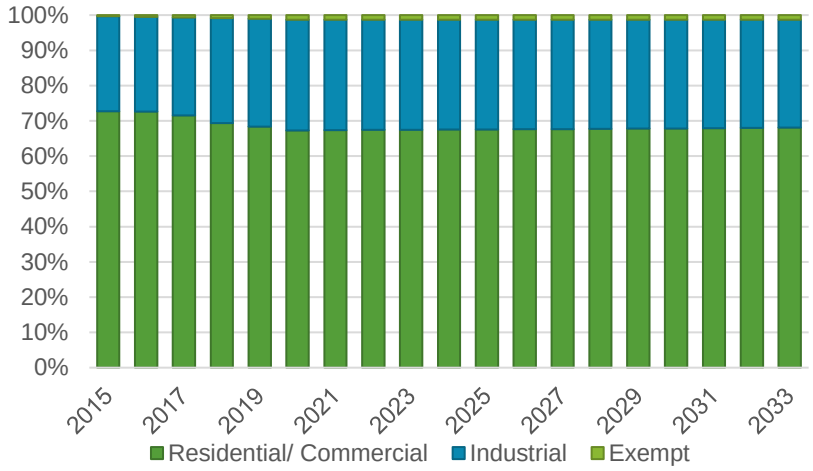
The following figure presents the District's total waste generation projections throughout the planning period.

Figure V-6 – Total District Waste Generation Projections (2015 – 2033)



The following figure presents waste generation by sector as a percentage of the District's total waste generation.

Figure V-7 – District Total Waste Generation Distribution (2015 – 2033)



D. Projections for Waste Stream Composition

The District does not anticipate any major changes in the composition of the waste stream during the planning period. However, a change in economic conditions or the closure of a plant could greatly impact the industrial as well as residential/commercial projections.

Responses to the District's annual survey should alert the District to any major changes generation or waste stream composition. Any significant changes will be noted in the Annual Report.

E. Waste Reduction and Recycling Strategies through the Planning Period

The District must continue to develop recycling and waste reduction strategies to meet the goals established in the *1995 State Plan.* The goals include:

Goal #1 **Access to Alternate Waste Management Opportunities**

- The District shall provide access to recycling and waste minimization opportunities for municipal solid waste to its residents and businesses. At a minimum, the District must provide access to recycling opportunities to 90% of its residential population.

Goal #2 **Waste Reduction and Recycling Rates**

- The District shall reduce and/or recycle at least 25% of the solid waste generated in the residential/commercial sector and at least 50% of the solid waste generated in the industrial sector.

Goal #3 **Source Reduction**

- Provide informational and technical assistance on source reduction.

Goal #4 **Technical and Informational Assistance**

- Provide informational and technical assistance on recycling, reuse and composting opportunities.

Goal #5 **Restricted Wastes and Household Hazardous Waste**

- Develop strategies for managing scrap tires, yard waste, lead acid batteries and household hazardous waste (HHW).

Goal #6 **Annual Reporting of Plan Implementation**

- Districts are required to submit an annual report to Ohio EPA.

Goal #7 **Market Development Strategy (Optional)**

- The following table summarizes all of the District strategies for meeting the 1995 State Plan Goals:

Table V-2 – District Strategies for Meeting 1995 State Plan Goals

Program	Program #	1995 State Plan Goals						
		#1	#2	#3	#4	#5	#6	#7
Clark County Recycling Center	CC-1		✓					
Curbside Recycling	CC-2	✓	✓					
Drop-Off Recycling	CC-3	✓	✓					
Yard Waste Management	CC-4		✓					
Household Hazardous Waste Collection	CC-5		✓			✓		
Electronics Recycling	CC-6		✓			✓		
Lead-Acid Battery Recycling	CC-7		✓			✓		
Scrap Tire Collection	CC-8					✓		
Government Office Paper Recycling	CC-9		✓					
Business Paper Recycling	CC-10		✓					
Education and Awareness	CC-11			✓	✓			
Business Waste Reduction Assistance (BWRAP)	CC-12		✓	✓	✓			
Litter Prevention/Clean-Up Programs	CC-13							
Health Department Funding	CC-14							
Legal and Consulting	CC-15							
Other Facilities	CC-16							
Curbside Recycling Grants	CC-17	✓	✓					
Food Waste Management	CC-18							
Disaster Debris Management	CC-19							
Number of Strategies Per Goal		**3**	**14**	**2**	**2**	**4**	**0**	**0**

Residential/Commercial Waste Reduction/Recycling and Education Strategies

The District's residential/commercial waste reduction strategies are presented in Table V-2. Residential curbside programs are projected to decrease on an escalating basis by projected population change. For the purposes of this planning document, from 2019 – 2028 the curbside programs are projected to decrease by 0.3% each year (the same rate as population increase), from 2019 – 2028 by 0.3% each year and level off at 2028. In the 2017, two drop-off programs were started. These drop-off programs are projected to take 5 years (until 2022) to reach the average tonnage capacity as the three other drop-off programs in the District. This was taken into consideration for the time to educate and increase awareness in the communities where the two newer drop-offs are located.

All other programs are projected to decrease 0.3%, the same rate as the decrease in population. The District projects to slightly decrease residential/commercial recycling from 58,913 tons in 2019 to 57,671 tons by 2033.

RESIDENTIAL/COMMERCIAL RECYCLING AND COLLECTION PROGRAMS

The District's primary strategy for this *Plan Update* is to continue with the successful core programs detailed in Section IV with a few exceptions and modifications. The District is committed to implementing these programs and to continue their success throughout the planning period.

The following section details the specific initiatives by program that will be implemented during the planning period. In addition, the District evaluated each of the programs in Section IV for their strengths and challenges. The results of this analysis assisted the District with the improvements of the programs contained in this section.

Unless a program is new or a change is being initiated, this section does not provide the details of how each program operates, as that information is contained in Section IV.

1. CC-1 – Clark County Specialty Recycling Center

(State Plan Goal #2)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

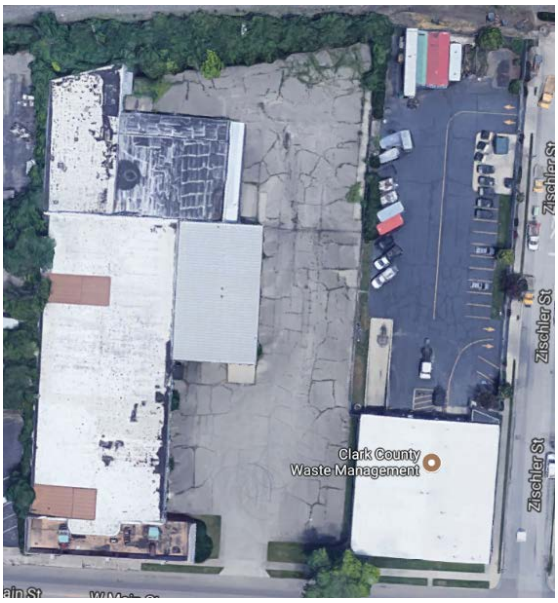
- The facility has reached its capacity for storage and growth.
- Additional special materials and services cannot be added based on limitations of the facility.

To address these challenges, the District will design, implement, review, and improve the following strategies:

<u>Initiative CC-1.1:</u> Clark County Special Recycling Center Expansion

In 2017, the District began the process to acquire the adjacent property to the west of the Clark County Specialty Recycling Center (CCSRC). The property was purchased officially by October of 2017 for a purchase price of $42,000. The purchase occurred through the Clark County Land Bank.

The Policy Committee began discussions on the potential use of the property in late 2017. The following aerial photograph (from Google Maps) depicts the new property (left on picture) and the current District CCSRC (right on picture):



The Policy Committee identified the following potential initiatives, programs, services and or facilities that could be considered for the new property:

- Operate an exempt transfer station for trash, bulk materials. Tag system for procurement (sell tags that would be affixed to items showing item has been paid for disposal)
- Develop and operate a recycling transfer station
- Create a re-use store for household hazardous waste materials that are still usable
- Develop food waste processing system (in vessel) and accept food waste from District generators
- Develop a yard waste drop-off site
- Purchase a grinder/shedder for brush and consolidate yard waste
- Develop and operate a textile recycling program
- Offer recycling of farm “ag” plastics and flower pots
- Develop a mattress recycling program
- Create a re-use store and/or makers space for furniture, appliances and other household items
- Purchase additional properties adjacent to the new property and CCSRC for future solid waste transfer facility
- Other initiatives, programs, services and or facilities as identified

The Policy Committee and Technical Advisory Council reviewed the list of potential ideas for the use of the new property 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 that was used to prioritize the list was as follows:

- The ranking consisted of each member of the Policy Committee and Technical Advisory Council assigning a value of between 1 and 5 to each idea with 5 being the highest priority and 1 being the least.

- The results of this prioritization process and the programs/initiatives are as follows in the order of most important to least important:

    1. Develop and operate a recycling transfer station
    2. Operate an exempt transfer station for trash, bulk materials. Tag system for procurement
    3. Purchase additional properties adjacent to the new property and CCSRC for future solid waste transfer facility
    4. Create a re-use store for household hazardous waste materials that are still usable
    5. Develop a mattress recycling program
    6. Purchase a grinder/shedder for brush and consolidate yard waste
    7. Develop food waste processing system (in vessel) and accept food waste from District generators
    8. Develop a yard waste drop-off site
    9. Offer recycling of farm “ag” plastics and flower pots
    10. Develop and operate a textile recycling program
    11. Create a re-use store and/or makers space for furniture, appliances and other household items

Based on the above list and further discussions, the District reserves the right to implement one or more of the above identified initiatives, programs, services and or facilities on the new property, existing property and or any future purchased properties during the planning period. The complexities of developing the property(s) and time to address the following action items will require maximum flexibility in this *Plan Update* for the development and implementation of any given item listed above:

- Planning for existing structures for either demolition and or improvements
- Planning for site use based on final initiative, program,

services and or facility selection(s)
- Cost/benefit analysis conducted on any initiative considered for implementation
- Feasibility analysis as needed
- Equipment purchases and installment
- Contractor procurement
- Planning for promotion of new initiative, program, service and or facility
- Implementation of promotion
- Other activities as needed

The District anticipates deciding on the best use of the property in late 2018 or early 2019. Development planning for the site would begin in 2019-2020 with a final operation not anticipated until the next plan update period. The District reserves the right to develop the property sooner or later than the above projections based on actual data and information and decision-making processes. The District also reserves the right to not develop the site if deemed in the best interest of the District.

The District reserves the right to utilize the new property and associated buildings in support of the existing Specialty Recycling Facility for a variety of operations including but not limited to:

- Storage and processing of recyclable materials
- Baling of cardboard and other recyclable materials
- HHW processing, storage and servicing of participants to the program
- Other operations that are included in the Plan Update

2. CC-2 – Curbside Recycling Program
(State Plan Goals #1 and #2)

This program will continue during the planning period.

Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The District efforts to promote curbside recycling development have not yielded any new programs to date.
- Only 2 communities in the District have non-subscription curbside recycling.
- Subscription curbside recycling data is not directly available to measure the success of the program.

The District's overall goal for the planning period is to maintain all existing curbside programs, enhance or upgrade them if possible, add new programs and increase participation. The following strategies and initiatives may be conducted throughout the planning period to accomplish this goal.

Initiative CC-2.1: Curbside Recycling Technical Assistance

The District will continue to work with political subdivisions in the county to promote and support curbside recycling. The District's main objective with this program is to increase the availability of curbside recycling in the county as well as to improve participation.

Implementation: 2019-2033

Initiative CC-2.2: Take it to the Curb Promotion

The District will continue to promote the message that the Take it to the Curb campaign developed to promote and support curbside recycling expansion.

Implementation: 2019-2033

3. CC-3 – Drop-off Recycling Program
(State Plan Goals #1 and #2)

This program will continue (see description in Section IV).

- Because of the high use of the original sites, additional sites were needed to meet demand. Additional sites were added in 2017 to improve this program.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Facility/Activity Name, Address, Phone	Type	Types of Materials Accepted											Hours Available to Public
		AC	GL	PL	OCC	SC	LAB	MxP	ST	WG	OM	Oth	
Clark County Solid Waste Management District Northridge Recycling Station 1539 Student Avenue Springfield, OH 45503 937-521-2020	PA, DO	X	X	X	X	X		X					24 hours/day 7 days/week
Clark County Solid Waste Management District Mad River Township Recycling Station 7952 Dayton-Springfield Road Fairborn, OH 45324 937-521-2020	PA, DO	X	X	X	X	X		X					Open during daylight hours
AC = aluminum containers; GL = glass; PL = plastic; OCC = corrugated cardboard; SC = steel containers; LAB = lead-acid batteries; MxP = mixed paper; ST = scrap tires; WG = white goods/appliances; OM = other metals; Oth = other (household batteries, used oil, wood, etc.)													

Initiative CC-3.1: Drop-Off Recycling Evaluations

The District will monitor a variety of elements regarding drop-off recycling locations, such as total tons of materials collected and contamination issues. Monitoring will be conducted on a bi-annual basis and will increase frequency as needed. The District may adjust the drop-off program on an as-needed basis when improvements are identified. Potential issues the District circumvents by evaluating the drop-off program on a continual basis are the following:

- Location of drop-off
- Collection hours
- Material accepted
- Participant feedback on program
- Estimated tonnage collected
- Excessive abuse of drop-off sites from contamination or dumping
- Underutilization of drop-off bins
- Collection frequency that does not meet public needs (i.e., issues with over-flow)
- Other issues and or considerations as identified

Implementation: 2019-2033

4. CC-4 – Yard Waste Management Program
(State Plan Goal #2)

This program will continue during the planning period.

5. CC-5 – Household Hazardous Waste (HHW) Collection Program
(State Plan Goals #2 and #5)
This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The Specialty Recycling Center is operating at maximum capacity with little room to grow the HHW program or other services offered by the District at the Center.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-5.1: Enhancement to HHW Program

The District will incorporate any changes to the HHW program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.

Implementation: 2019-2033

Initiative CC-5.2: Enhance HHW Education

The District will promote the proper purchasing and management of HHW materials to residents through a public education initiative. This initiative would focus on purchasing techniques to minimize HHW generation and to purchase and use alternative products that are less hazardous. The District may utilize its web site, printed materials, presentations to adults and children, social media and other options as needed.

Implementation: 2021-2022

6. CC-6 – Electronics Recycling Program
State Plan Goals #2 and #5)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The Specialty Recycling Center is operating at maximum capacity with little room to grow the Electronics Recycling program or other services offered by the District at the Center.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-6.1: Enhancement to Electronics Recycling Program

The District will incorporate any changes to the Electronics Recycling program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.

Implementation: 2019-2033

7. CC-7 – Lead-Acid Battery Recycling Program
(State Plan Goals #2 and #5)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The Specialty Recycling Center is operating at maximum capacity with little room to grow the Lead Acid Battery Recycling program or other services offered by the District at the Center.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-7.1: Enhancement to Lead Acid Battery Recycling Program

The District will incorporate any changes to the Lead Acid Battery Recycling program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.

Implementation: 2019-2033

8. CC-8 – Scrap Tire Recycling Program
(State Plan Goals #2 and #5)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The Specialty Recycling Center is operating at maximum capacity with little room to grow the Scrap Tire Recycling program or other services offered by the District at the Center.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-8.1: Enhancement to Scrap Tire Recycling Program

The District will incorporate any changes to the Scrap Tire Recycling program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program #

CC-1 from the new property.

Initiative CC-8.2: Enhancement to Scrap Tire Recycling Education

The District will promote the proper disposal of scrap tires to residents through a public education initiative that would encourage them to dispose of scrap tires at the point of purchase. This would explain the need for the disposal fee charged by the retailer. This would reduce the number of tires that communities and the District must pay to manage.

Implementation: 2021-2022

Initiative CC-8.3: Education of Scrap Tire Dumping Laws

The District could work with each of the entities within the District that sell new tires to develop a persuasive educational poster comparing the costs of legal versus illegal scrap tire disposal. The poster could compare the average tire disposal fee charged by local tire retailers versus the costs of illegal tire disposal which includes court costs, fines, community service, jail sentences, and a criminal record.

The District in partnership with the Clark County Board of Health could work with local tire retailers and businesses that accept scrap tires to educate them about the local problems related to tire dumping.

The District could encourage these businesses to display the poster in a highly visible area in their establishment. The goal is to capture more scrap tires at the point of sale when a scrap tire is being replaced, which should reduce the quantity of scrap tires dumped throughout the District, as well as surrounding areas.

Implementation: 2022-2023

9. CC-9 – Government Office Paper Recycling
(State Plan Goal #2)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The program recycling volumes dropped from 13.8 tons to 8.9 tons. This tonnage decrease may be caused by the increase in electronic documents.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-9.1: Program Performance Assessment

The District will assess the reason why the tonnage reported for this program dropped. If the reason was data reporting related, then the District will make the appropriate changes to obtain accurate data. If the drop was related to an operational issue, then the District will assess the issue and develop appropriate improvement initiatives to move the program back to its historical performance levels.

Implementation: 2019-2020

10. CC-10 – Business Paper Recycling
(State Plan Goal #2)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- Royal Oak's accounting system does not give consistent weights for paper collected.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-10.1: Engage Royal Oak on Data Consistency

The District will work with Royal Oak to determine the best and most accurate way to collect and then submit recycling data to the District for the paper recycled by residents and businesses in the District.

This effort will occur as needed to address any inconsistencies and or issues that arise from this program.

RESIDENTIAL/COMMERCIAL SECTOR EDUCATION AND AWARENESS PROGRAMS

1. CC-11 – Education and Awareness Program

(State Plan Goals #3 and #4)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The Take it to the Curb campaign has not increased curbside recycling contracts by communities for non-subscription services.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-11.1: Enhance Take it to the Curb Campaign

The District will evaluate the reasons why the campaign did not achieve its desired outcome. Based on the results of the evaluation, the District may develop a new campaign and or approach to deliver a new or revised message. This may also include a longer-term approach to message delivery to ensure behavior change occurs over time. Measurement attributes will also be considered to assist in the evaluation of any new campaigns or approaches.

Implementation: 2019 – Evaluation
2020/2021 – Possible Implementation of New Approach

COMMERCIAL, INSTITUTIONAL AND INDUSTRIAL SECTOR PROGRAMS

Industrial Waste Reduction/Recycling and Education Strategies

The District's industrial waste reduction strategies are presented in Table V-6, "Industrial Waste Reduction Strategies". Industrial recycling is projected to decrease based on projected decreases in industrial employment figures. The District projects a decrease in industrial recycling from 55,711 tons in 2015 to 53,774 tons in 2020 and flatline until 2033.

1. CC-12 – Business Waste Reduction Assistance (BWRAP)

(State Plan Goals #2, #3, #4)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- District staff time is limited and assistance is provided on a first come first served basis.

- Only 5 businesses received technical assistance from the District in 2015. Limited staff time decreases promotion of the program and to support more businesses. This program mainly relies on businesses to request assistance.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-12.1: Target Marketing of Program

In order to focus the limited availability of District staff and to maximize the efforts of the program, the District will develop a targeted marketing campaign towards businesses that have the greatest need and potential for waste diversion. Working with the annual survey data collection program, the District will develop a list of potential businesses that meet the criteria listed above. Once the list is formulated, the District will target promotion of the program to those businesses. One on one engagement will also be initiated to build relationships. By incorporating this approach, the District will achieve the greatest return on investment for the limited time and resources available for this program.

Implementation: 2019 – Develop targeted list
2020 – Promote to targeted businesses and implement technical assistance

OTHER PROGRAMS/INITIATIVES

1. CC-13 – Litter Prevention/Clean-Up Programs

This program will continue during the planning period.

2. CC-14 – Health Department Funding

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- Obtaining funds for cleanups

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-14.1: Open Dump/Scrap Tire Clean-Up Fund

The District may establish a grant for the clean-up of solid waste dumps and tire dumps starting in 2022 or later. A grant manual will be created prior to the start of the program, if the program is implemented, to articulate the details of the grant program and will include an application and contractual agreements. The grant program will be administered by an Open Dump/Scrap Tire Grant Committee of the Board (consisting of representatives from the health department, Policy Committee and the District Director of the District). The District could provide seed money to clean-up high priority open dump and scrap tire sites as determined by the above referenced committee. Recovered clean-up costs would be directed to the District to replenish funds expended from this program.

All requested funds for clean up under this grant must be reviewed and agreed upon by the Open Dump/Scrap Tire Grant Committee then submitted to the Board of County Commissioners for approval. Funding for this program will come from the unencumbered generation fee revenue from the District. In order to ensure the orderly disbursement of these funds, the District requires the Health Department seeking these funds to meet the following guidelines:

- Sites can only be cleaned up by this program if a lien on the site can be obtained to recover the clean-up costs.
- Funds will only be allocated to the approved County Health Department.
- Funds can only be used for clean-up of properties located within the District.
- All grant requests must demonstrate a deterrence strategy that either promotes or creates incentives to eliminate future or continued dumping at each designated site.
- No grant may be used to remediate any hazardous waste (as such term is defined in Chapter 3734 of the Ohio Revised Code) dump sites.
- The maximum amount of funds that will be awarded the Health Department is $50,000.
- Legal proceedings for access to the site and for recovery of clean-up costs must be in process before District funds are requested by the Health Department.

- Applications for funding will be accepted throughout the year. A separate grant application must be submitted for each site.
- Applications will be reviewed by the District Director and the Open Dump/Scrap Tire Committee. Based on the Committee's recommendations, the Director will formulate a recommendation for approval/disapproval by the Board of County Commissioners at the regular board meeting.
- The District Clean-Up Fund shall be reimbursed from any monies collected from judgments against the owners/operators of the sites remediated with grant funds.

- Within 30 days after clean-up is complete, the Health Department must submit a final report to the District documenting all clean-up activities and volumes.

The District will commit to making funds available for this program from 2021–2023 at which time or before the Board will evaluate the effectiveness of the program to determine if the program will be continued. The District reserves the right to terminate the program at any time throughout the planning period and/or not conduct the program.

Implementation: 2020 – Develop program and grant manual
2021-2023 – Offer program to Health Department if sites are identified and determine if the program could fund the clean-up

3. CC-15 – Legal and Consulting

This program will continue during the planning period.

4. CC-16 – Other Facilities

(State Plan Goal #2)

The facilities identified in Section IV are projected to continue throughout the planning period.

The District reserves the right to develop a licensed or un-licensed solid waste transfer station, recycle transfer station or other consolidation facility (licensed or unlicensed) at any point in the planning period. If any such facility is developed, the District will evaluate the budgetary needs of the facility to determine if a material change in circumstance has occurred according to the

policy in Section I of this *Plan Update*. The District will also determine if a simple plan budget revision would be required in lieu of a material change in circumstance.

5. CC-17 – Curbside Recycling Grants
(State Plan Goals #1 and #2)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- The original schedule for grant applications has expired.
- Communities did not apply for the grant.

To address these challenges, the District will design, implement, review, and improve the following strategies:

Initiative CC-17.1: Grant Amendments

The District will reach out to the communities to determine why they did not take advantage of the grant funding. Based on the community feedback, the District will revise the grant program and re-issue a revised grant program. The community engagement process may include one on one discussions and or a community meeting to solicit feedback on the program.

This grant may incorporate the initiative of "Enhance Take it to the Curb" (CC-11.1) to increase curbside recycling with a new campaign.

The District may also make the grants available to condominium associations, home owner associations, apartment complexes and other residential similar organizations, associations or entities.

The intent of this program is to solicit interested parties that meet the core criteria of the program and then if a viable project is identified, provide funding through the District's unencumbered fund balance if available. To accomplish this, the District will develop a grant manual defining the criterial of the program, what items and services are allowed and not-allowed, a grant application and grant agreement. The District may choose to create the manual or have a consultant assist with the process.

The District reserves the right to not provide funding or award projects if the District and the Board determine the project is either

not viable and/or funding is not available.

Implementation: 2019 – Engage with communities
2020 – Revise and re-issue new grant program and develop a grant manual
2020-2023 – Funding potentially available

6. CC-18 – Food Waste Management Program
(State Plan Goal #2)

This program will continue during the planning period. Based on observations made by the District on the implementation of this program to date, the challenges of this program include:

- No meaningful programs or additional tonnage diverted resulted from the District efforts in 2015.

The District will continue with the initiatives listed in Section IV for this program to engage with Paygro and local businesses to try and grow food waste management in the District.

7. CC-19 – Disaster Debris Assistance

This program will continue during the planning period.

Table V-1
District Population Projections

Year	Clark County Population	Population Adjustments: Village of Clifton (Greene County)	Total District Population
2015	135,912	47	135,959
2016	135,378	47	135,425
2017	134,843	47	134,890
2018	134,309	47	134,356
2019	133,774	47	133,822
2020	133,240	47	133,287
2021	132,870	47	132,917
2022	132,500	47	132,547
2023	132,130	47	132,177
2024	131,760	47	131,807
2025	131,390	47	131,437
2026	131,092	47	131,139
2027	130,794	47	130,841
2028	130,496	47	130,543
2029	130,198	47	130,245
2030	129,900	47	129,947
2031	129,688	47	129,735
2032	129,476	47	129,523
2033	129,264	47	129,311

Source(s) of information:

Population - Ohio Development Services Agency Office of Research, "2015 Population Estimates by County, City, Village, and Township", May 2015.

Population projections 2000-2040 - Ohio Development Services Agency, Ohio County Profiles.

Sample calculation (2015):

2015 Total District Population = Clark County Population + Village of Clifton (Greene County portion)

135,959 residents = 135,912 residents + 47 residents

Table V-2
District Residential/Commercial Waste Generation (TPY)

Year	District Population	Per Capita Generation Rate	Total Residential/Commercial Waste Generation (TPY)
2015	135,959	6.08	150,723
2016	135,425	6.11	150,933
2017	134,890	6.14	151,089
2018	134,356	6.17	151,243
2019	133,822	6.20	151,394
2020	133,287	6.23	151,544
2021	132,917	6.26	151,879
2022	132,547	6.29	152,213
2023	132,177	6.32	152,548
2024	131,807	6.36	152,881
2025	131,437	6.39	153,214
2026	131,139	6.42	153,631
2027	130,841	6.45	154,049
2028	130,543	6.48	154,466
2029	130,245	6.52	154,884
2030	129,947	6.55	155,302
2031	129,735	6.58	155,824
2032	129,523	6.61	156,347
2033	129,311	6.65	156,872

Source(s) of information:
District Population - Table V-1
2015 Per Capita Generation Rate - Table IV-8
2015 Per Capita Generation Rate - 2015 Facility Data Report and Annual District Report
Per Capita Generation Rate projected to increase throughout the planning period using a linear projection, ending in 2033 with a per capita generation rate equal to the 2011-2015 average.

Sample calculation (2015):

District population x per capita generation rate (lb/person/day) x 365 days/year x 1 ton/2,000 lbs = Total Residential/Commercial Generation (tons)

135,959 residents x 6 ppd x 365 days ÷ 2,000 pounds/ton = 150,723 tons

Table V-3
Projected Industrial Waste Generation

SIC Code	Year																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
20	8,265	8,265	8,706	9,636	10,077	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472	10,472
22	75	75	79	87	91	95	95	95	95	95	95	95	95	95	95	95	95	95	95
23	32	32	34	37	39	41	41	41	41	41	41	41	41	41	41	41	41	41	41
24	3,228	3,228	3,401	3,764	3,936	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091	4,091
25	6	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
26	3,479	3,479	3,664	4,056	4,242	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408	4,408
27	1,191	1,191	1,255	1,389	1,453	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510	1,510
28	231	231	243	269	282	293	293	293	293	293	293	293	293	293	293	293	293	293	293
29	291	291	306	339	354	368	368	368	368	368	368	368	368	368	368	368	368	368	368
30	2,651	2,651	2,793	3,091	3,233	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359	3,359
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	667	667	703	778	813	845	845	845	845	845	845	845	845	845	845	845	845	845	845
33	5,001	5,001	5,268	5,831	6,098	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337	6,337
34	12,821	12,821	13,506	14,948	15,633	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246	16,246
35	4,674	4,674	4,924	5,450	5,699	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923	5,923
36	845	845	890	985	1,030	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070	1,070
37	9,777	9,777	10,300	11,399	11,922	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389	12,389
38	77	77	81	90	94	98	98	98	98	98	98	98	98	98	98	98	98	98	98
39	2,402	2,402	2,530	2,800	2,928	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043	3,043
Totals	55,711	55,711	58,688	64,954	67,931	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594	70,594

Source(s) of information:
2015 Generation by SIC Code - Table IV-2 (adjusted to correspond to total industrial waste on Table IV-8)

Sample calculation (2016):

SIC Code 20: 2016 Generation = (2015 SIC 20 generation ÷ 2015 total generation) x 2016 total generation
8,265 tons = (8,265 tons ÷ 55,711 tons) x 55,711 tons

Table V-4
Total Waste Generation for the District During the Planning Period

Year	Residential/ Commercial	Industrial	Exempt	Total Waste	Generation Rate (lbs/person/day)
2015	150,723	55,711	731	207,165	8.35
2016	150,933	55,711	1,100	207,744	8.41
2017	151,089	58,688	1,469	211,245	8.58
2018	151,243	64,954	1,838	218,035	8.89
2019	151,394	67,931	2,207	221,533	9.07
2020	151,544	70,594	2,945	225,083	9.25
2021	151,879	70,594	2,945	225,418	9.29
2022	152,213	70,594	2,945	225,753	9.33
2023	152,548	70,594	2,945	226,087	9.37
2024	152,881	70,594	2,945	226,421	9.41
2025	153,214	70,594	2,945	226,754	9.45
2026	153,631	70,594	2,945	227,171	9.49
2027	154,049	70,594	2,945	227,588	9.53
2028	154,466	70,594	2,945	228,006	9.57
2029	154,884	70,594	2,945	228,424	9.61
2030	155,302	70,594	2,945	228,842	9.65
2031	155,824	70,594	2,945	229,364	9.69
2032	156,347	70,594	2,945	229,887	9.73
2033	156,872	70,594	2,945	230,411	9.76

Source(s) of information: **4,043,766**
Residential/Commercial Table V-2
Industrial Table V-3

Sample calculation (2015):

Total Waste = Residential/Commercial + Industrial + Exempt
207,165 tons = 150,723 tons + 55,711 tons + 731 tons

$$\text{Generation Rate (lb/person/day)} = \frac{\text{Total Waste Generated (tons)} \times 2{,}000 \text{ pounds /ton}}{\text{Population} \times 365 \text{ days/year}}$$

$$8.35 = \frac{207{,}164.67 \text{ tons} \times 2{,}000}{135{,}912 \times 365}$$

Residential/Commercial Waste Reduction Strategies

Strategy	Program #	Type of Material Reduced or Recycled	Tons of Waste Reduction																		
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Residential/Commercial Recycling and Collection Programs																					
Curbside Recycling	CC-2	AC,GL,PL,ONP,OCC,SC,Pbd,MxP,Oth	2,137	2,128	2,120	2,111	2,103	2,095	2,089	2,083	2,077	2,071	2,066	2,061	2,056	2,051	2,051	2,051	2,051	2,051	2,051
Drop-Off Recycling	CC-3	AC,GL,PL,ONP,OCC,SC,Pbd,MxP,Oth	773	770	870	969	1,068	1,166	1,266	1,262	1,258	1,255	1,251	1,249	1,246	1,243	1,243	1,243	1,243	1,243	1,243
Yard Waste Management	CC-4	YW	41,632	41,280	41,117	40,954	40,791	40,628	40,515	40,403	40,290	40,177	40,064	39,973	39,883	39,792	39,792	39,792	39,792	39,792	39,792
Household Hazardous Waste Collection	CC-5	HHW	15.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electronics Recycling	CC-6	EW	112	106	106	105	105	104	104	104	104	103	103	103	102	102	102	102	102	102	102
Lead-Acid Battery Recycling	CC-7	LAB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scrap Tire Collection	CC-8	ST	1,479	1,362	1,357	1,351	1,346	1,340	1,337	1,333	1,329	1,326	1,322	1,319	1,316	1,313	1,313	1,313	1,313	1,313	1,313
Government Office Paper Recycling	CC-9	AC,GL,PL,ONP,OCC,SC,Pbd,MxP,Oth	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off
Business Paper Recycling	CC-10	AC,GL,PL,ONP,OCC,SC,Pbd,MxP,Oth	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off	In Drop-off
Residential - Commercial - Education-Awareness Programs																					
Education and Awareness	CC-11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Commercial/Industrial - Technical Programs																					
Business Waste Reduction Assistance (BWRAP)	CC-12	Oth	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Programs																					
Litter Prevention/Clean-Up Programs	CC-13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Health Department Funding	CC-14	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Legal and Consulting	CC-15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Facilities	CC-16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Curbside Recycling Grants	CC-17	AC,GL,PL,ONP,OCC,SC,Pbd,MxP,Oth	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Food Waste Management	CC-18	FW	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Disaster Debris Management	CC-19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Other Programs																					
Other Commercial Recycling	N/A	N/A	14,328	13,662	13,608	13,554	13,501	13,447	13,409	13,372	13,335	13,297	13,260	13,230	13,200	13,170	13,170	13,170	13,170	13,170	13,170
		Total	**60,476**	**59,308**	**59,177**	**59,045**	**58,913**	**58,780**	**58,720**	**58,556**	**58,393**	**58,230**	**58,066**	**57,934**	**57,803**	**57,671**	**57,671**	**57,671**	**57,671**	**57,671**	**57,671**

AC = aluminum containers, GL = glass, PL = plastic, OCC = corrugated cardboard, SC = steel containers, PBd = paperboard, MxP = mixed paper, AsC = aseptic containers, YW = yard waste, HHW = hazardous household waste, UO = used oil, EW = electronic waste, LAB = lead-acid batteries, ST = scrap tires, FW = food waste, n/a = not applicable

Source(s) of information:

2015 District Annual Report and Residential/Commercial Surveys

2016 District Annual Report and Residential/Commercial Surveys

Table V-6
Industrial Waste Reduction Strategies

Strategy	Program #	Type of Material Reduced/Recycled	Tons of Source Reduction/Recycling																	
			2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Industrial Sector Technical Assistance and Education Programs: Recycling																					
Industrial Recycling	N/A	AL, FM, NFM, PL, OCC, W, MxP, OTH	51,605	51,605	51,605	51,291	50,978	50,664	50,038	50,038	50,038	50,038	50,038	50,038	50,038	50,038	50,038	50,038	50,038	50,038	50,038
Total			**51,605**	**51,605**	**51,605**	**51,291**	**50,978**	**50,664**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**	**50,038**

AL = aluminum; FM = ferrous metals; NFM = non-ferrous metals; PL = plastic; OCC = corrugated cardboard; MxP = mixed paper, W = wood, OTH = other

Source(s) of information:
2015 tons - Table IV-6

VI. Methods of Management: Facilities and Programs to be Used [ORC Section 3734.53(A)(7)-(12)]

This section of the *Plan Update* demonstrates that the District has capacity through facilities and its programs to manage the waste generated for the planning period. A regional capacity analysis provides information to demonstrate the District meets or exceeds capacity requirements under Ohio law. The District will continue to reserve its right to exercise flow control but does not currently designate facilities. The designation of facilities is a power granted to SWMDs under Ohio law allowing the District to designate where solid waste generated within or transported into the District shall be taken for disposal, or transfer.

Additionally, this section of the *Plan Update* includes a detailed siting strategy for new proposed facilities.

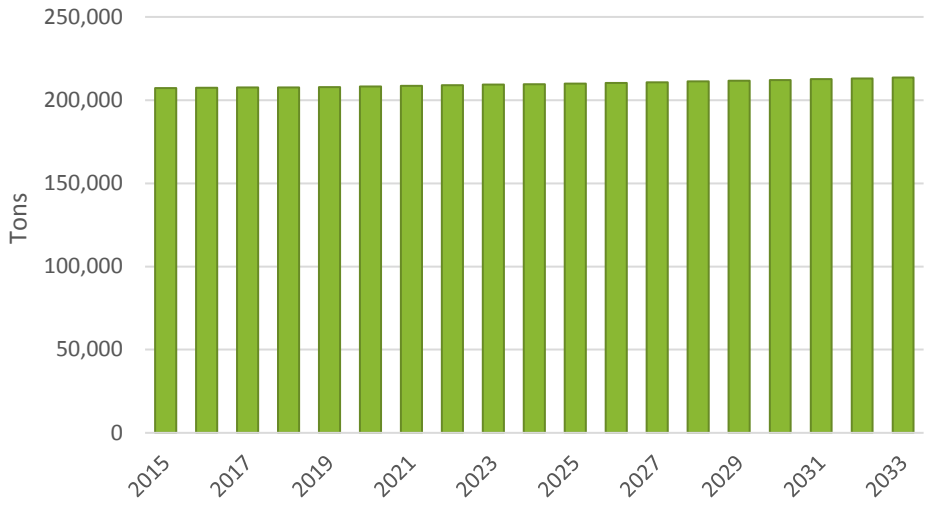
A. District Methods for Management of Solid Waste

Table VI-1 presents the waste management methods used and capacity needed for each year of the planning period. The District managed approximately 207,165 net tons of solid waste in 2015. Approximately 207,763 net tons of solid waste will need to be managed in 2019 (the first year of the planning period) and 213,592 net tons will need to be managed by 2033 (the final year of the planning period).

The District will manage the projected waste through recycling, yard waste composting, incineration, the use of transfer stations, and landfilling. In Table VI-1, the total tons landfilled in 2015 (95,084 tons) was calculated by subtracting recycling, yard waste composting, and the volume of waste reduced by incineration. The District projects a need of 95,430 tons of landfill capacity in 2019 and 99,369 tons in 2033.

The following figure shows the projected total net tons to be managed by the District throughout the planning period.

Net Tons to be Managed by the District (2015 – 2033)



The following figure shows the projected tons to be landfilled throughout the planning period.

Total Landfill Tons to be Managed by the District (2015 – 2033)

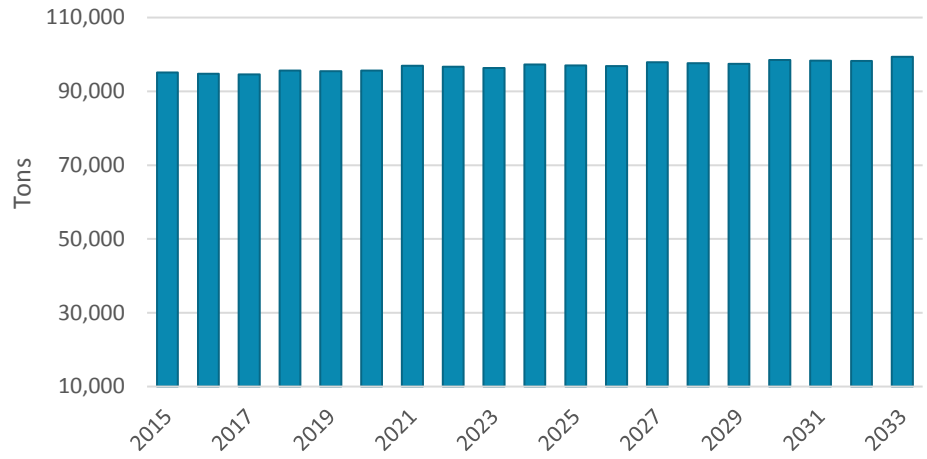


Table VI-2 presents a summary of waste management methods for residential/commercial solid waste generated by the District. Recycling, yard waste composting, transferring, incineration, and landfilling. In 2015, the residential/commercial sector generated a total of 150,723 tons. This sector is projected to generate 151,394 tons of solid waste at the beginning of the planning period and 156,872 tons of solid waste by the end of the planning period. The following figure presents the management methods used to manage residential/commercial waste generation throughout the planning period.

Residential/Commercial Sector
Waste Management Methods (2015 – 2033)

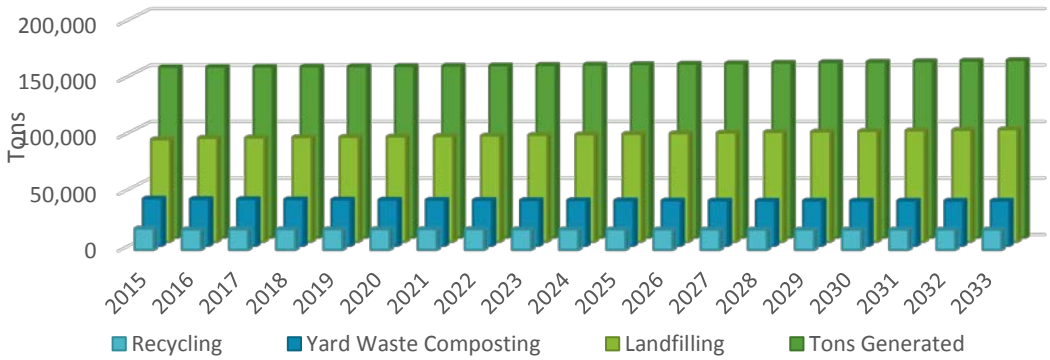


Table VI-3 presents a summary of waste management methods for industrial solid waste generated by the District. This sector's waste was managed by recycling, transferring, and landfilling. In 2015, the industrial sector generated a total of 55,711 tons. The industrial sector is projected to generate 54,162 tons of solid waste at the beginning of the planning period and 53,774 tons of solid waste by the end of the planning period. Total annual waste generation will decrease 387 tons or 0.72% from 2019 to 2033.

The following figure presents the management methods used to manage industrial waste generation throughout the planning period.

Industrial Sector Waste Management Methods (2015 – 2033)

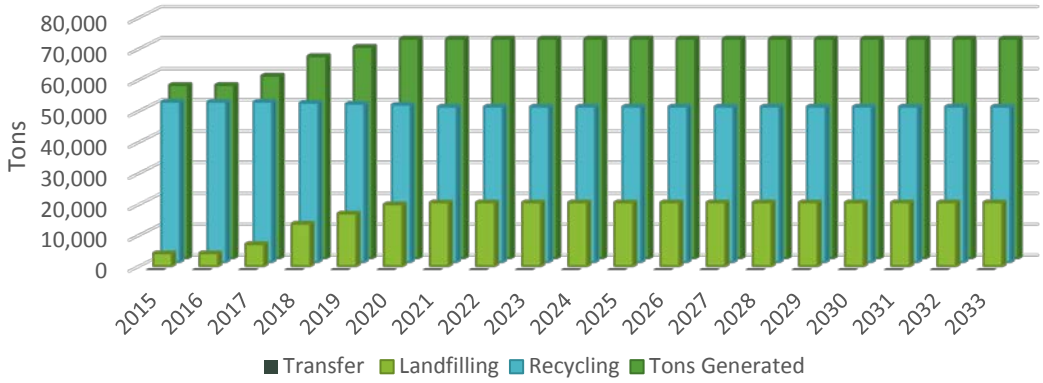


Table VI-4A, "Waste Management Method: Landfill," presents the reference year landfill capacity utilization and anticipated landfill capacity needs throughout the planning period. The projections in Table VI-4A

present the landfill capacity demands from 2015 to 2033. Total tons landfilled includes waste that was directly hauled to landfills, transferred waste, and ash produced through incineration.

Thirteen landfills received waste generated in the District during the reference year, including waste that was first accepted at incinerators or transfer stations. For the purposes of the analysis in Table VI-4A and future year projections on landfill capacity, the District assumes that each facility that managed District waste during the reference year will manage the same percent of total tons as during the reference year unless a landfill ceases operations or runs out of permitted airspace before the end of the planning period.

There are no in-district landfills. Twelve of the landfills were located in Ohio and one landfill was located in Indiana. Eleven of the Ohio landfills have sufficient remaining airspace to manage 99% of the District's landfilling needs throughout the planning period.

Table VI-4B, "Waste Management Method: Incineration, presents the total tons projected to be managed by incineration throughout the planning period. The District used one medical waste incinerator in the reference year to manage less than a ton of waste. The total tons of waste managed by incineration are projected to change at the same rate as population. The overall tonnage managed by incineration annually from 2019 to 2033 is projected to remain essentially flat.

Table VI-4C, "Waste Management Method: Transfer," the District projects transferred waste will decrease at the same rate as population throughout the planning period. In 2019, the first year of the planning period, the District projects approximately 60,599 tons of solid waste will be managed by transfer facilities. This decreases to 57,906 tons in 2033, the final year of the planning period.

Significant transfer station utilization continues for the District and has resulted in the following issues:

- All solid waste in county must be hauled between 26-34 miles to receiving facilities which adds cost.

- > 60% of District waste flows though transfer stations prior to landfill disposal.

- Ninety-nine percent of transferred solid waste goes to Montgomery County.

Table VI-4D, Waste Management Method: Recycling," presents the total tons projected to be managed by recycling. The District is projected to recycle an average of 70,780 tons of material annually throughout the planning period.

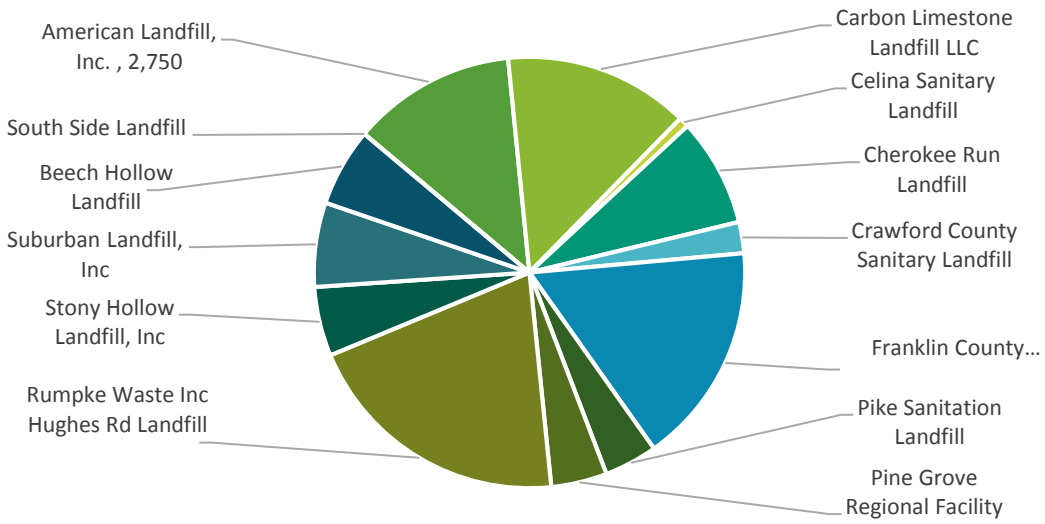
Table VI-4E, "Waste Management Method: Composting," presents the total tons projected to be managed by composting. Composting was projected as a flat average of 0.1% tons annually from 2015 to 2033. The District does not anticipate any major changes to facilities or programs operating during the reference year.

B. Demonstration of Access to Capacity

During 2015, twelve out-of-district landfills and one out-of-state landfill managed 95,084 tons of solid waste generated by District residents, businesses and industries.

The following figure presents the landfills used by the District in 2015, and the percentage of District-generated waste landfilled at each facility.

Landfills Used by District (2015)



Regional Capacity Analysis

The purpose for the regional capacity analysis is to evaluate and demonstrate that the District has access to adequate disposal capacity during the planning period. The District's assessment of regional landfill capacity demonstrates there is sufficient permitted capacity available to manage the District's solid waste until December 31, 2033.

The District projects an average need of approximately 97,000 tons or 145,940 cubic yards of landfill capacity annually throughout the planning period. The District will dispose of approximately 1.4 million tons or 4.3 million cubic yards of solid waste. Using a 3:1 conversion factor for cubic yards to tons and applying an average 2:1 compaction ratio for landfilled solid waste, the District will need approximately 349 million cubic yards of airspace capacity over the fifteen-year planning period.

The landfills used by the District in 2015 had sufficient permitted airspace to dispose of an estimated 269 million tons of solid waste. The Rumpke Waste Inc Hughes Road Landfill, which currently manages the majority of the District's waste, has enough permitted capacity to manage the entirety of the waste generated within the District from the reference year to the end of the planning period. Overall, the landfills used by the District in 2015 had an average remaining lifespan of more than 37 years.

C. Schedule for Facilities and Programs: New, Expansions, Closures, Continuations

Table VI-5, Implementation Schedule for Facilities, Strategies, Programs and Activities: Dates and Description, presents descriptions and dates of operation for each facility, program or activity presented in the *Plan Update*.

Programs for residential/commercial sector recycling and composting, financial incentive programs, commercial/industrial sector recycling programs, education and awareness, technical assistance, and other programs are presented in Table VI-5. These programs are discussed in detail in Sections IV and V.

D. Identification and Designation of Facilities

Table VI-6 includes the solid waste facilities identified and current designations. The District continues to support an open market for the collection, transport and disposal of solid waste. As required in Section 3734.53(A)(13)(a) of the Ohio Revised Code, 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. The District is also identifying recycling and composting programs and facilities that are identified in Section III Inventories.

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

E. Authorization Statement to Designate

The Board of County Commissioners of the District is authorized to establish facility designations in accordance with Section 343.013. 343.014 and 343.015 of the Ohio Revised Code.

F. Waiver Process for the Use of Undesignated Facilities

The District is authorized to designate solid waste facilities. If the Board elects to designate solid waste facilities, the following waiver process shall 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, municipal corporation, township or other entity requests permission to use a facility, other than a designated facility, for the disposal of solid waste generated within the District, the entity must submit a written request for a waiver of designation to the Board. The request must contain the following information:

1. Identification of the persons, municipal corporation, township or other entity requesting the waiver;

2. Identification of the generators(s) of the solid waste for which the waiver is requested;

3. Identification of the type and quantity (in tons per year) of solid waste for which the waiver is requested;

4. Identification of the time period(s) for which the waiver is requested;

5. Identification of the disposal facility(s) to be used if the waiver is granted;

6. If the solid waste is to be disposed in an Ohio landfill, a letter from the solid waste management district where the solid waste will be disposed, acknowledging that the activity is consistent with that district's current plan;

7. An estimate of the financial impact to the District that would occur with issuance of the requested waiver; and

8. An explanation of the reason(s) for requesting the waiver.

Upon receipt of the written request containing all of the information listed above, District staff will review it and may request additional information

necessary to conduct its review. The Board shall act on a waiver request within ninety days following receipt of the request. The Board may grant the request for a waiver only if the Board determines that:

1. Issuance of the waiver is not inconsistent with projections contained in the District's approved *Plan Update* under Section 3734.53 (A)(6) and (A)(7) of the Ohio Revised Code;

2. Issuance of the waiver will not adversely affect implementation and financing of the District's approved *Plan Update*; and

3. Such other terms and conditions as the Board determines to be necessary or appropriate, including but not limited to payment of a waiver fee to the District because of diminished generation fee collections.

G. Siting Strategy for Facilities

As stated in the last *Plan Update*, the District is to consider the impact of any new solid waste facility siting on the overall community. District Amended Rule 1-796 presently provides that:

"No person, municipal corporation, township, or other political subdivision shall construct, enlarge, or modify any solid waste transfer, disposal, recycling, or resource recovery facility until general plans and specifications for the proposed improvement have been submitted to and approved by the Clark County, Ohio Board of County Commissioners as complying with the Solid Waste Management Plan of the Clark County Solid Waste Management District."

"General plans and specifications shall be submitted to the attention of the Clark County Solid Waste Director, c/o the Clark County Commission, 50 East Columbia Street, P.O. Box 2639, Springfield, Ohio, 45501. Such general plans and specifications shall include all information necessary for the Board of Commissioners to evaluate the County level interests identified in the siting review process contained in the District's Solid Waste Management Plan."

"General plans and specifications submitted to comply with this Rule shall not include information that is required to determine the proposed facility's compliance with engineering design criteria or which address issues that do not directly relate to the County level interests identified in the District's Plan. The submission of any such extraneous material may be cause for the Board to require the developer to submit revised general plans and specifications which contain information that is appropriate for the siting review process."

"No person, municipal corporation, township, or other political subdivision shall construct, modify or enlarge any solid waste transfer, disposal, recycling, or resource recovery facility that does not comply with the Clark County, Ohio Solid Waste Management Plan, as determined by the Board of Commissioners of Clark County, Ohio."

It is the Board's intention to continue the requirement that no one may construct, enlarge or modify a solid waste facility within the District unless and until the developer of the proposed facility has obtained approval of general plans and specifications by the Board.

While the Board has broad discretion to disapprove general plans and specifications for a proposed solid waste facility, it is the intent of the siting review procedure set forth below that the Board shall not approve general plans and specifications for a proposed solid waste facility unless the proposed facility complies with the District's solid waste management plan as demonstrated by the Board's determination that the proposed facility is not likely to have any significant adverse impacts on the local community in Clark County. The specific interests of the county level of government that are addressed in the siting review procedure are not intended to supersede any exercise of local authority over a proposed solid waste facility but are in addition to any such exercise of local authority.

The District will attempt to approach any facility siting review cooperatively and will attempt to maintain an open channel of communication with all stakeholders in the process in order to examine relevant issues of concern to the public.

The Board shall have the discretion to approve or disapprove general plans and specifications for the proposed construction, enlargement or modification of a solid waste facility located within the District, based upon the Board's determination of impacts on the local community in Clark County with respect to any of the following County level interests:

- Consistency with the mission, central strategies and projections contained in the District's Solid Waste Management Plan;
- Effects on financing the implementation of the District's Solid Waste Management Plan;
- The local economy (e.g., cost/benefit analysis of waste disposal costs, revenues/ expenditures, job creation etc.);
- Licensing and inspection responsibilities of the Combined Health District;
- Enforcement responsibilities of local law enforcement and emergency response officials;
- Clark County's Comprehensive Plan;
- Availability of needed solid waste services;

- Related infrastructure (e.g., thoroughfares);
- Local related quality of life issues (e.g., noise and litter);
- Local political subdivisions;
- Local property values; and
- Important historic or cultural features.

Applicability

The District will maintain rule-making authority to require solid waste facility developers to submit plans and specifications for their proposed facility to the District for review. Developers will be asked to provide information in a format that will facilitate evaluation of the County-level Interests. Information relative to the County-level Interests (listed above) would be appropriate for submission. Developers should not submit information that is not directly related to the District's evaluation of the County-level Interests, such as materials that are required by Ohio EPA concerning the proposed facility's compliance with engineering design criteria, because including such extraneous information in the application for siting approval may delay performance of the siting review process.

Any proposed construction, enlargement or modification of a solid waste facility located within the District is subject to the Clark County siting review process. The siting review process is designed to take approximately 90 – 120 days. However, the District reserves the right to extend the process by appropriate amounts of time (up to 60 days), if necessary, for gathering additional information or if further review and evaluation are needed. The District recommends that the Developer complete the siting review process prior to submitting a "Permit to Install" application to the Ohio EPA so that the developer will have an opportunity to identify and respond to any County level concerns before the developer invests significant time and resources in the Ohio EPA permitting process.

Contact

The Clark County Solid Waste District Director will serve as the primary contact for local governments, developers, regulators and the public.

Responsible for Implementation

The Board will have general responsibility for the completion of any siting review process. The Board retains discretionary power to utilize the District Technical Advisory Council (TAC), Solid Waste Policy Committee (SWPC), staff, other county and/or state officials and/or technical experts for assistance and advice in the process.

Process Outline

Approximate Day	Action
1	Director receives the proposal in a format consistent with the County-level Interests. (If the information provided to the District is not in the format requested, the Developer will be advised to amend the submission to provide the required information and the process will begin when the information is received.)
7	Director provides summary of proposed facility to the Board. The Board determines if a relevant County-level interest exists which requires further review. If they determine that there is not a relevant County-level interest that requires further review, they may elect to stop the siting review at this point. If it is determined that a relevant County-level interest exists which requires further review, the Board will set a time and date (within approximately 10-15 days) to receive comment from all stakeholders in order to identify relevant areas of potential impacts. They may also request written comment from other agencies, staff, TAC, SWPC, political jurisdictions, or experts in the field in order to consider their opinions as well in order to identify the relevant areas of potential impacts.
21	The Board holds public meeting to receive comments from all stakeholders in order to identify relevant areas of potential impacts.
28	The Board, having received comment from all stakeholders, and all others requested, identifies a list of relevant areas of potential impacts for further evaluation. The Board directs the Director to gather information and initiate an evaluation of each relevant area of potential impacts. The Board may also request information and opinions from other appropriate agencies, staff, or experts as well.
90	Director presents all findings to the Board for their review. (Director may request an extension at this point, if necessary to gather more information before making a final presentation of the findings.) The Board sets a date and time (approximately 7-10 days) to make a determination.
97	The Board, based on information presented by all stakeholders, may choose, at this point, to determine that no relevant County-level concern regarding relevant potential impacts of the proposed development exists and the process would be complete. If the Board determines that County-level concerns regarding relevant potential impacts may constitute impacts by the proposed facility that are significant and adverse to the local community, the Board will make a preliminary determination of noncompliance

Approximate Day	Action
	with the Plan and notify the Developer. They will also set a date and time for a public meeting (approximately 20-30 days) in order to make a final determination.
120	If the Board determines that the relevant potential impacts do not constitute impacts by the proposed facility that are significant and adverse to the local community, then the Board may determine that the facility complies with the Solid Waste Management Plan. If the Board has determined that County-level concerns regarding relevant potential impacts are likely to result in significant adverse impacts on the local community in Clark County, the Board will conduct the most appropriate course of action, including but not limited to: 1. Request an extension and authorize further study (this must be agreed upon by the Developer as well); 2. Negotiate with the proposed facility Developer; or 3. Explicitly disapprove of the site for the development. Note: If (for any reason) changes are made to the proposal after the facility has been approved by the Board, the Board reserves the right for further evaluation and reconsideration subject to the Process Outline described here.

H. Contingencies for Capacity Assurance and District Program Implementation

The District will implement the contingency plan outlined in this section of the *Plan Update* if there is an interruption in composting, recycling, transfer facility or landfill capacity for a period of time that would be detrimental to the health and safety of District residents. If the Board determines there is a public health and safety threat due to an interruption in landfill capacity, the following will be implemented.

1. The District will conduct a survey to determine the solid waste disposal needs for District political jurisdictions, commercial, industrial and institutional companies/facilities. If, after completing the survey, the District Coordinator determines that it is in the best interests of the political jurisdictions, commercial facilities, industries and institutions to allow them the opportunity to bid their waste to the company with the best service and price, the District Coordinator will make the recommendation to the Board to take no further action. If the Board receives input from the surveys that some action is needed, then the following should be considered as part of the management contingency for District solid waste.

2. After considering the results of the survey, the Board of Director's may elect to pursue any of the following:

    a. Prepare a bid specification to solicit bids from regional landfills to accept District solid waste.

    b. Develop a District-wide disposal cooperative with local political jurisdictions to obtain a fixed disposal price for a specified term.

    c. Initiate action to site either a public or private solid waste transfer or solid waste disposal facility.

The District Coordinator will make a recommendation to the Board on the course of action to take within 120 days of confirmation of an interruption of landfill capacity. Additionally, the District will develop an alternative source of revenue if there is an interruption in landfill capacity (i.e., rates and charges, contract fees). The Board will direct the District Coordinator to develop alternatives for revenue generation to assure program implementation as part of the management plan for the disposal of District solid waste.

Table VI-1
Waste Management Methods Used and Processing Capacity Needed for Each Year of the Planning Period

Year	Tons of SW Generated	Tons Source Reduced	Net Tons to be Managed	Management Method Used and Processing Capacity Required in TPY			
				Recycling	Transfer	Yard Waste Composting	Landfilling
2015	207,165	0	207,165	70,449	61,692	41,632	95,084
2016	207,744	0	207,744	69,633	61,690	41,280	96,831
2017	211,245	0	211,245	69,665	62,352	41,117	100,464
2018	218,035	0	218,035	69,382	62,546	41,632	107,021
2019	221,533	0	221,533	69,100	62,738	41,280	111,153
2020	225,083	0	225,083	68,817	62,930	41,117	115,150
2021	225,418	0	225,418	68,242	63,198	41,632	115,544
2022	225,753	0	225,753	68,191	63,536	41,280	116,282
2023	226,087	0	226,087	68,141	63,873	41,117	116,830
2024	226,421	0	226,421	68,090	64,211	41,632	116,699
2025	226,754	0	226,754	68,039	64,547	41,280	117,435
2026	227,171	0	227,171	67,999	64,920	41,117	118,056
2027	227,588	0	227,588	67,958	65,292	41,632	117,998
2028	228,006	0	228,006	67,917	65,665	41,280	118,809
2029	228,424	0	228,424	67,917	65,948	41,117	119,390
2030	228,842	0	228,842	67,917	66,232	41,632	119,293
2031	229,364	0	229,364	67,917	66,586	41,280	120,167
2032	229,887	0	229,887	67,917	66,941	41,117	120,853
2033	230,411	0	230,411	67,917	67,297	41,632	120,862

Source(s) of information:

Tons of SW Generated - Table V-4
Tons Recycling and Yard Waste Composting - Tables V-5 and V-6
Tons Transferred - Table VI-2 and VI-3

Sample calculations:

2015 Net tons to be managed by SWMD = Tons of SW generated - tons source reduced
207,165 tons = 207,165 tons - . tons

2015 Landfilling = Net tons to be managed by SWMD - (recycling + yard waste composting)
95,084 tons = 207,165 tons - (70,448.68 tons + 41,632. tons)

Table VI-2
Summary for Residential/Commercial Waste Management Methods

Year	Tons Generated	Management Method in TPY			
		Recycling	Yard Waste Composting	Transfer	Landfilling
2015	150,723	18,844	41,632	61,690	90,247
2016	150,933	18,028	41,280	61,690	91,625
2017	151,089	18,060	41,117	62,352	91,912
2018	151,243	18,091	40,954	62,546	92,198
2019	151,394	18,122	40,791	62,738	92,482
2020	151,544	18,152	40,628	62,930	92,764
2021	151,879	18,205	40,515	63,198	93,159
2022	152,213	18,154	40,403	63,536	93,657
2023	152,548	18,103	40,290	63,873	94,155
2024	152,881	18,053	40,177	64,211	94,652
2025	153,214	18,002	40,064	64,547	95,148
2026	153,631	17,961	39,973	64,920	95,697
2027	154,049	17,920	39,883	65,292	96,246
2028	154,466	17,879	39,792	65,665	96,795
2029	154,884	17,879	39,792	65,948	97,213
2030	155,302	17,879	39,792	66,232	97,631
2031	155,824	17,879	39,792	66,586	98,153
2032	156,347	17,879	39,792	66,941	98,676
2033	156,872	17,879	39,792	67,297	99,201

Source(s) of information:
Tons Generated - Table V-2
Recycling and Yard Waste Composting - Table V-5
Transfer - Table III-3

Sample calculations (2015):

Landfilling = Tons Generated - (Recycling + Yard Waste Composting)

90,247 tons = 150,723 tons - (18,843.86 tons + 41,632. tons)

Table VI-3
Summary for Industrial Waste Management Methods

Year	Tons Generated	Management Method in TPY		
		Recycling	Transfer	Landfilling
2015	55,711	51,605	0	4,106
2016	55,711	51,605	0	4,106
2017	58,688	51,605	0	7,083
2018	64,954	51,291	0	13,663
2019	67,931	50,978	0	16,953
2020	70,594	50,664	0	19,930
2021	70,594	50,038	0	20,557
2022	70,594	50,038	0	20,557
2023	70,594	50,038	0	20,557
2024	70,594	50,038	0	20,557
2025	70,594	50,038	0	20,557
2026	70,594	50,038	0	20,557
2027	70,594	50,038	0	20,557
2028	70,594	50,038	0	20,557
2029	70,594	50,038	0	20,557
2030	70,594	50,038	0	20,557
2031	70,594	50,038	0	20,557
2032	70,594	50,038	0	20,557
2033	70,594	50,038	0	20,557

Source(s) of information:
Tons Generated - Table V-4
Tons Source Reduction & Recycling - Table V-6
Tons Transferred - Table III-3

Sample calculations (2015):

Landfilling = Tons Generated - Source Reduction & Recycling

4,106 tons = 55,711 tons - 51,604.82 tons

Table VI-4A
Waste Management Method: Landfill

Facilities Used by District	County	Average Daily Waste (Tons)	Remaining Capacity		Airspace		Tons of District SW Managed																		
			Years	Data Source	Gross (YD^3)	Net (tons)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
American Landfill, Inc.	Stark	2,750	84.5	OEPA	80,529,082	80,529,082	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Carbon Limestone Landfill LLC	Mahoning	3,112	60.7	OEPA	69,061,518	58,495,106	49	50	52.1	55.5	57.6	59.7	59.9	60.3	60.6	60.5	60.9	61.2	61.2	61.6	61.9	61.8	62.3	62.6	62.6
Celina Sanitary Landfill	Mercer	170	6.6	OEPA	526,850	305,573	1	1	2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0
Cherokee Run Landfill	Logan	1,817	29.1	OEPA	17,801,911	14,634,978	67,963	69,212	71,809	76,495	79,449	82,306	82,588	83,115	83,506	83,413	83,939	84,383	84,342	84,923	85,338	85,269	85,893	119,572	119,581
Crawford County Sanitary Landfill	Crawford	523	12.1	OEPA	2,115,220	1,733,787	1	1.13	1.17	1.25	1.30	1.34	1.35	1.36	1.36	1.36	1.37	1.38	1.38	0	0	0	0	0	0
Franklin County Sanitary Landfill	Franklin	3,718	22.3	OEPA	32,724,776	23,725,463	8	9	8.9	9.5	9.8	10.2	10.2	10.3	10.3	10.3	10.4	10.5	10.4	10.5	10.6	10.6	10.6	10.7	10.7
Pike Sanitation Landfill	Pike	891	75.1	OEPA	19,123,890	17,402,740	56	57	59	63	66	68	68	69	69	69	69	70	70	70	71	1,173	1,182	1,188	1,188
Pine Grove Regional Facility	Fairfield	937	60.1	OEPA	19,320,474	14,490,356	8	8	8	9	9	9	9	9	11	11	11	11	11	11	11	11	11	11	11
Rumpke Waste Inc Hughes Rd Landfill	Hamilton	4,548	14.2	OEPA	25,843,752	23,619,742	879	895	928	989	1,027	1,064	1,068	1,075	1,080	1,078	1,085	1,091	1,090	1,098	1,103	0	0	0	0
Stony Hollow Landfill, Inc	Montgomery	1,162	16.7	OEPA	6,283,400	5,045,570	26,111	26,591	27,589	29,390	30,524	31,622	31,730	31,933	32,083	32,047	32,250	32,420	32,404	32,627	32,786	32,760	33,000	0	0
Suburban Landfill, Inc	Perry	1,413	20	OEPA	11,207,999	8,069,759	5	4.60	4.78	5.09	5.28	5.47	5.49	5.53	5.55	5.55	5.58	5.61	5.61	5.65	5.68	5.67	5.71	5.75	5.75
Beech Hollow Landfill	Jackson	1,310	61.7	OEPA	25,640,000	21,024,800	0.48	0.49	0.51	0.54	0.56	0.58	0.58	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60	0.60	0.61	0.61	0.61
South Side Landfill	Marion (IN)	DNR	20.09	IDEM	39,399,793	31,763,615	0.24	0.24	0.25	0.27	0.28	0.29	0.29	0.29	0.29	0.29	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.31	0.31
Total					**349,578,665**	**269,076,956**	**95,083**	**96,831**	**100,464**	**107,021**	**111,153**	**115,150**	**115,544**	**116,282**	**116,830**	**116,699**	**117,435**	**118,056**	**117,998**	**118,809**	**119,390**	**119,293**	**120,167**	**120,853**	**120,862**

Source(s) of information:

95,083.35 0.00

2015 tons - Tables III-1 - III-3
2015 tons - 2015 ADR Review Forms and IDEM Complete Solid Waste Quarterly Report Database
2016 - 2033 tons - Table VI-1
Projected value for each landfill is calculated as a ratio based on the 2015 distribution.
2014 Indiana Municipal Solid Waste (MSW) Landfill Capacity & Life

Sample calculation:

$$\text{2016 Cherokee Run Landfill} = \frac{\text{Cherokee Run Landfill 2015}}{\text{Total 2015}} \times \text{Total 2016}$$

$$69{,}212 \text{ tons} = \frac{67{,}963 \text{ tons}}{95{,}083 \text{ tons}} \times 96{,}831 \text{ tons}$$

Table VI-4B

Waste Management Method: Incinerator

Facilities Used by District	Average Daily Waste (Tons)	Remaining Capacity		Airspace (cubic yds)		Tons of District SW Managed																
		Years	Data Source	Gross	Net	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
None	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

N/A=Not Available

Table VI-4C
Waste Management Method: Transfer

Facilities Used by District	County	Tons of District SW Managed																			
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Greenville Transfer & Scrap Tire Collection Facility	Darke	290	290	294	294	295	296	298	299	301	302	304	306	307	309	310	312	313	315	317
Miami Co. Solid Waste & Recycling Facility	Miami	0.91	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Montgomery Co. South Transfer Facility	Montgomery	61,400	61,398	62,057	62,250	62,441	62,632	62,899	63,235	63,571	63,907	64,242	64,612	64,983	65,354	65,636	65,918	66,271	66,624	66,978
Fayette County Transfer Facility	Fayette	0.48	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
EQ Industrial Services Processing Facility	Marion (IN)	0.24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		**61,692**	**61,690**	**62,352**	**62,546**	**62,738**	**62,930**	**63,198**	**63,536**	**63,873**	**64,211**	**64,547**	**64,920**	**65,292**	**65,665**	**65,948**	**66,232**	**66,586**	**66,941**	**67,297**

Source(s) of information:
2015 Tons by Facility - Table III-3
Total Tons - Table VI-1

Table VI-4D
Waste Management Method: Recycling

Facilities Used by District	Tons of District SW Managed																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Batteries Plus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buck Creek Pallet	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Buckeye Diamond	1,385	1,369	1,370	1,364	1,358	1,353	1,342	1,341	1,340	1,339	1,338	1,337	1,336	1,336	1,336	1,336	1,336	1,336	1,336
Cloud Blue	22	22	22	22	22	21	21	21	21	21	21	21	21	21	21	21	21	21	21
Cohen Brothers	976	965	965	962	958	954	946	945	944	944	943	942	942	942	942	942	942	942	942
Franklin Iron & Metal	7,487	7,400	7,403	7,373	7,343	7,313	7,252	7,247	7,241	7,236	7,231	7,226	7,222	7,222	7,222	7,222	7,222	7,222	7,222
Goodwill Ind.	30	29	29	29	29	29	29	29	29	29	29	29	28	28	28	28	28	28	28
Green	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
L & L Salvage	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Nu-Tech Polymers &	750	741	742	739	736	733	727	726	725	725	724	724	723	723	723	723	723	723	723
OMAC Recycling Center	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Pratt Industries	35	35	35	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34	34
PSC Metals, Inc.	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
Recycled Fibers	250	247	247	246	245	244	242	242	242	242	241	241	241	241	241	241	241	241	241
ReStore	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR
River Metals	50	49	49	49	49	49	48	48	48	48	48	48	48	48	48	48	48	48	48
Royal Paper Stock	50	49	49	49	49	49	48	48	48	48	48	48	48	48	48	48	48	48	48
Shred-It	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Springfield Recycling	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Staker Alloys	461	456	456	454	453	451	447	447	446	446	446	445	445	445	445	445	445	445	445
Urban Elsass	202	200	200	199	198	197	196	196	195	195	195	195	195	195	195	195	195	195	195
Valicor	107	106	106	105	105	105	104	104	104	104	103	103	103	103	103	103	103	103	103
Wilmington Iron & Metal	1,842	1,821	1,822	1,814	1,807	1,800	1,785	1,783	1,782	1,781	1,779	1,778	1,777	1,777	1,777	1,777	1,777	1,777	1,777
Registered Scrap Tire Transporters	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Liberty Tire	642	634	634	632	629	627	621	621	621	620	620	619	619	619	619	619	619	619	619
Other Scrap Tire (from OEPA)	838	828	828	825	822	818	811	811	810	810	809	808	808	808	808	808	808	808	808
Material Recovery Facilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rumpke Dayton MRF	4,306	4,256	4,258	4,241	4,224	4,206	4,171	4,168	4,165	4,162	4,159	4,156	4,154	4,154	4,154	4,154	4,154	4,154	4,154
Waste Management Dayton MRF	1,135	1,122	1,122	1,118	1,113	1,109	1,099	1,099	1,098	1,097	1,096	1,095	1,095	1,095	1,095	1,095	1,095	1,095	1,095
Commercial Box Store Recycling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aldi	87	86	86	86	86	85	85	84	84	84	84	84	84	84	84	84	84	84	84
Kohls	105	104	104	103	103	102	101	101	101	101	101	101	101	101	101	101	101	101	101
Big Lots	25	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Dollar General	219	216	216	215	214	214	212	212	211	211	211	211	211	211	211	211	211	211	211
Target	269	266	266	265	264	263	260	260	260	260	260	259	259	259	259	259	259	259	259
Meijer	487	481	482	480	478	476	472	471	471	471	470	470	470	470	470	470	470	470	470
Home Depot	165	163	164	163	162	162	160	160	160	160	160	160	160	160	160	160	160	160	160
Lowes	283	280	280	279	278	277	274	274	274	274	274	273	273	273	273	273	273	273	273
Walmart	1,223	1,209	1,209	1,205	1,200	1,195	1,185	1,184	1,183	1,182	1,181	1,181	1,180	1,180	1,180	1,180	1,180	1,180	1,180
HHW Collection	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Special Material Collection at the Clark County Recycling Center	75	74	74	74	74	74	73	73	73	73	73	73	73	73	73	73	73	73	73
Other recycling facilities used by the residential/commercial and industrial sectors	46,930	46,387	46,408	46,220	46,032	45,843	45,460	45,427	45,393	45,359	45,325	45,298	45,271	45,271	45,271	45,271	45,271	45,271	45,271
Total	**70,449**	**69,633**	**69,665**	**69,382**	**69,100**	**68,817**	**68,242**	**68,191**	**68,141**	**68,090**	**68,039**	**67,999**	**67,958**	**67,958**	**67,958**	**67,958**	**67,958**	**67,958**	**67,958**

Source(s) of information:
The total recycled is from Table VI-1.
Projected value for each Recycling Facility is calculated as a ratio based on the 2014 distribution

Sample calculation:

$$\text{Franklin Iron \& Metal Recycling 2016} = \frac{\text{2015 Franklin Iron \& Metal}}{\text{2015 Total}} \times \text{Total 2016}$$

$$5{,}685 \text{ tons} = \frac{7{,}414 \text{ tons}}{37{,}196 \text{ tons}} \times 28{,}523 \text{ tons}$$

$$7{,}400 \text{ tons} = \frac{7{,}487 \text{ tons}}{70{,}449 \text{ tons}} \times 69{,}633 \text{ tons}$$

Waste Management Method: Composting

Facilities Used by District	County	Tons of District SW Managed																		
		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Cherokee Run Landfill Inc	Logan	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
German Township	Clark	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Moorfield Township	Clark	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
Total		41,632	41,280	41,117	41,632	41,280	41,117	41,632	41,280	41,117	41,632	41,280	41,117	41,632	41,632	41,632	41,632	41,632	41,632	41,632

Source(s) of information:
2015 tons - Table III-6
2015 tons - 2015 Annual District Report survey data
2016 - 2032 tons - Table VI-1

Table VI-5
Implementation Schedule for Facilities,
Strategies, Programs and Activities: Dates and Description

Program Name	ID #	Location	Description of Program/Facility	Duration	
				Begin	Cease
Clark County Specialty Recycling Center	**CC-1**	District-wide	In 2007, the District opened a specialty drive thru recycling center where residents could recycle difficult to recycle items on a weekly basis. The facility also serves as administrative offices and a home base for all programs. Hours are Thursdays: 9 am - 6 pm and 1st Saturday of every month: 9 am – noon. The center accepts latex paint, used tires, fluorescent bulbs, HID bulbs, UV lamps, NICAD batteries, cell phones, TVs and monitors, electronics, confidential material to be shredded, and appliances (including refrigerators). Composting bins may also be purchased at the collection center.	2007	Ongoing
Initiative CC-1.1: Clark County Special Recycling Center Expansion			The District anticipates deciding on the best use of the property in late 2018 or early 2019. Development planning for the site would begin in 2019-2020 with a final operation not anticipated until 2023 or 2024 (the next plan update period).	2019	2024
Curbside Recycling Program	**CC-2**	District-wide	The District will continue to work with political subdivisions in the county to promote and support curbside recycling. Each community collects at a minimum aluminum and steel cans, glass, newspaper, cardboard, magazines, mixed paper, and plastic #1-2.	Ongoing	Ongoing
Initiative CC-2.1: Curbside Recycling Technical Assistance			The District will continue to work with political subdivisions in the county to promote and support curbside recycling. The District's main objective with this program is to increase the availability of curbside recycling in the county as well as to improve participation.	2019	Ongoing
Initiative CC-2.2: Take it to the Curb Promotion			The District will continue to promote the message that the Take it to the Curb campaign developed to promote and support curbside recycling expansion.	2019	Ongoing
Drop-Off Recycling Program	**CC-3**	District-wide	The drop-off recycling program is expected to continue throughout the planning period. The District currently hosts five locations. Drop-off locations are full-time, full-service, and publicly available. This means that each location is open to the public at least 40 hours per week and accepts at least aluminum/bi-metal cans, plastic #1 and #2, glass, mixed paper, aseptic containers, and cardboard. The West Station also accepts books. Each station consists of 17 cubic yard roll-off boxes. The District transports commingled materials to the WMI MRF and cardboard to the District Recycling Center. The District will continue to advertise limited material drop-off locations such as Abitibi paper recycling drop-offs on its website and in printed brochures.	Ongoing	Ongoing
Initiative CC-3.1: Drop-Off Recycling Evaluations			The District will monitor a variety of elements regarding drop-off recycling locations, such as total tons of materials collected and contamination issues. The District may adjust the drop-off program on an as-needed basis when improvements are identified.	2019	Ongoing
Drop-Off Recycling Program	**CC-3**	North Recycling Station, Clark County	Drop-Off Recycling Program (see description above).	2007	Ongoing
Drop-Off Recycling Program	**CC-3**	West Recycling Station, Clark County	Drop-Off Recycling Program (see description above).	2007	Ongoing
Drop-Off Recycling Program	**CC-3**	Eastern Clark County (Rural Area)	Drop-Off Recycling Program (see description above).	Ongoing	Ongoing
Drop-Off Recycling Program	**CC-3**	Northridge Recycling Station	Drop-Off Recycling Program (see description above).	2017	Ongoing
Drop-Off Recycling Program	**CC-3**	Mad River Township Recycling Station	Drop-Off Recycling Program (see description above).	2017	Ongoing

Table VI-5 (Continues)
Implementation Schedule for Facilities,
Strategies, Programs and Activities: Dates and Description

Program Name	ID #	Location	Description of Program/Facility	Duration	
				Begin	Cease
Drop-Off Recycling Program	**CC-3**	Mad River Township Recycling Station	Drop-Off Recycling Program (see description above).	2017	Ongoing
Yard Waste Management Program	**CC-4**	District-wide	Composting will continue to be promoted by conducting workshops at related events and offering backyard composting bins for sale at wholesale cost. Information about composting will also be available in the District's "Reduce, Reuse, Recycle," annual brochure.	Ongoing	Ongoing
Household Hazardous Waste (HHW) Collection Program	**CC-5**	District-wide	Weekly HHW waste collection events will continue to be offered to residents.	2007	Ongoing
Initiative CC-5.1: Enhancement to HHW Program			The District will incorporate any changes to the HHW program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.	2019	Ongoing
Initiative CC-5.2: Enhance HHW Education			The District will promote the proper purchasing and management of HHW materials to residents through a public education initiative. This initiative would focus on purchasing techniques to minimize HHW generation and to purchase and use alternative products that are less hazardous. The District may utilize its web site, printed materials, presentations to adults and children, social media and other options as needed.	2021	2022
Electronics Collection	**CC-6**	District-wide	Electronics are accepted from residents at the District Recycling Center. Televisions and monitors are accepted for $0.10 per pound.	Ongoing	Ongoing
Initiative CC-6.1: Enhancement to Electronics Recycling Program			The District will incorporate any changes to the Electronics Recycling program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.	2019	Ongoing
Lead-Acid Battery Recycling Program	**CC-7**	District-wide	Lead-acid batteries are accepted from residents at the District Recycling Center.	Ongoing	Ongoing
Initiative CC-7.1: Enhancement to Lead Acid Battery Recycling Program			The District will incorporate any changes to the Lead Acid Battery Recycling program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.	2019	Ongoing
Scrap Tire Collection Program	**CC-8**	District-wide	Scrap tires are accepted from residents at the District Recycling Center for a $0.10/tire. Scrap tires will also continue to be collected through the City of Springfield's Reserve a Roll-Off program and during city clean-up activities.	2007	Ongoing
Initiative CC-8.1: Enhancement to Scrap Tire Recycling Program			The District will incorporate any changes to the Scrap Tire Recycling program that are a direct result of the new initiatives, programs, services and or facilities that are planned in Program # CC-1 from the new property.	2021	2022
Initiative CC-8.2: Enhancement to Scrap Tire Recycling Education			The District will promote the proper disposal of scrap tires to residents through a public education initiative that would encourage them to dispose of scrap tires at the point of purchase. This would explain the need for the disposal fee charged by the retailer. This would reduce the number of tires that communities and the District must pay to manage.	2021	2022
Initiative CC-8.3: Education of Scrap Tire Dumping Laws			The District could work with each of the entities within the District that sell new tires to develop a persuasive educational poster comparing the costs of legal versus illegal scrap tire disposal. The District in partnership with the Clark County Board of Health could work with local tire retailers and businesses that accept scrap tires to educate them about the local problems related to tire dumping. The District could encourage these businesses to display the poster in a highly visible area in their establishment.	2022	2023

Table VI-5 (Continued)
Implementation Schedule for Facilities,
Strategies, Programs and Activities: Dates and Description

Program Name	ID #	Location	Description of Program/Facility	Duration	
				Begin	Cease
Government Office Paper Recycling	**CC-9**	District-wide	County offices in the District will continue to be supplied with recycling containers for paper and cardboard. Materials will be taken to the District Recycling Center where they will be baled and sold. The program saves the county on disposal costs and is self sustaining.	Ongoing	Ongoing
Initiative CC-9.1: Program Performance Assessment			The District will assess the reason why the tonnage reported for this program dropped dramatically. If the reason was data reporting related, then the District will make the appropriate changes to obtain accurate data. If the drop was related to an operational issue, then the District will assess the issue and develop appropriate improvement initiatives to move the program back to its historical performance levels.	2019	2020
Business Paper Recycling	**CC-10**	District-wide	Many businesses do not generate enough paper and/or cardboard to justify a separate recycling bin at their location. The District continues to promote to businesses the opportunity to use one of the District's three recycling drop-off stations to recycle paper and cardboard. This program generates revenue for the District while reducing disposal costs for businesses.	Ongoing	Ongoing
Initiative CC-10.1: Engage Royal Oak on Data Consistency			The District will work with Royal Oak to determine the best and most accurate way to collect and then submit recycling data to the District for the paper recycled by residents and businesses in the District.	Ongoing	Ongoing
Education and Awareness Program	**CC-11**	District-wide	The District offered a variety of education, awareness and promotional services to residents and businesses in the reference year (2015). These included: Close the Loop Campaign, Pay As You Throw (PAYT) Promotion, School Support and Public Education and Outreach. Details of these initiatives can be found in Section IV and V. The District reserves the right to conduct different program promotions and initiatives than those listed in Section IV based on current events, programs and policies of the District in the new planning period.	Ongoing	Ongoing
Initiative CC-11.1: Enhance Take it to the Curb Campaign			The District will evaluate the reasons why the campaign did not achieve its desired outcome. Based on the results of the evaluation, the District may develop a new campaign and or approach to deliver a new or revised message. This may also include a longer-term approach to message delivery to ensure behavior change occurs over time. Measurement attributes will also be considered to assist in the evaluation of any new campaigns or approaches.	2019	2021
Business Waste Reduction Assistance Program (BWRAP)	**CC-12**	District-wide	Businesses and institutions will continue to be provided with direct assistance to employ waste reduction programs upon request. The direct assistance portion of BWRAP continues to be in high-demand and produce favorable results. Businesses will also continue to have access to information pertaining to grants/loans, waste reduction, recycling, and purchasing recycled-content products on the District's website. Web links to materials exchange programs will also continue to be posted on the website.	Ongoing	Ongoing
Initiative CC-12.1: Target Marketing of Program			In order to focus the limited availability of District staff and to maximize the efforts of the program, the District will develop a targeted marketing campaign towards businesses that have the greatest need and potential for waste diversion. Working with the annual survey data collection program, the District will develop a list of potential businesses that meet the criteria listed above. Once the list is formulated, the District will target promotion of the program to those businesses. One on one engagement will also be initiated to build relationships. By incorporating this approach, the District will achieve the greatest return on investment for the limited time and resources available for this program.	2019	2020

Table VI-5 (Continued)
Implementation Schedule for Facilities,
Strategies, Programs and Activities: Dates and Description

Program Name	ID #	Location	Description of Program/Facility	Duration	
				Begin	Cease
Litter Prevention/Clean-Up Programs	**CC-13**	District-wide	The District will continue to manage a variety of litter prevention/clean-up programs. The Adopt-a-Road and Adopt-a-Spot programs continue to be included in the District's anti-littering campaign. In 2015, there were 12 groups that performed 19 cleanups. The District will continue funding a full-time deputy to investigate and enforce litter and open-dumping laws. The deputy will also continue to manage PRIDE activities. PRIDE (Providing Responsibilities for Inmates through Duties for the Environment) utilizes inmates to clean-up public areas, provide support for District special events, and provide labor for the Recycling Center.In 2015, inmates picked up 42 tons of trash, plus 907 tires and hundreds of other bulk items. Additionally, they also cleaned 44 miles of roads and helped at cleanups and special events. The 24-hour hotline to report litter and illegal dumping will continue to be available. Information received on this line is investigated by a County Environmental Enforcement Deputy. . In 2015, 471 calls were received which produced 260 cleanups, 183 investigations, and 17 arrests in Clark County.	Ongoing	Ongoing
Health Department Funding	**CC-14**	District-wide	The District will continue to support the combined Health District with funding for sanitarians to monitor facilities and water wells. Funding will also provide the Health District with resources to enforce open-dumping laws and respond to solid waste management-related health issues.	Ongoing	Ongoing
Initiative CC-14.1: Open Dump/Scrap Tire Clean-Up Fund			The District may establish a grant for the clean-up of solid waste dumps and tire dumps starting in 2022 or later. A grant manual will be created prior to the start of the program, if the program is implemented, to articulate the details of the grant program and will include an application and contractual agreements.	2020	2023
Legal and Consulting	**CC-15**	District-wide	The District will continue to allow for annual legal and technical assistance from lawyers and consultants.	Ongoing	Ongoing
Other Facilities	**CC-16**	District-wide	Facilities identified in Section IV that support or are active in the management of solid waste in the District will continue throughout the planning period except for the North Montgomery County Transfer Facility. This facility is scheduled to be closed in 2013.	Ongoing	Ongoing
Curbside Recycling Grants	**CC-17**	District-wide	The District will provide one-time economic incentive grants for political subdivisions to either start new programs or enhance existing programs that assist the District with maintaining or exceeding its goals as written in this Plan Update.	2016	2017
Initiative CC-17.1: Grant Amendments			The District will reach out to the communities to determine why they did not take advantage of the grant funding. Based on the community feedback, the District will revise the grant program and re-issue a revised grant program. The community engagement process may include one on one discussions and or a community meeting to solicit feedback on the program.	2019	Ongoing
Food Waste Management	**CC-18**	District-wide	Paygro is a Class II licensed composting facility and may accept food waste. They have conducted successful pilot studies with the Ohio Grocer's Association and the Ohio DNR and Ohio EPA. The District has also assisted Paygro in obtaining two Market Development Grants that have enabled them to purchase equipment to collect and process food waste specifically from retail establishments and institutions.	2009	Ongoing
Disaster Debris Assistance	**CC-19**	District-wide	Since 2010, the District has worked cooperatively with the Clark County Emergency Management Agency to develop a Disaster Debris Management Plan that was adopted in 2011. The Plan identifies the services and needs of the local jurisdictions in the event a debris management emergency or a solid waste management service emergency exists. The District will act as Debris Coordinator as part of the Emergency Operation Command in collaboration with the county EMA when called upon to do so in order to implement this plan. If there is a need for emergency Clark County Disaster Debris funding, the District may allocate up to 5% of excess District funding or up to $15,000). The District, EMA and the County will make every effort to seek reimbursement from local, state and federal funding sources.	2010	Ongoing
Contracting/Franchising Waste Collection Program	**N/A**	District-wide	This program will not continue into the planning period. The main strategy of this program is to facilitate contracting options for waste collection and recycling in Clark County.	Ongoing	2018

Table VI-6
Facilities Identified and Current Designations

Facilities Identified	
Recycling and Composting Facilities	
All recycling and composting facilities presented in the tables in Section III are identified for the purposes of this Plan Update.	
Designated Facilities - ORC 343.14	
Name	**Location**
None	N/A

VII. Measurement of Progress Toward Waste Reduction Goals [ORC Section 3734.53(A)]

The Ohio EPA *1995 State Plan* establishes seven goals solid waste management districts (SWMDs) are required to achieve in their solid waste management plans. These goals are as follows:

Goal #	Description
#1	Ensure the availability of reduction, recycling and minimization alternatives for municipal solid waste by ensuring 90% of residents have access to curbside and drop-off programs. The District must also demonstrate that there are adequate opportunities for industrial businesses to recycle.
#2	Reduce and/or recycle at least 25% of the total waste generated by the residential/commercial sector and 50% of the total waste generated by the industrial sector.
#3	Provide informational and technical assistance on source reduction.
#4	Provide informational and technical assistance on recycling, reuse, and composting opportunities.
#5	Strategies for scrap tires and household hazardous wastes.
#6	Annual reporting of plan implementation.
#7	Market development strategy (optional).

SWMDs are encouraged to meet Goal #1 and Goal #2, but are only required to demonstrate compliance with one goal or the other. Goals #3 through #6 are mandated goals to which SWMDs must demonstrate compliance, and Goal #7 is optional. This section will cover the goal selected by the District, its progress toward achieving the goal, and plans to maintain compliance throughout the planning period.

A. Compliance with Goal #2

Convenient opportunities to recycle are important to maintaining and improving recycling rates. It is desirable to provide convenient recycling opportunities throughout the District using a combination of curbside recycling and drop-off programs. The District's current recycling programs and their locations within the District are serving the needs of the District. These programs do not, however, meet the 90% access goal (Goal #1) of the *1995 State Plan*.

The District annually conducts a comprehensive surveying system that has consistently provided high quality waste reduction data over the last several years. This data, coupled with District waste generation, has resulted in the District achieving a 25% or greater waste reduction rate in the residential/commercial sector and a 50% or greater waste reduction

rate in the industrial sector during the reference year of this *Plan Update* including previous plan implementation years of the current solid waste plan. Therefore, the District is choosing to show compliance with Goal #2 instead of Goal #1. As stated in the Ohio EPA Format, Goal #2 requires solid waste districts to:

- Reduce or recycle at least 25% of the residential/commercial waste generated; and

- Reduce or recycle at least 50% of the industrial waste generated.

B. Demonstration of Compliance with Goal #2

Since the District's *Plan Update* is based on Goal #2, Plan format Tables VII-1 and VII-2 are not applicable and have been omitted.

In 2015, approximately 40% of the District's residential/commercial waste stream was recycled including yard waste (Table VII-3). This equates in a pounds per person per day (PPPD) rate of 2.44.

Approximately 76% of the solid waste recycled by the residential/commercial sector is residential. This includes the curbside and drop-off recycling programs, yard waste management and household hazardous waste collection programs. Solid waste recycled by the commercial businesses is approximately 24% of the waste recycled within the residential/commercial sector. Many commercial businesses continue to recycle cardboard, paper, wood and metals.

The District is committed to maintaining or exceeding the state goals for recycling and waste reduction. The programs presented in Section V and included in Table VI-5 illustrate the District's plans to continue to maintain or increase the amount of recyclables and materials that are recycled.

The District will continue to exceed the 25% waste reduction rate throughout the planning period based on the District's projections for successful recycling programs and waste generation within the District. In 2033, the final year of the planning period, the District anticipates a 37% waste reduction rate for the residential/commercial section. This equates to a pounds per person per day (PPPD) rate of 2.44.

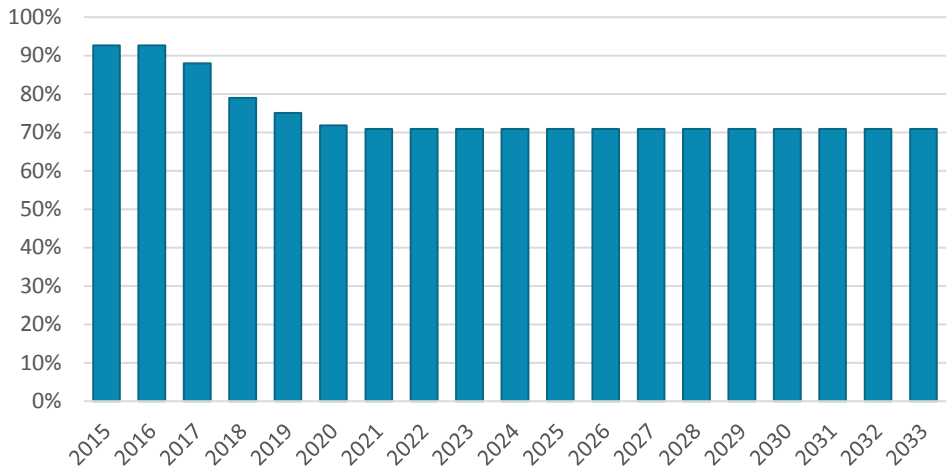
The following graph depicts the residential/commercial sector waste reduction rate throughout the planning period.

Residential/Commercial Waste Reduction Percentage (2015 – 2033)

In 2015, 93% of industrial solid waste was recycled (Table VII-4). This equates in a pounds per person per day (PPPD) rate of 2.08. In 2033, the final year of the planning period, the District anticipates a 71% waste reduction rate for the industrial sector. This equates in a pounds per person per day (PPPD) rate of 2.12. This projection was made to stay conservative in the event of fluctuations in the industrial sector.

The following graph depicts the industrial sector waste reduction rate throughout the planning period.

Industrial Waste Reduction Percentage (2015 – 2033)



In 2015, the District's total waste reduction rate (residential/commercial plus industrial) was 54% (Table VII-5). This equates in a pounds per person per day (PPPD) rate of 4.52. The District anticipates that the total waste reduction rate will decrease to 47% by 2033, the final year of the planning period. This equates in a pounds per person per day (PPPD)

rate of 4.56. The projected decrease is primarily based on the reduction from the industrial sector coupled with projected increases in waste generation from the residential sector.

The following graph depicts all sectors waste reduction rate throughout the planning period.

Total District Waste Reduction Percentage (2015 – 2033)

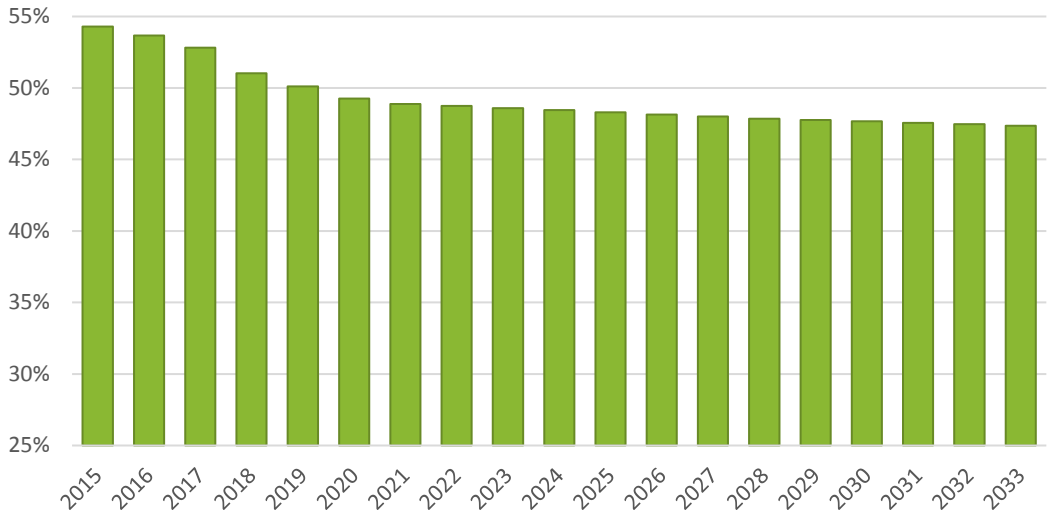


Table VII-3
Annual Rate of Waste Reduction: Residential/Commercial Waste

Year	Recycling	Composting	Landfill	Total Waste Reduction	Population	Waste Reduction Rate (%)	Per Capita Waste Reduction Rate (lb/day)
2015	18,844	41,632	90,247	60,476	135,959	40%	2.44
2016	18,028	41,280	91,625	59,308	135,425	39%	2.40
2017	18,060	41,117	91,912	59,177	134,890	39%	2.40
2018	18,091	40,954	92,198	59,045	134,356	39%	2.41
2019	18,122	40,791	92,482	58,913	133,822	39%	2.41
2020	18,152	40,628	92,764	58,780	133,287	39%	2.42
2021	18,205	40,515	93,159	58,720	132,917	39%	2.42
2022	18,154	40,403	93,657	58,556	132,547	38%	2.42
2023	18,103	40,290	94,155	58,393	132,177	38%	2.42
2024	18,053	40,177	94,652	58,230	131,807	38%	2.42
2025	18,002	40,064	95,148	58,066	131,437	38%	2.42
2026	17,961	39,973	95,697	57,934	131,139	38%	2.42
2027	17,920	39,883	96,246	57,803	130,841	38%	2.42
2028	17,879	39,792	96,795	57,671	130,543	37%	2.42
2029	17,879	39,792	97,213	57,671	130,245	37%	2.43
2030	17,879	39,792	97,631	57,671	129,947	37%	2.43
2031	17,879	39,792	98,153	57,671	129,735	37%	2.44
2032	17,879	39,792	98,676	57,671	129,523	37%	2.44
2033	17,879	39,792	99,201	57,671	129,311	37%	2.44

Note: Columns for incineration have not been included in this table since the District has not used this managament method for solid waste.

Source(s) of information:
Recycling, composting, incineration, and landfill tonnage - Table VI-2
Gross incineration and waste reduction via incineration - Table VI-1
Population - Table V-1

Sample calculations (2015):

Recycling + composting = Total waste reduction

18,844 tons + 41,632 tons = 60,475.86 tons

Total waste reduction ÷ (total waste reduction + landfill) x 100 = Waste reduction rate

60,476 tons / (60,476 tons + 90,247.14 tons) x 100 = 40%

(Total waste reduction x 2,000 lbs) ÷ (District population x 365 days) = Per capita waste reduction rate

(60,476 tons x 2,000 pounds) / (135,959 x 365) = 2.44 lbs/day

Table VII-4
Annual Rate of Waste Reduction: Industrial Waste

Year	Recycling	Landfill	Population	Waste Reduction Rate (%)	Per Capita Waste Reduction Rate (lb/day)
2015	51,605	4,106	135,959	93%	2.08
2016	51,605	4,106	135,425	93%	2.09
2017	51,605	7,083	134,890	88%	2.10
2018	51,291	13,663	134,356	79%	2.09
2019	50,978	16,953	133,822	75%	2.09
2020	50,664	19,930	133,287	72%	2.08
2021	50,038	20,557	132,917	71%	2.06
2022	50,038	20,557	132,547	71%	2.07
2023	50,038	20,557	132,177	71%	2.07
2024	50,038	20,557	131,807	71%	2.08
2025	50,038	20,557	131,437	71%	2.09
2026	50,038	20,557	131,139	71%	2.09
2027	50,038	20,557	130,841	71%	2.10
2028	50,038	20,557	130,543	71%	2.10
2029	50,038	20,557	130,245	71%	2.11
2030	50,038	20,557	129,947	71%	2.11
2031	50,038	20,557	129,735	71%	2.11
2032	50,038	20,557	129,523	71%	2.12
2033	50,038	20,557	129,311	71%	2.12

Source(s) of information:
Recycling and landfill data - Table VI-3
Population - Table V-1

Sample calculations (2015):

Recycling ÷ (recycling + landfill) x 100 = Waste reduction rate
51,605 tons / (51,605 tons + 4,106.1 tons) x 100 = 93%

Recycling x 2,000 pounds ÷ (district population x 365 days) = Per capita waste
(51,605 tons x 2,000 pounds) / (135,959 x 365) = 2.08 lbs/day

Table VII-5
Annual Rate of Waste Reduction: Total District Solid Waste

Year	Recycling	Composting	Landfill	Tons Waste Reduction	Population	Waste Reduction Rate	Per Capita Waste Reduction Rate (lb/day)
2015	70,449	41,632	94,353	112,081	135,959	54%	4.52
2016	69,633	41,280	95,731	110,913	135,425	54%	4.49
2017	69,665	41,117	98,995	110,782	134,890	53%	4.50
2018	69,382	40,954	105,861	110,336	134,356	51%	4.50
2019	69,100	40,791	109,435	109,891	133,822	50%	4.50
2020	68,817	40,628	112,693	109,445	133,287	49%	4.50
2021	68,242	40,515	113,716	108,757	132,917	49%	4.48
2022	68,191	40,403	114,214	108,594	132,547	49%	4.49
2023	68,141	40,290	114,711	108,431	132,177	49%	4.50
2024	68,090	40,177	115,208	108,267	131,807	48%	4.50
2025	68,039	40,064	115,705	108,104	131,437	48%	4.51
2026	67,999	39,973	116,253	107,972	131,139	48%	4.51
2027	67,958	39,883	116,802	107,840	130,841	48%	4.52
2028	67,917	39,792	117,352	107,709	130,543	48%	4.52
2029	67,917	39,792	117,770	107,709	130,245	48%	4.53
2030	67,917	39,792	118,188	107,709	129,947	48%	4.54
2031	67,917	39,792	118,710	107,709	129,735	48%	4.55
2032	67,917	39,792	119,233	107,709	129,523	47%	4.56
2033	67,917	39,792	119,757	107,709	129,311	47%	4.56

Note: Columns for incineration have not been included in this table since the District has not used this managament method for solid waste.

Source(s) of information:
Recycling, composting, incineration, waste reduction via incineration, landfill, and population - Tables VII-3 and VII-4

Sample calculations (2015):

Recycling + composting + waste reduction via incineration = Tons waste reduction

70,449 tons + 41,632 tons = 112,080.68 tons

Total waste reduction ÷ (total waste reduction + landfill) x 100 = Waste reduction rate

112,081 tons / (112,081 tons + 94,353.24 tons) x 100 = 54%

(Total waste reduction x 2,000 lbs) ÷ (District population x 365 days) = Per capita waste reduction rate

(112,081 tons x 2,000 pounds) / (135,959 x 365) = 4.52 lbs/day

VIII. Cost of Financing Plan Implementation [ORC Section 3734.53(A)(9), (12) and (B)]

This section of the Plan provides information on the District's revenues and expenditures. The revenues and expenditures presented for 2015 through 2018 are based on amended budgets and actual revenues received and costs expended. The planning period includes cost projections based on these initial years.

A projection on the estimated funds needed to operate is provided for each District program. The budget is a demonstration that the District can implement the initiatives, strategies, programs and facilities detailed in Sections IV and V of this *Plan Update*. The District put forth a diligent and honest effort to prepare the budget in this section; actual revenues and costs may change and adjustments will be made by the District as appropriate. The tables referenced throughout Section VIII of this *Plan Update* are included at the end of the section.

Budget Demonstration

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, with the advice and assistance of the District Coordinator, 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 Coordinator'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, 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 that are in compliance with this *Plan Update* are not a "material change in circumstance" regarding the implementation of this *Plan Update*.

Finally, the District reserves the right to fund some of the programs identified in this *Plan Update* through its unencumbered fund balance rather that through a direct line item in the budget. This allows flexibility to the District in the event the particular program is not implemented and/or there are gaps in funding provided. The District will not spend money from its unencumbered fund balance in such a way as to deplete the balance to levels that would put the District at risk financially.

A. Funding Mechanisms

The District has prepared this Solid Waste Management *Plan Update* with the most reliable and best information available at the time of its development. There may be discrepancies between the information presented in this *Plan Update* and previous reports (i.e., Annual District Reports, Quarterly Fee Reports, etc.) submitted to Ohio EPA. Some of these discrepancies come from the differences in categories from Ohio EPA reports and the programs presented in this *Plan Update*. The District believes that all previous reports were prepared with the best information available at that time. Since this *Plan Update* was prepared using data from comprehensive survey efforts that included all industrial and commercial businesses, institutions, municipalities, compost facilities, brokers/buy backs and solid waste haulers, the data will supersede all other reports. In addition, the District has committed to comprehensive annual surveying of all sectors in Clark County with assistance from solid waste consultants.

1. District Disposal Fees

Table VIII-1, "District Disposal Fee Schedule and Revenues Generated," presents an estimate of total District disposal fee revenues for the planning period. The District's in-district solid waste disposal fee is $2.00 per ton. The District's out-of-district solid waste disposal fee is $4.00 per ton. Out-of-state waste is charged the same rate as in-district solid waste at $2.00 per ton.

There are no in-district landfills in operation. Additionally, Ohio EPA is not currently reviewing any permits to install for a new landfill or transfer

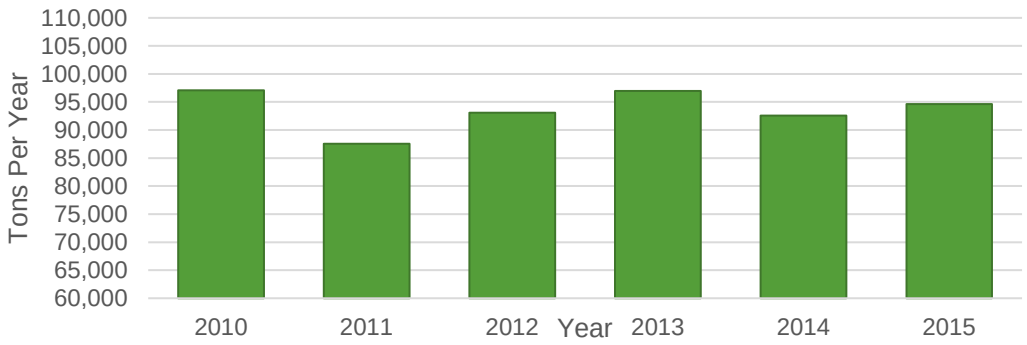
station in the District. Thus, it is not possible for the District to estimate the annual disposal quantities that an in-District landfill or transfer station would receive. Subsequently, the District cannot estimate the level of any disposal fee that will be required to generate adequate revenue to implement the District's Plan.

2. Generation Fee

In accordance with Section 3734.573 of the Ohio Revised Code and under the District's current solid waste management plan, the District instituted an $8.50 per ton generation fee. Receiving transfer stations, landfills or any other applicable solid waste facility will continue to collect the generation fee for each ton of solid waste originating within the District and disposed in the State of Ohio. These facilities will forward the generation fee revenue to the District pursuant to Section 3745-28-03 of the Ohio Administrative Code.

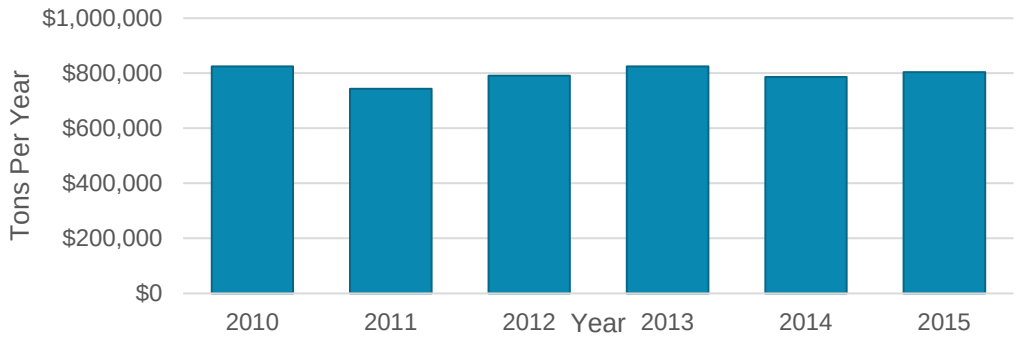
An analysis of the District's recent generation fee disposal tonnage from 2010 – 2015 was conducted to better understand past trends. The following chart depicts the amount of solid waste on which the District received its generation fee.

Historical Generation Fee Tons (2010 – 2015)



The following chart depicts the actual generation fees collected for this same period.

Historical Generation Fees (2010 – 2015)



Beginning in 2007, the generation fee collected was $8.50 per ton. The following chart depicts the revenue collected, tons disposed and percent change from 2010 – 2017.

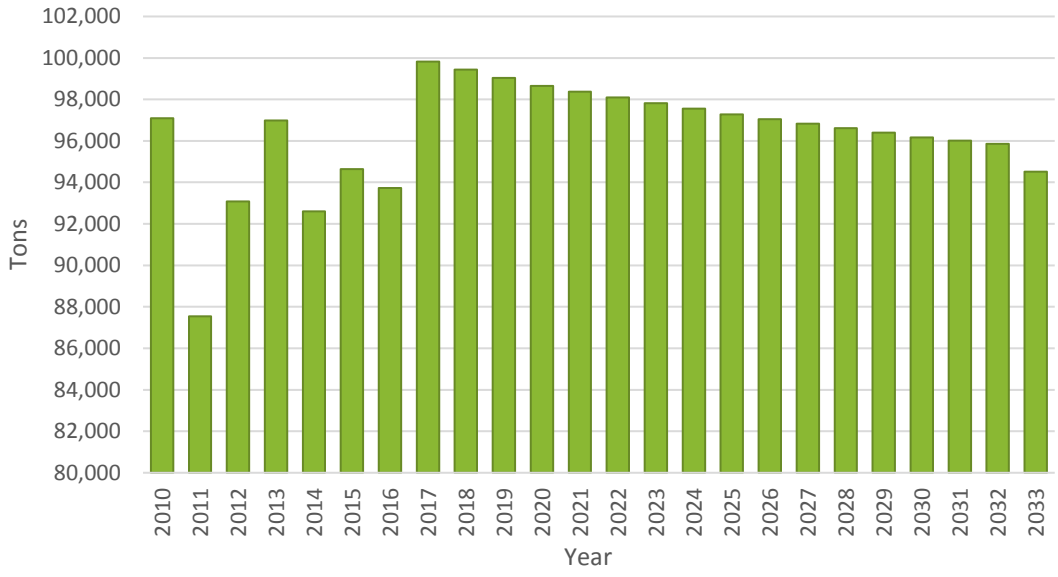
Year	Tons	$/Ton	Revenue	Difference
2010	$8.50	97,086	$825,229	N/A
2011	$8.50	87,537	$744,062	-11%
2012	$8.50	93,086	$791,232	6%
2013	$8.50	96,984	$824,362	4%
2014	$8.50	92,597	$787,078	-5%
2015	$8.50	94,637	$804,414	2%
2016	$8.50	93,726	$796,669	-1%
2017	$8.50	99,830	$848,559	6%

The average increase in generation fee tonnage was approximately 0.2%.

Based on the above analysis, the District incorporated the necessary adjustments to the projections in disposal from Section VI to account for the recession and any future growth. To accomplish this, the District decreased the annual generation fee tonnage in 2017 by 0.4% base on the projected population change per year.

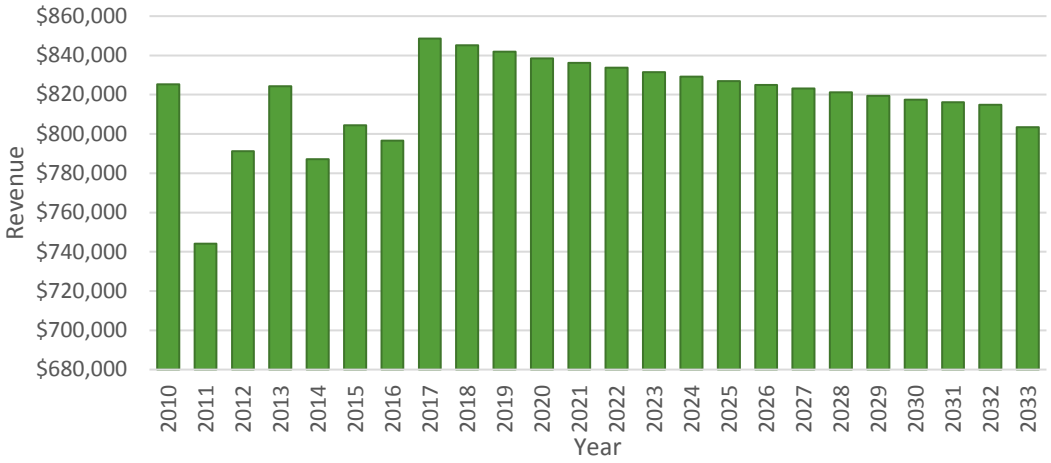
Table VIII-2 presents the generation fee schedule. The District has provided actual revenue and tons disposed for 2010 through 2017. The following graph depicts the actual and projected disposal tonnage that qualifies for generation fee collection for this *Plan Update*:

Disposal Tonnage (2010 – 2033)



The following graph depicts the actual and projected generation fee revenue for this *Plan Update*:

Generation Fees (2010 – 2033)



3. Summary of District Revenues

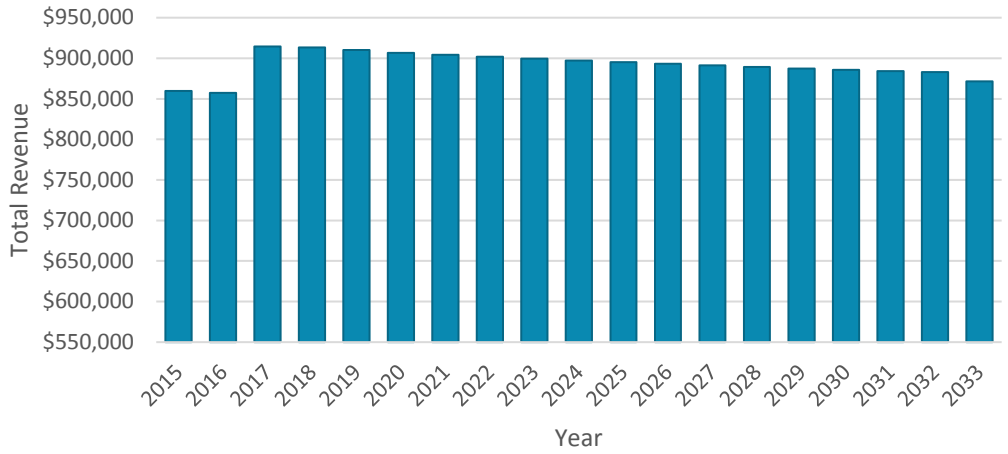
Table VIII-3, "Summary of Revenue Generated and Mechanisms Used," presents the District's actual revenues from 2015 to 2017 and estimated revenues for 2018 – 2033. Estimated revenues include generation fees, user fees, recycling revenue, grants, reimbursements and miscellaneous revenue. The following table summarizes all District revenue for the first year of the planning period along with a description of each revenue source. Miscellaneous revenues include refunds and reimbursements.

Revenue Source	2019 Projected Revenue Total
Generation Fees	**$846,619**
Generation fees from solid waste disposed at Ohio landfills and transfer stations.	
Reimbursements	**$179**
Reimbursements from the operation of the recycling center.	
Donations	**$1,500**
Donations includes funds donated by supporters of the District.	
Interest	**$43**
Interest made on fund balance.	
Grants (See note below)	**$0**
Grant revenue includes funds received for ODNR grants and other grants as applied for by the District.	
Recycling Revenue	**$28,790**
Recycling revenue includes income from the sale of recyclables.	
User Fees	**$28,790**
User fees charged for the use of the recycling center. User fees increased in 2015 when the HHW program began collecting user fees	
Other	**$0**
Miscellaneous revenues received by District.	

In total for 2015, the District received $8,653 in grant revenue

The following graph depicts the District's total actual and projected revenue from 2015 – 2033 and includes all anticipated revenue sources identified above.

District Revenue (2015 – 2033)



Total revenues are anticipated to decrease from $908,142 in 2019, the first year of the planning period, to $869,526 in 2033, the final year of the planning period.

4. Other Funding Mechanisms

The District reserves the right to consider other funding mechanisms, including but not limited to, contract fees resulting from the designation of solid waste facilities. These alternate fee mechanisms would allow the District to collect fees on all solid waste generated within the District. The process to designate solid waste facilities will comply with Section 343.014 of the Ohio Revised Code. All solid waste facilities designated by the District pay the contract fee.

In the event the Board contracts with designated solid waste facilities, the Board will also implement the waiver process for undesignated solid waste facilities. Waiver agreements will permit the delivery of solid waste generated within the District and will require that the owner or operator of the undesignated facility receiving the waiver shall pay a waiver fee to the Board equal to the amount of the contract fee for designated solid waste facilities.

The District's Board of Directors may choose to use these mechanisms to supplement or replace the District generation fee, which was adopted pursuant to Section 3734.573 of the Ohio Revised Code. Any change in the generation fee requires the approval of the District Policy Committee and subsequent ratification by the political subdivisions within the District.

B. Cost of Plan Implementation

Table VIII-4, "Anticipated Loans Secured by the District", indicates the District has no outstanding loans after 2016 and does not anticipate securing loans during the planning period.

Table VIII-5, "Estimated Cost for Plan Implementation", presents a detailed breakdown of expenditures for each year of the planning period.

The District Coordinator will allocate these funds with the approval of the County Commissioners. The following figure presents a summary of expenses in 2015:

Administration

Administration costs include the payroll, payroll taxes and benefits, office expenses, equipment, professional services (includes plan preparation, attorney fees and other consulting), travel and other administrative expenses.

For 2019, the first year of the planning period, the following funding levels are projected for each administrative line item and include a brief description of each expense line item:

Program	Program #	2019 Budget	Annual Escalator
Personnel – Salaries	**Admin-1**	**$142,437**	**2%**
Salaries include the cost of employing District staff. Cost savings are incurred throughout the planning period as the District Director salary is split between the District and Utilities Department of the County, which began in late 2011.			
Personnel - Workers Compensation, Unemployment	**Admin-2**	**$4,692**	**2%**
Workers' compensation and unemployment expenses.			
Personnel – OPERS	**Admin-3**	**$33,514**	**2%**
Benefits include the costs of Ohio Public Employees Retirement System (OPERS).			
Personnel – Medicare	**Admin-4**	**$3,573**	**2%**
Benefits include the costs of Medicare.			
Personnel – Health, Dental, and Life Insurance	**Admin-5**	**$60,371**	**2%**
Benefits include the costs of health care insurance			
Loan Repayment & Interest	**Admin-6**	**$0**	**Flat**
Loan was paid in full in 2016.			
Office Overhead	**Admin-7**	**$23,025**	**Flat**
Expenses for office equipment leases (copier and postage meter).			
Other	**Admin-8**	**$20,952**	**Flat**
Miscellaneous supplies costs needed by the District for administrative support.			

For 2019, the first year of the planning period, the District is projecting to spend $288,564 in administrative expenses.

Residential/Commercial/Industrial Programs

Residential/commercial/industrial programs include all of the programs and services needed to implement this *Plan Update*. For 2019, the first year of the planning period, the following funding levels are projected for each program and include a brief description of each expense line item:

Program	Program #	2019 Budget	Annual Escalator
Clark County Recycling Center	**CC-01**	**$135,000**	**.2%**
Curbside Recycling	**CC-02**	**$0**	**N/A**
The District does not operate any curbside recycling programs and therefore does not incur any direct expenses for this program.			
Drop-Off Recycling	**CC-03**	**$45,944**	**Flat**
The District operates 5 drop-off recycling sites. This line item includes the cost for the contracted services and District expenses to operate the program. The District may expand or reduce the number of sites in the program based on the ongoing evaluation process identified in Section V.			
Yard Waste Management	**CC-04**	**$1,500**	**Flat**
The cost of operating the District's backyard composting education program and bin sale program.			
Household Hazardous Waste	**CC-05**	**$20,024**	**Flat**
The cost of operating the District's county-wide household hazardous waste collection and disposal program. In 2021 & 2022, $1,500 is allocated for the promotion of proper disposal for HHW and scrap tire initiatives.			
Electronics Recycling	**CC-06**	**$13,833**	**Flat**
The cost of promoting the District's Recycle Your Computer Month events.			
Lead-Acid Battery Recycling	**CC-07**	**$0**	**Flat**
Costs for this program are included in the Household Hazardous Waste budget.			
Scrap Tire Collection	**CC-08**	**$6,094**	**Flat**
The cost of operating the District's annual Scrap Tire Round-Up and Scrap Tire Sweeps. In 2021 & 2022, $1,500 is allocated for the promotion of proper disposal for scrap tire initiatives.			
Government Office Recycling	**CC-09**	**$3,235**	**Flat**
The cost of operating this program includes collection and recycling. The overall expense for this program is low and is tied to the operation of programs CC-01 and CC-09.			
Business Paper Recycling	**CC-10**	**$0**	**N/A**
The cost of operating this program includes collection and recycling. The overall expense for this program is low and is tied to the operation of programs CC-01.			
Education and Awareness	**CC-11**	**$20,000**	**Flat**
The cost of operating the general recycling awareness and education program			

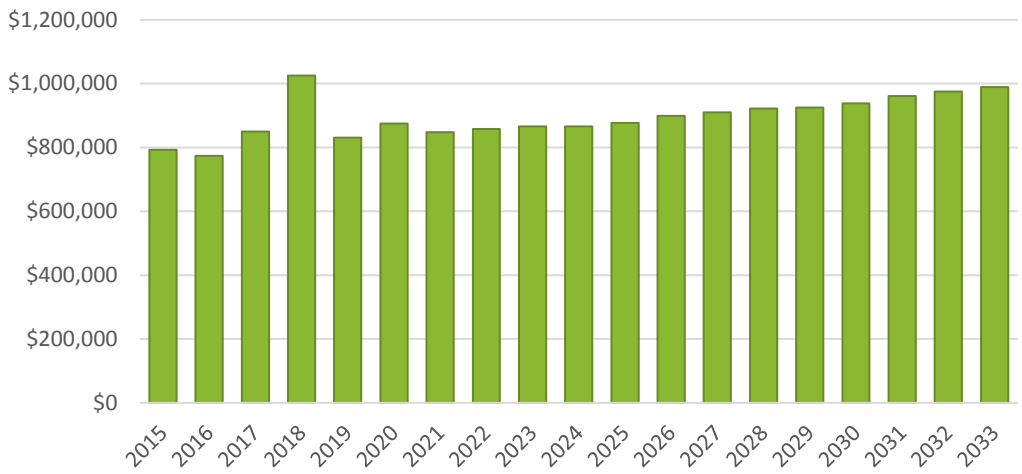
Program	Program #	2019 Budget	Annual Escalator
for the District.			
Business Waste Reduction Assistance (BWRAP)	**CC-12**	**$0**	**N/A**
The cost of operating this program includes collection and recycling.			
Litter Prevention/Clean-Up	**CC-13**	**$142,755**	**Flat**
The cost of providing litter collection crews to remove litter along roadways in the County and special clean-up projects as well as funding for Sheriff deputy(s) to conduct investigations for solid waste enforcement and prosecution. The District has historically funded 1 Sheriff Deputy to operate this program. Since 2010, the District has funded ½ of an additional Deputy to also work in this program. The District reserves the right to operate this program with whatever Deputy level it deems necessary or at a level that the District can afford depending on incoming revenues.			
Health Department Funding	**CC-14**	**$130,000**	**Flat**
The cost of conducting solid waste enforcement and facility inspections.			
Open Dump/Scrap Tire Abatement	**CC-14.1**	**$0**	**Flat**
The funding for this program may start in 2021 and would come from the District's un-encumbered fund balance.			
Professional Legal and Consulting	**CC-15**	**$10,000**	**Varies**
The costs to contract with a qualified consulting firm to assist the District with plan implementation management, annual district reporting, annual surveying of business, future plan development, special studies and other tasks as assigned by the District Director and/or Board.			
Other Facilities	**CC-16**	**$0**	**N/A**
The District spent $152,000 over 2017 & 2018 for the purchase of the adjacent property to the west of the Clark County Specialty Recycling Center. These costs also include the work for the demolition and salvage clean up to the property. The District is committed to detail the planning process for the property during the planning period.			
Curbside Recycling Grants	**CC-17**	**$0**	**Varies**
The District has spent $1,524 in 2016 for this program. The District reserves the right to spend more or less on this program depending on economic conditions from its unencumbered fund balance. See Section V for more details.			
Food Waste Management	**CC-18**	**$0**	**N/A**
Costs for this program are included in the administration budget.			
Disaster Debris Management	**CC-19**	**$15,000**	**N/A**
If there is a need for emergency Clark County Disaster Debris funding, the District may allocate up to 5% of excess District funding (or up to $15,000). The District, EMA and the County will make every effort to seek reimbursement from local, state and federal funding sources.			

For 2019, the first year of the planning period, the District is projecting to spend $542,384 in programmatic expenses.

Expense Summary

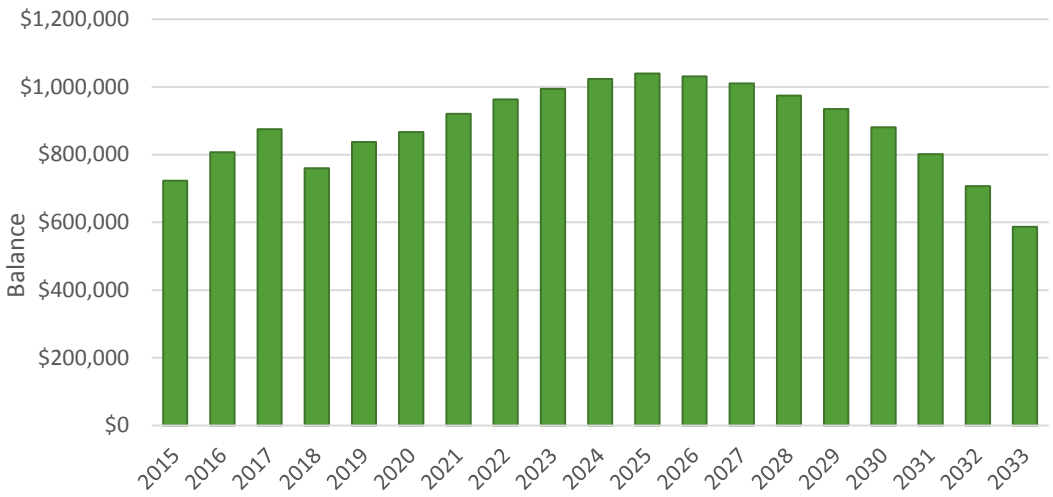
The District is projecting to spend $830,948 in 2019, the first year of the planning period and $989,450 in 2033, the final year of the planning period. The following chart summarizes the District's actual and projected expenses throughout the planning period.

District Expenses (2015 – 2033)



Based on the projected revenue and expenses detailed in Table VIII-8, the District's excess fund balance is expected to remain at or above $600,000 each year. The following graph depicts the projected annual fund balance throughout the planning period:

District Fund Balance (2015 – 2033)

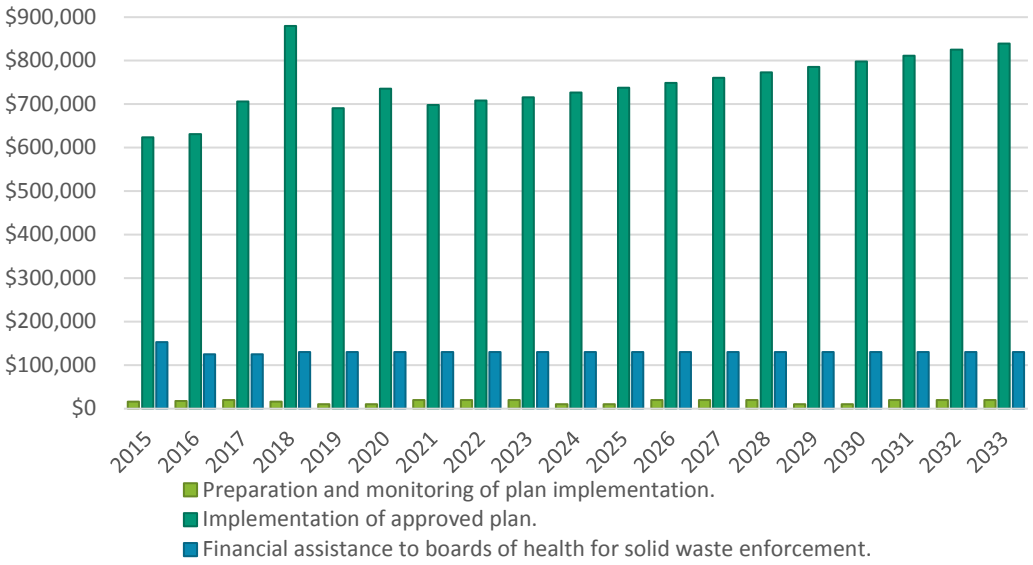


C. Funds Allocated from ORC 3734.57(B), ORC 3734.572 and ORC 3734.573

Table VIII-6, "Revenues and Allocations in Accordance with ORC 3734.57, ORC 3734.572 and ORC 3734.573," presents the District's projected costs for the ten allowed uses. The District's budget falls into three categories: preparation and monitoring of plan implementation, implementation of the approved plan, and solid waste enforcement.

The following graph depicts the District's annual expense to implement this *Plan Update* based on the expense distribution:

District Expense Distribution (2015 – 2033)



D. Contingent Funding

The District and its Board do not consider funding to be an issue of concern during this planning period. The following contingent funding procedure includes options for increasing the District's generation fee if warranted. Prior to increasing the generation fee, the District will evaluate the estimated expenditures in Table VIII-5 to determine the minimum annual budget to sustain the District's essential strategies, facilities, programs and activities and finance implementation of the District Plan. If an increase in the generation is justified, the District Board will request that the District Policy Committee approve the increase of the generation fee and obtain ratification of that increase.

In the event that the District fund balance is less than $200,000, the District Board will consider whether to request that the District Policy Committee commence the process to increase the District generation fee or to pursue other sources of funds.
A $200,000 fund balance is approximately one quarter of the District annual revenue budget. Maintaining an adequate fund balance is essential for the District's financial stability and continuity of District strategies, facilities, programs and activities, particularly those the *Plan Update* characterizes as essential. The Board will request that the District Policy Committee increase the District's generation fee in $0.25 per ton increments as needed.

In general, the District is confident that it can adjust to less than catastrophic changes in waste generation/disposal, and thus a loss in projected generation fee revenue. District revenues may vary from year-to-year or season-to-season depending on the waste generation and economic conditions. The Board monitors District revenues and expenses through staff reports and comments provided by the District Policy Committee to assist the Board in its considerations of whether this contingency plan needs to be implemented.

The District anticipates that an increase in the generation fee will require four to seven months to implement.

Once the District has decided an increase in generation fees is needed, the District will set the amount of the generation fee increase and will immediately begin the process to ratify the generation fee in accordance with Section 3734.573 of the Ohio Revised Code. Table VIII-7 does not show a specific amount to be generated by a hypothetical generation fee increase. For every $0.25 per ton increase, the District may generate approximately $24,000 in additional revenue annually.

The District may also consider other funding mechanisms as a part of this contingent funding procedure including but not limited to contract fees and designation with contract fees. The District's Board of Directors may choose to use these mechanisms as a contingent funding source or to

replace generation fees. Any changes in the generation fee will require the District Policy Committee to approve that change and obtain ratification by the political subdivisions within the District.

E. Summary of Costs and Revenues

Table VIII-8, "Summary of District Revenues and Expenditures," includes the annual costs for each program and activity for the reference year and each year of the planning period. Total expenditures for the first year of the planning period are projected to be $830,948 and will rise slowly over the planning period ending at $989,450 in 2033. The District is projected to begin the planning period with a carryover balance of $760,299 and will have an ending balance of approximately $586,898 in 2033.

Each year of the planning period has sufficient funding for each of the programs.

The following graph depicts the actual and projected revenues vs. expenses of the District throughout the planning period:

District Revenue and Expenses (2015 – 2033)

The District may move funds between programs and activities as costs and revenues may increase or decrease during the planning period.

Table VIII-1
District Disposal Fee Schedule and Revenues Generated

Year	Fee Schedule ($/ton)			Tons Disposed in the District			Total District Fee Revenue
	In-District	Out-of-District	Out-of-State	In-District	Out-of-District	Out-of-State	
2015	$2.00	$2.00	$2.00	Not applicable as there are no landfills or transfer stations currently in the District			$0
2016	$2.00	$2.00	$2.00				$0
2017	$2.00	$2.00	$2.00				$0
2018	$2.00	$2.00	$2.00				$0
2019	$2.00	$2.00	$2.00				$0
2020	$2.00	$2.00	$2.00				$0
2021	$2.00	$2.00	$2.00				$0
2022	$2.00	$2.00	$2.00				$0
2023	$2.00	$2.00	$2.00				$0
2024	$2.00	$2.00	$2.00				$0
2025	$2.00	$2.00	$2.00				$0
2026	$2.00	$2.00	$2.00				$0
2027	$2.00	$2.00	$2.00				$0
2028	$2.00	$2.00	$2.00				$0
2029	$2.00	$2.00	$2.00				$0
2030	$2.00	$2.00	$2.00				$0
2031	$2.00	$2.00	$2.00				$0
2032	$2.00	$2.00	$2.00				$0
2033	$2.00	$2.00	$2.00				$0

Table VIII-2
Generation Fee Schedule and Revenues

Year	Base Generation Fee	Tons of District Waste to be Disposed	Total Generation Fee Revenue
2015	$8.50	94,637	$804,414
2016	$8.50	93,726	$796,669
2017	$8.50	99,830	$848,559
2018	$8.50	100,000	$850,000
2019	$8.50	99,602	$846,619
2020	$8.50	99,205	$843,239
2021	$8.50	98,929	$840,898
2022	$8.50	98,654	$838,558
2023	$8.50	98,379	$836,217
2024	$8.50	98,103	$833,877
2025	$8.50	97,828	$831,536
2026	$8.50	97,606	$829,651
2027	$8.50	97,384	$827,766
2028	$8.50	97,162	$825,880
2029	$8.50	96,941	$823,995
2030	$8.50	96,719	$822,110
2031	$8.50	96,561	$820,768
2032	$8.50	96,403	$819,427
2033	$8.50	95,059	$808,003

Source(s) of information: Tons to be disposed (2017-2033) - Tables VII-2 and VII-3

Table VIII-3
Summary of Revenue Generated and Mechanisms Used

Year	Type of Revenue Mechanism and Amount Used									Total Revenue Generated
	Generation Fees	Reimbursements	Donations	Interest	Grants	Recycling Revenue	Tipping Fees	User Fee	Other	
2015	$804,414	$2,833	$3,150	$4	$8,653	$12,057	$20	$28,684	$0	$859,815
2016	$796,669	$881	$4,275	$21	$3,488	$18,826	$0	$32,756	$302	$857,217
2017	$848,559	$0	$1,826	$43	$2,223	$31,991	$0	$33,976	$0	$918,619
2018	$850,000	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$911,523
2019	$846,619	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$908,142
2020	$843,239	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$904,761
2021	$840,898	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$902,421
2022	$838,558	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$900,080
2023	$836,217	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$897,740
2024	$833,877	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$895,400
2025	$831,536	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$893,059
2026	$829,651	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$891,174
2027	$827,766	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$889,288
2028	$825,880	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$887,403
2029	$823,995	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$885,518
2030	$822,110	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$883,632
2031	$820,768	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$882,291
2032	$819,427	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$880,949
2033	$808,003	$0	$1,500	$23	$0	$30,000	$0	$30,000	$0	$869,526

Source(s) of information:
2015, 2016, 2017 - Quarterly Fee Reports
2018-2033 Generation Fees - Calculated from tonnage in Table VIII-2
2018-2033 Recycling Revenue and User Fee - Conservative estimate based on 2015-2017

Table VIII-4
Anticipated Loans Secured by the District

Year	Loans Obtained by the District		Interest Rate	Length of Loan	Annual Debt Service
	Lending Institution	Loan Amount			
2015	County Bond	$35,000	4.13%	2006-2016	$38,300
2016	County Bond	$40,000	4.50%	2006-2016	$41,800
2017	N/A	0	N/A	0	0
2018	N/A	0	N/A	0	0
2019	N/A	0	N/A	0	0
2020	N/A	0	N/A	0	0
2021	N/A	0	N/A	0	0
2022	N/A	0	N/A	0	0
2023	N/A	0	N/A	0	0
2024	N/A	0	N/A	0	0
2025	N/A	0	N/A	0	0
2026	N/A	0	N/A	0	0
2027	N/A	0	N/A	0	0
2028	N/A	0	N/A	0	0
2029	N/A	0	N/A	0	0
2030	N/A	0	N/A	0	0
2031	N/A	0	N/A	0	0
2032	N/A	0	N/A	0	0
2033	N/A	0	N/A	0	0

Estimated Costs for Plan Implementation

Description	Program #	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
District Administration Budget																				
Payroll Expenditures																				
Personnel - Salaries	Admin-1	$114,389	$123,013	$118,771	$139,644	$142,437	$145,286	$148,191	$151,155	$154,178	$157,262	$160,407	$163,615	$166,888	$170,225	$173,630	$177,102	$180,644	$184,257	$187,942
Personnel - Workers Comp, Unemployment	Admin-2	$4,640	$4,491	$2,313	$4,600	$4,692	$4,786	$4,882	$4,979	$5,079	$5,180	$5,284	$5,390	$5,497	$5,607	$5,720	$5,834	$5,951	$6,070	$6,191
Personnel - OPERS	Admin-3	$38,371	$29,642	$29,221	$32,857	$33,514	$34,184	$34,868	$35,565	$36,277	$37,002	$37,742	$38,497	$39,267	$40,052	$40,854	$41,671	$42,504	$43,354	$44,221
Personnel - Medicare	Admin-4	$3,974	$2,982	$2,938	$3,403	$3,573	$3,752	$3,939	$4,136	$4,343	$4,560	$4,788	$5,028	$5,279	$5,543	$5,820	$6,111	$6,417	$6,738	$7,075
Personnel - Health, Dental, and Life Insurance	Admin-5	$58,970	$49,368	$49,926	$57,496	$60,371	$63,389	$66,559	$69,887	$73,381	$77,050	$80,903	$84,948	$89,195	$93,655	$98,338	$103,255	$108,417	$113,838	$119,530
Subtotal		$220,344	$209,496	$203,169	$238,000	$244,587	$251,397	$258,439	$265,723	$273,258	$281,055	$289,124	$297,478	$306,126	$315,083	$324,361	$333,973	$343,933	$354,257	$364,959
Administrative/District Facilities, Supplies, and Support Services																				
Loan Repayment & Interest	Admin-6	$38,300	$41,800	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Office Overhead	Admin-7	$38,744	$16,756	$11,050	$35,000	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025	$23,025
Other	Admin-8	$0	$20,864	$31,904	$10,000	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952	$20,952
Subtotal		$77,044	$79,419	$42,954	$45,000	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977
Residential/Commercial Collection Programs																				
Clark County Recycling Center	CC-1	$113,662	$120,798	$173,390	$230,000	$135,000	$137,700	$140,454	$143,263	$146,128	$149,051	$152,032	$155,073	$158,174	$161,337	$164,564	$167,856	$171,213	$174,637	$178,130
Curbside Recycling	CC-2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Drop-Off Recycling	CC-3	$53,596	$24,051	$39,887	$50,000	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944
Yard Waste Management	CC-4	$0	$234	$0	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Household Hazardous Waste Collection	CC-5	$10,854	$20,332	$20,048	$20,000	$20,024	$20,024	$21,524	$21,524	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024
Electronics Recycling	CC-6	$5,356	$6,143	$12,666	$15,000	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833
Lead-Acid Battery Recycling	CC-7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Scrap Tire Collection	CC-8	$3,369	$4,285	$3,188	$9,000	$6,094	$6,094	$7,594	$7,594	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094
Government Office Paper Recycling	CC-9	$557	$585	$469	$6,000	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235
Business Paper Recycling	CC-10	$4,080	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Education and Awareness	CC-11	$26,008	$12,979	$18,266	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Business Waste Reduction Assistance (BWRAP)	CC-12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Litter Prevention/Clean-Up Programs	CC-13	$109,150	$150,480	$150,011	$135,500	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755
Health Department Funding	CC-14	$152,811	$125,000	$125,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000
Legal and Consulting	CC-15	$15,900	$17,645	$19,536	$16,000	$10,000	$10,000	$20,000	$20,000	$20,000	$10,000	$10,000	$20,000	$20,000	$20,000	$10,000	$10,000	$20,000	$20,000	$20,000
Other Facilities	CC-16	$0	$694	$42,000	$110,000	$0	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Curbside Recycling Grants	CC-17	$0	$1,524	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Food Waste Management	CC-18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Disaster Debris Management	CC-19	$0	$0	$0	$0	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal		$495,344	$484,752	$604,460	$743,000	$542,384	$580,084	$545,838	$548,647	$548,513	$541,435	$544,416	$557,457	$560,558	$563,722	$556,948	$560,240	$573,597	$577,021	$580,514
Totals		$792,733	$773,667	$850,583	$1,026,000	$830,948	$875,458	$848,255	$858,347	$865,748	$866,467	$877,518	$898,912	$910,662	$922,782	$925,286	$938,190	$961,507	$975,255	$989,450

Table VIII-6
Revenues and Allocations in Accordance with ORC 3734.57, ORC 3734.572 and ORC 3734.573

Year	Total Annual Revenue ($)	Allocations of ORC 3734.57 and ORC 3734.573 Revenue For the Following Purposes:											Year-End Balance ($)
		1	2	3	4	5	6	7	8	9	10	Total Budget Allocation ($)	
Beginning Balance													**$656,109**
2015	$859,815	$15,900	$624,021	$152,811	$0	$0	$0	$0	$0	$0	$0	$792,733	$723,191
2016	$857,217	$17,645	$631,023	$125,000	$0	$0	$0	$0	$0	$0	$0	$773,667	$806,741
2017	$918,619	$19,536	$706,047	$125,000	$0	$0	$0	$0	$0	$0	$0	$850,583	$874,777
2018	$911,523	$16,000	$880,000	$130,000	$0	$0	$0	$0	$0	$0	$0	$1,026,000	$760,299
2019	$908,142	$10,000	$690,948	$130,000	$0	$0	$0	$0	$0	$0	$0	$830,948	$837,493
2020	$904,761	$10,000	$735,458	$130,000	$0	$0	$0	$0	$0	$0	$0	$875,458	$866,796
2021	$902,421	$20,000	$698,255	$130,000	$0	$0	$0	$0	$0	$0	$0	$848,255	$920,962
2022	$900,080	$20,000	$708,347	$130,000	$0	$0	$0	$0	$0	$0	$0	$858,347	$962,695
2023	$897,740	$20,000	$715,748	$130,000	$0	$0	$0	$0	$0	$0	$0	$865,748	$994,687
2024	$895,400	$10,000	$726,467	$130,000	$0	$0	$0	$0	$0	$0	$0	$866,467	$1,023,619
2025	$893,059	$10,000	$737,518	$130,000	$0	$0	$0	$0	$0	$0	$0	$877,518	$1,039,161
2026	$891,174	$20,000	$748,912	$130,000	$0	$0	$0	$0	$0	$0	$0	$898,912	$1,031,423
2027	$889,288	$20,000	$760,662	$130,000	$0	$0	$0	$0	$0	$0	$0	$910,662	$1,010,050
2028	$887,403	$20,000	$772,782	$130,000	$0	$0	$0	$0	$0	$0	$0	$922,782	$974,671
2029	$885,518	$10,000	$785,286	$130,000	$0	$0	$0	$0	$0	$0	$0	$925,286	$934,902
2030	$883,632	$10,000	$798,190	$130,000	$0	$0	$0	$0	$0	$0	$0	$938,190	$880,345
2031	$882,291	$20,000	$811,507	$130,000	$0	$0	$0	$0	$0	$0	$0	$961,507	$801,128
2032	$880,949	$20,000	$825,255	$130,000	$0	$0	$0	$0	$0	$0	$0	$975,255	$706,822
2033	$869,526	$20,000	$839,450	$130,000	$0	$0	$0	$0	$0	$0	$0	$989,450	$586,898

Notes:

1 - Preparation and monitoring of plan implementation.
2 - Implementation of approved plan.
3 - Financial assistance to boards of health for solid waste enforcement.
4 - Financial assistance to defray the costs of maintaining roads and other public services related to the location or operation of solid waste facilities.
5 - Contracts with boards of health for collecting and analyzing samples from water wells adjacent to solid waste facilities.
6 - Out-of-state waste inspection program.
7 - Financial assistance to local boards of health to enforce ORC 3734.03 or to local law enforcement agencies having jurisdiction within the District for anti-littering.
8 - Financial assistance to local boards of health for employees to participate in Ohio EPA's training and certification program for solid waste operators and facility inspectors.
9 - Financial assistance to local municipalities and townships to defray the added cost of roads and services related to the operation of solid waste facilities.
10 - Payment of any expenses that are agreed to awarded or ordered to be paid under section 3734.35 of the Revised Code and any administrative costs i

Table VIII-7
Contingent Funding Sources

	Amount of Contingent Funding for Each Source		Total
Year	Generation Fee Revenue	Total Tons	
2015	See Narrative in Section VIII		
2016			
2017			
2018			
2019			
2020			
2021			
2022			
2023			
2024			
2025			
2026			
2027			
2028			
2029			
2030			
2031			
2032			
2033			
2034			

Note: The generation fee can be adjusted up or down to meet contingent needs.

Table VIII-8
Summary of District Revenues and Expenditures

Description		2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Beginning Balance		$656,109	$723,191	$806,741	$874,777	$760,299	$837,493	$866,796	$920,962	$962,695	$994,687	$1,023,619	$1,039,161	$1,031,423	$1,010,050	$974,671	$934,902	$880,345	$801,128	$706,822
Revenues																				
Generation Fees		$804,414	$796,669	$848,559	$850,000	$846,619	$843,239	$840,898	$838,558	$836,217	$833,877	$831,536	$829,651	$827,766	$825,880	$823,995	$822,110	$820,768	$819,427	$808,003
Reimbursements		$2,833	$881	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Donations		$3,150	$4,275	$1,826	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Interest		$4	$21	$43	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23	$23
Grants		$8,653	$3,488	$2,223	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recycling Revenue		$12,057	$18,826	$31,991	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
Tipping Fees		$20	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
User Fee		$28,684	$32,756	$33,976	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000	$30,000
Other		$0	$302	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Revenue		$859,815	$857,217	$918,619	$911,523	$908,142	$904,761	$902,421	$900,080	$897,740	$895,400	$893,059	$891,174	$889,288	$887,403	$885,518	$883,632	$882,291	$880,949	$869,526
	Program #	**Expenditures**																		
Payroll Expenditures																				
Personnel - Salaries	Admin-1	$ 114,389	$ 123,013	$ 118,771	$ 139,644	$ 142,437	$ 145,286	$ 148,191	$ 151,155	$ 154,178	$ 157,262	$ 160,407	$ 163,615	$ 166,888	$ 170,225	$ 173,630	$ 177,102	$ 180,644	$ 184,257	$ 187,942
Personnel - Workers Comp, Unemployment	Admin-2	$ 4,640	$ 4,491	$ 2,313	$ 4,600	$ 4,692	$ 4,786	$ 4,882	$ 4,979	$ 5,079	$ 5,180	$ 5,284	$ 5,390	$ 5,497	$ 5,607	$ 5,720	$ 5,834	$ 5,951	$ 6,070	$ 6,191
Personnel - OPERS	Admin-3	$ 38,371	$ 29,642	$ 29,221	$ 32,857	$ 33,514	$ 34,184	$ 34,868	$ 35,565	$ 36,277	$ 37,002	$ 37,742	$ 38,497	$ 39,267	$ 40,052	$ 40,854	$ 41,671	$ 42,504	$ 43,354	$ 44,221
Personnel - Medicare	Admin-4	$ 3,974	$ 2,982	$ 2,938	$ 3,403	$ 3,573	$ 3,752	$ 3,939	$ 4,136	$ 4,343	$ 4,560	$ 4,788	$ 5,028	$ 5,279	$ 5,543	$ 5,820	$ 6,111	$ 6,417	$ 6,738	$ 7,075
Personnel - Health, Dental, and Life Insurance	Admin-5	$ 58,970	$ 49,368	$ 49,926	$ 57,496	$ 60,371	$ 63,389	$ 66,559	$ 69,887	$ 73,381	$ 77,050	$ 80,903	$ 84,948	$ 89,195	$ 93,655	$ 98,338	$ 103,255	$ 108,417	$ 113,838	$ 119,530
Subtotal		$220,344	$209,496	$203,169	$238,000	$244,587	$251,397	$258,439	$265,723	$273,258	$281,055	$289,124	$297,478	$306,126	$315,083	$324,361	$333,973	$343,933	$354,257	$364,959
Administrative/District																				
Loan Repayment & Interest	Admin-6	38300	41800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Office Overhead	Admin-7	38744.03	16755.55	11050.2	35000	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1	23025.1
Other	Admin-8	0	20863.9	31904.08	10000	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04	20952.04
Subtotal		$77,044	$79,419	$42,954	$45,000	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977	$43,977
		Residential/Commercial Collection Programs																		
Description	**Program #**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
Clark County Recycling Center	CC-1	$113,662	$120,798	$173,390	$230,000	$135,000	$137,700	$140,454	$143,263	$146,128	$149,051	$152,032	$155,073	$158,174	$161,337	$164,564	$167,856	$171,213	$174,637	$178,130
Curbside Recycling	CC-2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Drop-Off Recycling	CC-3	$53,596	$24,051	$39,887	$50,000	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944	$44,944
Yard Waste Management	CC-4	$0	$234	$0	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500	$1,500
Household Hazardous Waste Collection	CC-5	$10,854	$20,332	$20,048	$20,000	$20,024	$20,024	$21,524	$21,524	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024	$20,024
Electronics Recycling	CC-6	$5,356	$6,143	$12,666	$15,000	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833	$13,833
Lead-Acid Battery Recycling	CC-7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Scrap Tire Collection	CC-8	$3,369	$4,285	$3,188	$9,000	$6,094	$6,094	$7,594	$7,594	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094	$6,094
Government Office Paper Recycling	CC-9	$557	$585	$469	$6,000	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235	$3,235
Business Paper Recycling	CC-10	$4,080	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Education and Awareness	CC-11	$26,008	$12,979	$18,266	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
Business Waste Reduction Assistance (BWRAP)	CC-12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Litter Prevention/Clean-Up Programs	CC-13	$109,150	$150,480	$150,011	$135,500	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755	$142,755
Health Department Funding	CC-14	$152,811	$125,000	$125,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000	$130,000
Legal and Consulting	CC-15	$15,900	$17,645	$19,536	$16,000	$10,000	$10,000	$20,000	$20,000	$20,000	$10,000	$10,000	$20,000	$20,000	$20,000	$10,000	$10,000	$20,000	$20,000	$20,000
Other Facilities	CC-16	$0	$694	$42,000	$110,000	$0	$50,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Curbside Recycling Grants	CC-17	$0	$1,524	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Food Waste Management	CC-18	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Disaster Debris Management	CC-19	$0	$0	$0	$0	$15,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Subtotal		$495,344	$484,752	$604,460	$743,000	$542,384	$580,084	$545,838	$548,647	$548,513	$541,435	$544,416	$557,457	$560,558	$563,722	$556,948	$560,240	$573,597	$577,021	$580,514
Total Expenditures		$792,733	$773,667	$850,583	$1,026,000	$830,948	$875,458	$848,255	$858,347	$865,748	$866,467	$877,518	$898,912	$910,662	$922,782	$925,286	$938,190	$961,507	$975,255	$989,450
Difference		$67,082	$83,549	$68,036	-$114,477	$77,194	$29,303	$54,166	$41,733	$31,992	$28,932	$15,541	-$7,738	-$21,373	-$35,379	-$39,769	-$54,557	-$79,216	-$94,306	-$119,925
Ending Balance		$723,191	$806,741	$874,777	$760,299	$837,493	$866,796	$920,962	$962,695	$994,687	$1,023,619	$1,039,161	$1,031,423	$1,010,050	$974,671	$934,902	$880,345	$801,128	$706,822	$586,898

IX. District Rules [ORC Section 3734.53(C)]

The District reserves the right to adopt rules specifically authorized by the Ohio Revised Code (ORC). Section 343.01 (G) of the ORC provides the Board of County Commissioners with the authority to adopt, publish and enforce rules if the District Plan authorizes rule adoption under ORC Section 3734.53 (C). The District is authorized under this *Plan Update* to adopt rules under the following provisions of the ORC:

ORC 3734.53 (C)(1): Prohibiting or limiting the receipt at facilities located within the solid waste management district 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. However, rules adopted by a board under division (C)(1) of this section may be adopted and enforced with respect to solid waste disposal facilities in the solid waste management district that are not owned by a county or the solid waste management district only if the board submits an application to the director of environmental protection that demonstrates that there is insufficient capacity to dispose of all solid wastes that are generated within the district at the solid waste disposal facilities located within the district and the director approves the application. The demonstration in the application shall be based on projections contained in the plan or amended plan of the district. The director shall establish the form of the application. The approval or disapproval of such an application by the director is an action that is appealable under section 3745.04 of the Revised Code. In addition, the director of environmental protection may issue an order modifying a rule authorized to be adopted under division (C)(1) if 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 directors' 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 out-of-state 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 became 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 3734.53(C)(2): Governing the maintenance, protection, and use of solid waste collection and solid waste disposal, transfer, recycling, 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.

ORC 3734.53(C)(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.

ORC 3734.53(C)(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.

A. Existing Rules

The District has one existing rule which is provided below:

District Amended Rule 1-796 (adopted March 16, 2000) presently provides that:

"No person, municipal corporation, township, or other political subdivision shall construct, enlarge, or modify any solid waste transfer, disposal, recycling, or resource recovery facility until general plans and specifications for the proposed improvement have been submitted to and approved by the Clark County, Ohio Board of County Commissioners as complying with the Solid Waste Management Plan of the Clark County Solid Waste Management District."

"General plans and specifications shall be submitted to the attention of the Clark County Solid Waste Director, c/o the Clark County Commission, 50 East Columbia, Springfield, Ohio 45501. Such general plans and specifications shall include all information necessary for the Board of Commissioners to evaluate the County level interests identified in the siting review process contained in the District's Solid Waste Management Plan."

"General plans and specifications submitted to comply with this Rule shall not include information that is required to determine the proposed facility's compliance with engineering design criteria or which address issues that do not directly relate to the County level interests identified in the District's Plan. The submission of any such extraneous material may be cause for the Board to require the developer to submit revised general plans and specifications which contain information that is appropriate for the siting review process."

"No person, municipal corporation, township, or other political subdivision shall construct, modify or enlarge any solid waste transfer, disposal, recycling, or resource recovery facility that does not comply with the Clark County, Ohio Solid Waste Management Plan, as determined by the Board of Commissioners of Clark County, Ohio."

B. Proposed Rules

The constantly changing legal landscape of the waste industry requires the District to reserve the right to use any rule making authority available to the District.

The District reserves the right to promulgate any rule in 343.01 of the Ohio Revised Code to assist in implementing any or all strategies necessary to achieve the waste management goals of this Amended Plan including:

- Prohibiting or limiting the receipt of waste generated outside the District;
- Governing the maintenance, protection, and use of solid waste collection, transfer, disposal, recycling, or resource recovery facilities;
- Governing a program to inspect out-of-state waste; and
- Exempting an owner or operator of a solid waste facility from compliance with local zoning requirement.

C. Rule Approval Process

Proposed rules shall be adopted and enforced by the Board of County Commissioners as provided in Section 343.01(G).

APPENDIX A

RESOLUTION FOR DISTRICT FORMATION

The Board of County Commissioners, in and for Clark County, Ohio, met this 4th day of October 1988, in regular session, pursuant to adjournment, in accordance with Section 121.22, O.R.C. (Sunshine Law), with the following members present, viz:

Merle Grace Kearns and J. Newton Oliver

RE: ESTABLISH SOLID WASTE MANAGEMENT DISTRICT: RESOLUTION #1,084-88

Commissioner Oliver moved, upon the recommendation of the County Administrator, purusant to providsion of Am. H.B. #592, [Section 343.01 (A) (1), Ohio Revised Code and Section 3734.52 (B), O.R.C.], to establish by this Resolution, a County-Wide Solid Waste Management District. Be it further resolved that said District shall consist of all the incorporated and unincorporated territory within Clark County, Ohio.

Commissioner Kearns seconded the motion and the roll being called for its passage, the vote resulted as follows:

Commissioner Oliver, Yes: Commissioner Kearns, Yes.

I, Martha Fleck, Clerk to the Board of County Commissioners, do hereby certify that the above is a true and correct copy of a motion as recorded in the Journal of the Clark County Commissioners, under date of October 4th, 1988.

Martha Fleck
MARTHA FLECK, CLERK

cc: County Commissioners
County Prosecutor
Township Trustee Presidents
County Administrator
Assistant Administrator/Development
Director, Ohio EPA
County Sanitary Engineer
City Manager-Springfield
City Manager-New Carlisle
Village Manager-South Charleston
Village Manager-Enon
Village Mayors
Committee Members

APPENDIX B

PUBLIC NOTICES FOR PUBLIC HEARINGS AND PUBLIC COMMENT

APPENDIX C

RESOLUTIONS AND CERTIFICATION STATEMENTS

CERTIFICATION STATEMENT FOR THE DRAFT PLAN

We as representatives of the Solid Waste Management Policy Committee (SWMPC) of the Clark County Solid Waste 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 3.0.

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	

APPENDIX D

IDENTIFICATION OF CONSULTANTS RETAINED FOR PLAN PREPARATION

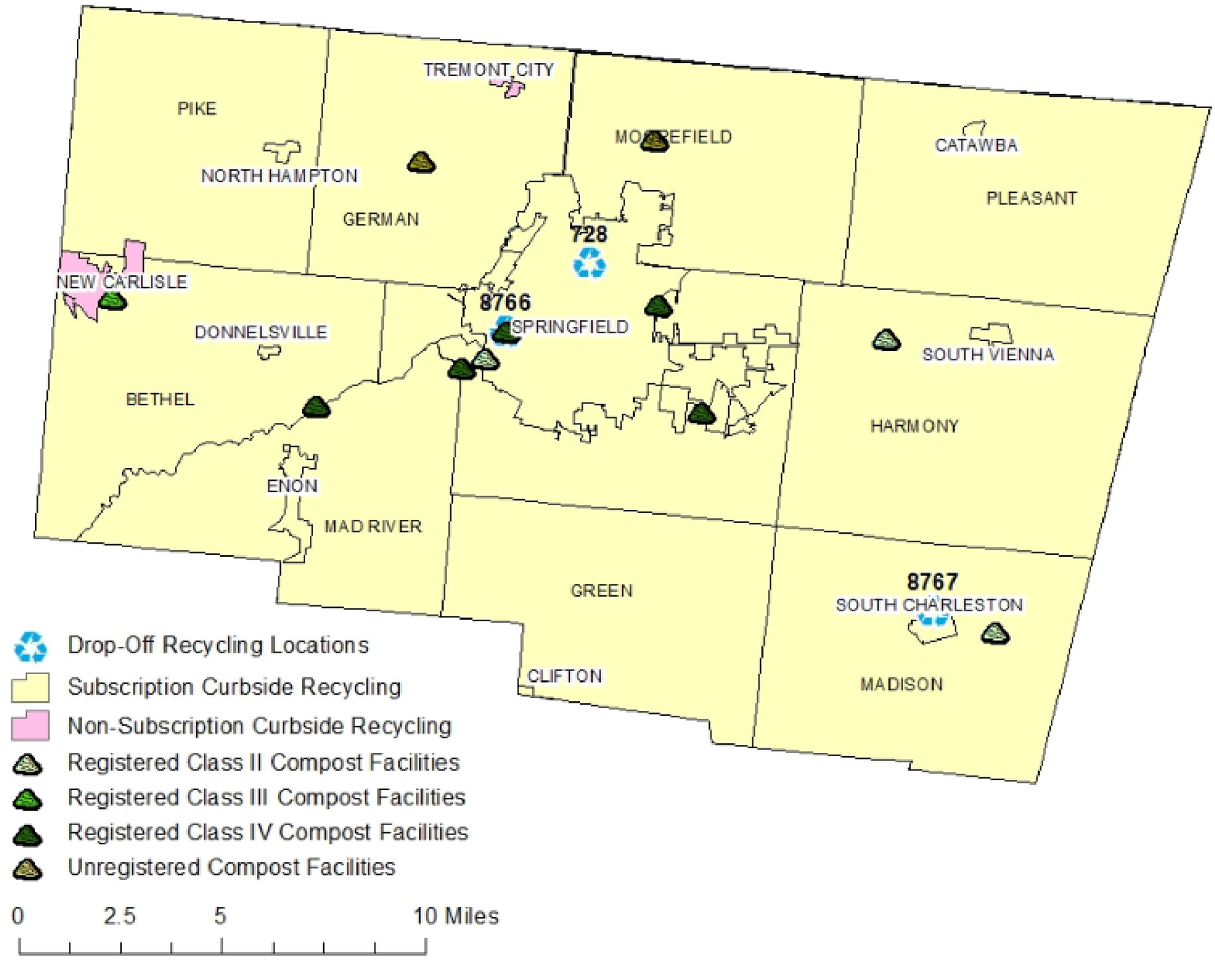
Identification of Consultants for Plan Preparation

Consulting Firm:	GT Environmental, Inc. 635 Park Meadow Road Suite 112 Westerville, Ohio 43081
Project Manager:	James A. Skora Solid Waste Business Unit Manager (330) 689-1105

APPENDIX E

DISTRICT MAP

District Map



APPENDIX F

INDUSTRIAL SURVEY RESULTS

Appendix F
Clark County Solid Waste Management District
Amount of Industrial Waste Recycled by Standard Industrial Classification (SIC) Category (Tons) as Reported on Industrial Surveys

Type of Waste	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Total
Cardboard	36.0	-	-	50.0	-	5,241.0	5.2	55.0	-	35.0	-	-	-	55.8	38.6	-	900.1	-	-	**6,416.68**
Ferrous Metals	-	-	-	-	-	-	-	916.5	-	-	-	-	1,750.0	10,770.2	1,308.8	-	1,126.8	-	1,501.0	**17,373.26**
Wood	-	-	-	263.6	-	-	-	237.2	-	-	-	-	-	30.8	1,196.6	-	369.5	-	-	**2,097.70**
Food	13849	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**13,849.00**
Non-Ferrous Metals	-	-	-	-	-	-	-	28.4	-	-	-	-	-	1,016.2	14.8	-	7,954.2	-	-	**9,013.59**
Paper	-	-	-	-	-	-	-	-	-	-	-	-	2.1	91.0	10.5	-	38.3	-	-	**141.85**
Plastic	79	-	-	-	-	-	-	1.3	-	2,051.0	-	-	-	43.0	-	-	48.5	-	-	**2,222.72**
Commingled	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	-	-	-	-	**10.00**
Glass	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	**0.02**
Yard Waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Misc.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	479.8	-	-	**480.00**
Batteries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Total	**13,964.0**	**-**	**-**	**313.6**	**-**	**5,241.0**	**5.2**	**1,238.4**	**-**	**2,086.0**	**-**	**-**	**1,752.1**	**12,007.2**	**2,579.3**	**-**	**10,917.1**	**-**	**1,501.0**	**51,604.82**

Source(s) of information:
CY 2015 Industrial Survey Responses

Appendix F
Clark County Solid Waste Management District
Amount of Industrial Waste Generated by Standard Industrial Classification (SIC) Category (Tons) as Reported on Industrial Surveys

Type of Waste	20	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	Total
Cardboard	36.0	-	-	50.0	-	5,241.0	5.2	55.0	-	35.0	-	-	-	55.8	38.6	-	900.1	-	-	**6,416.7**
Ferrous Metals	-	-	-	-	-	-	-	916.5	-	-	-	-	1,750.0	10,770.2	1,308.8	-	1,126.8	-	1,501.0	**17,373.3**
Wood	-	-	-	263.6	-	-	-	237.2	-	-	-	-	-	30.8	1,196.6	-	369.5	-	-	**2,097.7**
Food	13,849.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**13,849.0**
Non-Ferrous Metals	-	-	-	-	-	-	-	28.4	-	-	-	-	-	1,016.2	14.8	-	7,954.2	-	-	**9,013.6**
Paper	-	-	-	-	-	-	-	-	-	-	-	-	2.1	91.0	10.5	-	38.3	-	-	**141.9**
Plastic	79.0	-	-	-	-	-	-	1.3	-	2,051.0	-	-	-	43.0	-	-	48.5	-	-	**2,222.7**
Commingled	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.0	-	-	-	-	**10.0**
Glass	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0	-	-	-	-	-	**0.0**
Yard Waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Misc.	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	479.8	-	-	**480.0**
Batteries	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
General Solid Waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**-**
Total	**13,964.0**	**-**	**-**	**313.6**	**-**	**5,241.0**	**5.2**	**1,238.4**	**-**	**2,086.0**	**-**	**-**	**1,752.1**	**12,007.2**	**2,579.3**	**-**	**10,917.1**	**-**	**1,501.0**	**51,604.8**

Source(s) of information:
CY 2015 Industrial Survey Responses

APPENDIX G

SURVEY INSTRUMENTS

Clark County Solid Waste District
Reducing Waste, Litter & Pollution

Dear Industrial Facility Recycling Manager:

The Clark County Solid Waste Management District (SWMD) is in the process of conducting a study designed to evaluate the feasibility of developing a solid waste transfer station within Clark County. As you know, all Clark County trash currently collected for disposal is hauled to transfer stations or landfills located in other counties, with some of these facilities being at considerable distance from Clark County. It is possible that the construction and operation of a transfer station in Clark County will result in lower costs for haulers, and consequently, lower costs for waste generators such as your facility. Lower costs are possible because of the shorter transport distances required for local haulers, and the consolidation

Why is your business being surveyed?

Your business is located in the Clark County SWMD. Ohio's comprehensive solid waste management law requires the Clark County SWMD to plan and implement programs to reduce and recycle waste for the residential, commercial and industrial sectors. An important part in planning and implementing programs is for the Clark County SWMD to determine the types and the amounts of solid waste being recycled by industrial facilities located within its jurisdiction. This survey will assist in determining those types and amounts of solid waste being recycled in the solid waste district's jurisdiction.

How are the data being used?

The data helps provide a snapshot of recycling activities, trends and opportunities. It is used to track progress towards local and state recycling goals, determine how much waste is being diverted from Ohio's landfills, assess recycling infrastructure and determine the recycling needs of facilities such as yours. The Clark County SWMD will combine data from the residential, commercial and industrial sectors to determine the amount of material disposed versus the amount of material recycled in 2014. This will help calculate a recycling percentage for each sector in the Clark County SWMD and in Ohio.

Participation in survey

By participating, your facility will help the solid waste district meet the requirements of Ohio's state solid waste management plan. Participating also provides your facility with the opportunity to connect directly with the Clark County SWMD and take advantage of the wide variety of services offered to industrial facilities. The solid waste district may be able to assist your facility by providing services such as conducting waste assessments, identify financial resources through grants, and develop recycling and education plans for your employees.

Instructions for completing and returning the survey are included on the attached survey. Please contact Molly Kathleen at GT Environmental, the solid waste district's consultant with any questions regarding this survey. Molly can be reached by phone at 740-212-3430, or by email at mkathleen@gtenvironmental.com.

Please complete and return the survey by March 27, 2015.

Thank you for your time and participation.

Sincerely,

Steve Schlather

Steve Schlather
Clark County Solid Waste Management District Program Coordinator

Dear Industrial Facility,

Thank you for completing this survey. The information you provide for your company is crucial to monitoring the Clark County Solid Waste Management District's progress towards achieving Ohio's recycling goals. Your information will be combined with information submitted by other businesses and used to calculate the amount of material industrial businesses recycled in the Clark County Solid Waste Management District (SWMD) and Ohio, in 2014. Your company's survey response **will not** be reported individually; all data will be summarized by each North American Industry Classification System (NAICS) category.

For assistance completing this form or any questions related to the survey, please contact Molly Kathleen at GT Environmental, the solid waste district's consultant with any questions regarding this survey. Molly can be reached by phone at 740-212-3430, or by email at mkathleen@gtenvironmental.com.

Please complete and submit this survey no later than March 27, 2015.

Options for Returning the Completed Survey

- Return the survey using **U.S mail** in the enclosed pre-paid envelope
- **Email** directly to mmccullough@gtenvironmental.com , Subject line: 2014 Industrial Survey
- **Fax** to 614-899-9255

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 Clark County SWMD to contact you in the future to discuss your recycling needs.

Table A: Company Information			
Name:		County:	
Address:		City:	Zip:
Contact Person:		Title:	
Email:		Telephone Number (include area code): ( ) —	
Primary NAICS:	Secondary NAICS:	Number of full-time employees:	
Provide the name(s) of your recycling hauler, processor and/or broker:			
Would you like to be contacted by your local solid waste management district for recycling assistance? ☐ Yes ☐ No			

Instructions for completing Table B:

Table B provides a list of common materials that are recycled by industrial facilities in Ohio. Please indicate the unit of each quantity of material that is reported (pounds, tons or cubic yards). Provide any comments related to each material as necessary. Please do not report any liquid waste, hazardous waste or construction & demolition debris.

The list in ***Table B*** is not all-inclusive. If your facility recycles a material that is not listed in ***Table B***, please enter the name and quantity of that material on a line labeled **"Other."** Some materials may not apply to your operation; simply enter "0" for those materials. Some of the materials are listed in broad categories. For example, "Plastics" include plastics #1-7, plastic films, etc.

If you do not currently track this information internally, your solid waste hauler or recycling processor may be able to provide it upon request. The Clark County SWMD may also be able to provide you with assistance.

Table B: Quantities of Recycled Materials			
Recyclable Material Category	**Amount Recycled in 2014**	**Units**	**Broker/Processor, Hauler, or Comments**
Food		☐ lbs. ☐ tons ☐ yd^3	
Glass		☐ lbs. ☐ tons ☐ yd^3	
Ferrous Metals		☐ lbs. ☐ tons ☐ yd^3	
Non-Ferrous Metals		☐ lbs. ☐ tons ☐ yd^3	
Corrugated Cardboard		☐ lbs. ☐ tons ☐ yd^3	
All Other Paper		☐ lbs. ☐ tons ☐ yd^3	
Plastics		☐ lbs. ☐ tons ☐ yd^3	
Textiles		☐ lbs. ☐ tons ☐ yd^3	
Wood		☐ lbs. ☐ tons ☐ yd^3	
Rubber		☐ lbs. ☐ tons ☐ yd^3	
Commingled Recyclables		☐ lbs. ☐ tons ☐ yd^3	
Ash (recycled ash only)		☐ lbs. ☐ tons ☐ yd^3	
Non-Excluded Foundry		☐ lbs. ☐ tons ☐ yd^3	
Flue Gas Desulfurization		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	
Other:		☐ lbs. ☐ tons ☐ yd^3	

Table C: Please provide any additional information, comments, suggestions, questions etc.

Thank you again for taking the time to complete this survey. Please contact **Molly Kathleen** at GT Environmental, the solid waste district's consultant with any questions regarding this survey. Molly can be reached by phone at **740-212-3430**, or by email at mkathleen@gtenvironmental.com.

APPENDIX H

TRANSFER STATION FEASIBILITY STUDY

CLARK COUNTY
Solid Waste District
Reducing Waste, Litter & Pollution

Transfer Facility Feasibility Study

Final Report

Prepared by:

GT environmental, inc.

July 26, 2016

Table of Contents

APPENDICES

I. INTRODUCTION AND EXECUTIVE SUMMARY

The Clark County Solid Waste District (District) desires to evaluate the feasibility of developing a solid waste transfer station within the District. The District's Policy Committee and Technical Advisory Committee have identified the following issues relating to an in-district transfer station:

- All solid waste in-county must be direct hauled between 26-34 miles to receiving facilities which adds cost.
- Sixty-two percent of District waste flows though transfer stations prior to landfill disposal.
- Ninety percent of transferred solid waste goes to Montgomery County transfer facilities.
- Montgomery North Transfer Station is closed.
- Montgomery County transfer tipping fees, including out-of-district waste, are low due to the Montgomery County annual property charge assessment on residential, commercial and industrial properties.
- Southwest Ohio is reliant on two primary landfills (Rumpke and Waste Management).

Based on the above issues, the District will conduct a Study on the feasibility of developing a transfer station. The Study will have the following key elements:

- Evaluate current economics of solid waste flow in-county (cost per ton managed) as compared to other counties with landfills and/or transfer stations.
- Evaluate costs of operating a transfer station and the overall costs per ton managed.
- Determine the feasibility of a private owned and operated, county owned and operated, and county owned and privately operated transfer station based on economic analysis above.

To achieve the above listed key elements, the following tasks were completed:

Task 1 District Waste Flow Analysis
Task 2 Transfer Station Market Study
Task 3 Identify and Evaluate Ohio Solid Waste Districts that Utilize Transfer Stations
Task 4 Identified Transfer Station Options
Task 5 Evaluation of Costs for Identified Transfer Station Options
Task 6 Contracts and Designation Options

The following is a summary of the Study:

Summary of Study

In **Section II**, the amount of solid waste disposal was evaluated for District solid waste. The amount of solid waste generated in Clark County and sent for disposal has remained relatively consistent during the past six years. The total disposal of Clark County solid waste has ranged from just over 94,000 tons to slightly more than 103,000 tons for the period 2010-2015. The average tons disposed during this time period was 98,144 tons per year.

Only four facilities received significant portions of Clark County from 2010 through 2015:

- Cherokee Run Landfill in Logan County, Ohio
- Montgomery County North Transfer Facility in Montgomery County, Ohio
- Montgomery County South Transfer Facility in Montgomery County, Ohio
- Stony Hollow Landfill in Montgomery County, Ohio

The waste received at these four facilities represent more than 99 percent of the total Clark County disposal in each year of the six-year time period.

In **Section III**, results from conducted surveys of solid waste generators located in Clark County, haulers operating within the solid waste management district (SWMD), and transfer stations operating around Ohio processing amounts of waste similar to the tons of waste disposed from Clark County.

The hauler survey resulted in five responses, or 31 percent of those surveyed. The tons collected and hauled by these five respondents represents approximately 30 percent of the total amount of District waste sent for disposal during 2015. Two of the respondents provided only the gate rate charges (or tipping fees) at the Montgomery County South Transfer Facility, so these surveys could not be used to estimate the total hauling costs from Clark County. Based on the remaining three surveys, the total hauling costs from the District is approximately $135 per ton, which includes collection, transportation to the Montgomery County South Transfer Facility, and disposal expenses at this facility. ($135 per ton represents a weighted average based upon the tonnage transported by each hauler.)

The generator survey effort resulted in a total of 19 returned surveys. In addition to the name of the company or institution, most respondents provided the name of the hauler, the number and size of dumpsters, the frequency of pickup, the cost per month, and an estimate of the amount trash collected. A few surveys included the estimate of trash in both tons and cubic yards, however, in most cases, the amount of trash was provided only in cubic yards. Information was provided for a total of 64 dumpsters, most of which are 6 or 8 cubic yards in size. However, eight large dumpsters 40 to 50 cubic yards in size equipped with a compactor are also included in this total. The estimated costs for most dumpsters is under $60 per ton, with the overall average equal to $36 per ton. The median cost for all dumpsters is approximately $42 per ton. If the assumptions

above are changed to 225 pounds/cubic yards for un-compacted waste, the overall average and median cost estimates become $59 and $42/ton, respectively.

The results of the hauler and generator surveys are surprising, at best. The hauler survey shows an estimated cost per ton of $135, while the overall average for the generator survey is $36 to $59 per ton, depending on the assumptions used in the calculations. The expectation is that the costs paid by the generator would approximate the total costs incurred by the hauler plus any profit for the hauler. However, these results show the generator costs at two to four times less than estimated hauler costs. It is worth noting that only one of the 64 dumpsters included in the generator surveys is serviced by a hauler which returned a survey.

Eight existing transfer stations in Ohio were contacted by telephone to obtain the advertised gate rate for disposing waste at the facility. These facilities were selected because the amount of waste processed by each transfer station is similar to the estimated tons of waste generated from Clark County and sent for disposal. The gate rates ranged from $47 – $66 per ton. It is important to note that the advertised gate rates provided by transfer stations do not necessarily reflect the costs for all haulers which use the facilities. It is not uncommon for haulers to negotiate contracts with facilities for rates which are lower than those advertised by the facility. However, this type of information was not available for the Study.

Section IV summarizes the facilities surveyed and evaluated as a part of this Study. The facilities selected for evaluation included Hardin County Solid Waste & Recycling Facility, Huron County Transfer Station, Kimble Transfer & Recycling Facility – Cambridge, Medina County Central Processing Facility, Miami County Solid Waste & Recycling Facility, Morse Road Transfer Facility, and Richland County Transfer Station. Each of the facilities listed above were mailed a survey to collect the following information:

- Basic information (i.e., address, contact information, etc.);
- Background information about the facility such as size, capacity, hours open to the public, and the year which the facility opened;
- Flow control information;
- Labor requirements;
- Initial start-up costs; and
- Annual operating costs.

While seven facilities were sent surveys, only two responded to the survey and provided 2015 data: Hardin County and the Solid Waste Authority of Central Ohio (SWACO) for the Morse Road facility. However, after examining the data provided for these facilities, it was determined that the cost information from an earlier survey (2013) conducted by GT Environmental, Inc. (GT) for another client was more accurate. As a result, the annual operating cost data was based upon 2013 data which has been inflated to 2015 dollars using the consumer price index. (The annual operating costs for Medina are the only exception to this statement, and these costs are based upon published information

which captures the change in operation of the Medina facility to private operation in 2015.) No data is available for the privately-owned and operated Richland County Transfer Station or the Kimble Transfer and Recycling Facility except the tons received.

The data and information from this section were used to calculate costs and operating constraints for Section VII.

Section V was added to the Study and was outside the original scope of the project. The reason this evaluation was added was the survey results from Section III were not adequate enough to draw firm conclusions as to the costs using solid waste facilities outside of the District. This section summarizes an evaluation to determine the feasibility of building a transfer station in Clark County, the hauler transportation costs for District waste have been estimated to the Montgomery County South Transfer Station and compared to transportation costs to a location in the City of Springfield which could be used as a transfer station site.

The cost savings were calculated based on miles driven from each of the major communities in the District to either the Montgomery County Transfer Station, Stony Hollow Landfill, and Cherokee Run Landfill or the proposed transfer station located in the City of Springfield. The savings to transport to the closer facility located in Springfield for the purposes of this evaluation ranged from $835,000 – $1,230,000 annually.

It is important to note that the cost savings calculated in this section do not necessarily mean that the generator of the solid waste would realize the projected savings, only that an overall cost savings could result from shorter distances traveled for local haulers.

In **Section VI**, several ownership and operational combinations for transfer stations are possible and are reflected in existing facilities within Ohio. These options include:

1. Publicly-owned and operated
2. Publicly-owned and privately-operated
3. Privately-owned and operated
4. Regional public facility
5. Hybrid models

While each of these options may have certain advantages, only the first (publicly-owned and operated), second (publicly-owned and privately-operated), and fifth (hybrid model) options are evaluated further in this analysis based upon the availability of data, and the circumstances associated with the existing facilities in counties adjacent to Clark. Data is not available for a privately-owned and operated facility (option 3), and a regional facility with the ability to attract waste from adjacent counties (option 4) does not seem feasible given the locations of existing facilities.

In **Section VII**, an analysis was completed of the various capital and operational costs of the transfer stations included in Section VI to obtain average baseline data to be used in this economic analysis. The economic analysis includes three scenarios to assist the District in determining the full spectrum of the risks and rewards of developing the proposed transfer station. Baseline costs from the three scenarios ranged from $52 – $56 per ton.

Also, sensitivity analysis was applied to certain cost factors to determine a range of possible costs. This analysis included key cost factors which were varied in order to develop a range of likely costs for a Clark County transfer station. The variable key factors included capital debt retirement, landfill disposal costs and transportation costs. Results of this analysis ranged from $55 – $94 per ton to operate the proposed transfer station depending on the variable key factor applied.

All of the estimated costs were compared to the adjusted cost to transport and dispose of solid waste at the Montgomery County Transfer Station. This facility charges a fee of $50.25/ton for Clark County solid waste. In addition, in Section V, transportation cost savings were calculated that conservatively equaled $8.52 per ton. The combination of these two amounts yielded a breakeven total of $58.77 per ton that a proposed Clark County transfer station gate fee would need to meet to be competitive.

Section VIII presents the options available regarding the use of contracts and designations as it relates to District facilities for operations and flow control. In order for any District operations to be successful, there must be an adequate flow of materials for processing. All solid waste management facilities that process, dispose or transfer solid waste/recyclable materials require a certain level of volume (or throughput) to sustain the operation economically.

Ohio law authorizes solid waste districts to direct the flow of solid waste to public sector facilities. This power ensures that publicly-invested dollars have the requisite revenues to pay the debt for the facility.

Section IX presents a road map for decision making regarding the options for developing a transfer station in Clark County or remaining status quo.

II. DISTRICT WASTE FLOW ANALYSIS

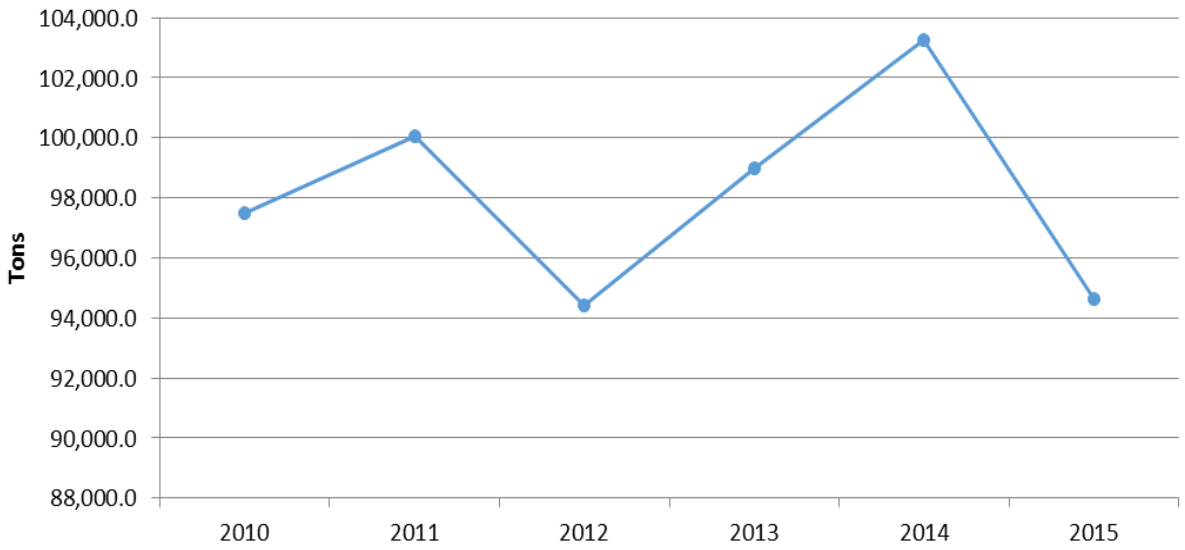
Clark County's solid waste flows have been evaluated for years 2010 through 2015. The evaluation has documented solid waste flows by destination facility type, generating sector and destination solid waste district. Distances to each facility have been included in this task.

A. Tons of Solid Waste Sent for Disposal

The amount of solid waste generated in Clark County and sent for disposal has remained relatively consistent during the past six years. Figure 1 shows that total

disposal of Clark County waste has ranged from just over 94,000 tons to slightly more than 103,000 tons. The average tons disposed during this time period was 98,144 tons per year.

Figure 1. Clark County Solid Waste Disposal: 2010 through 2015



B. Solid Waste Facilities Used by the District

Only four facilities received significant portions of Clark County from 2010 through 2015:

- Cherokee Run Landfill in Logan County, Ohio
- Montgomery County North Transfer Facility in Montgomery County, Ohio
- Montgomery County South Transfer Facility in Montgomery County, Ohio
- Stony Hollow Landfill in Montgomery County, Ohio

The waste received at these four facilities represent more than 99 percent of the total Clark County disposal in each year of the six-year time period.

The Montgomery County Transfer Facilities have processed the majority of Clark County waste which has been disposed. Table 1 shows that the transfer stations have handled roughly 59,000 to 61,000 tons per year, while the amount of Clark County waste disposed from direct-hauling to Stony Hollow Landfill has been somewhat more variable from year to year.[1]

[1] The tonnages listed for each facility represent the amount of waste directly hauled to the facility without first being processed at a transfer facility.

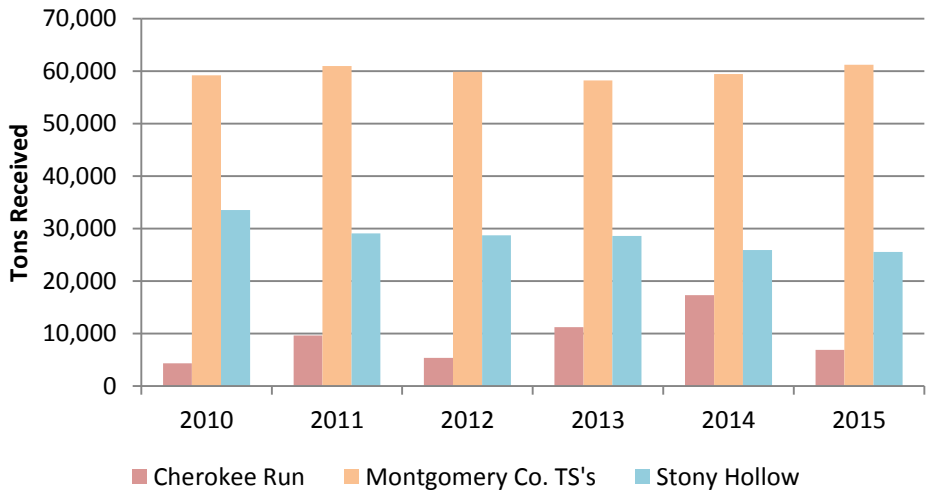
Table 1. Facilities Receiving Clark County Solid Waste: 2010 through 2015

Year	Cherokee Run LF	Montgomery County Transfer Stations *	Stony Hollow Landfill, Inc.
2010	4,362	59,203	33,534
2011	9,654	60,995	29,116
2012	5,371	59,895	28,717
2013	11,249	58,225	28,592
2014	17,296	59,462	25,933
2015	6,873	61,233	25,569

* Clark County solid waste tonnages received at the Montgomery County North and South Transfer Facilities have been combined in this table.

Figure 2 shows the data from Table 1 in a chart. Based upon the six-year period, the amount of waste direct-hauled to Stony Hollow Landfill has been steadily declining.

Figure 2. Facilities Receiving Clark County Solid Waste: 2010 through 2015



Both the Montgomery County South Transfer Facility and Stony Hollow Landfill are two of the closest facilities available to solid waste haulers operating in Clark County.

III. TRANSFER STATION MARKET STUDY

GT conducted surveys of solid waste generators located in Clark County, haulers operating within the solid waste management district (SWMD), and transfer stations operating around Ohio processing amounts of waste similar to the tons of waste disposed from Clark County.

Appendices A, B and C contain the survey instruments used to collect the information and data requested. The following is a brief description of the survey instruments:

Hauler Survey

Local and regional haulers were asked to provide the destination landfill or transfer station that they used for Clark County customers. In addition, the haulers were asked to provide the total tons delivered to each facility and the total costs including collection cost, transportation and disposal costs.

Generator Survey

Selected and targeted Clark County generators of solid waste that were asked to provide the following information and data:

- Name of hauler used
- Number of dumpsters or containers used for solid waste disposal and their size
- Number of compactors used for solid waste disposal and their size
- Pick-up frequency of the dumpsters and compactors
- Cost of servicing the dumpsters and/or compactors
- Estimated volume or amount of trash disposed annually

Transfer Station Survey

Selected and targeted regional transfer stations that were asked to provide the following information and data:

- General information
- Facility information such as year opened property acreage, facility size, capacity and 2015 tons received
- Whether facility is operated in an open or closed market
- Staffing details
- Annual revenues
- Annual operating expenses
- Capital and developmental expenses

Table 2 shows the number of surveys mailed to each type of entity, and the number of responses received.

Table 2. Surveyed Haulers, Businesses, and Institutions

Surveyed Group	Number of Surveys		
	Mailed or Telephoned	Returned	Percent Returned
Haulers	16	5	31.3%
Commercial/Institutional	105	10	9.5%
Industries	28	9	32.1%
Transfer Stations	8	8	100.0%

The hauler and generator surveys were conducted through the mail, while the transfer stations were called to obtain the gate rate, or tipping fee charged at their respective facility. (A mail survey was also used to collect operational and cost information for transfer stations, and this survey is discussed in Section IV.) Follow-up phone calls and email messages were used as necessary to clarify information provided on survey forms. A number of telephone calls were also made to generators who did not respond to the mail survey in an effort to obtain additional responses.

Hauler Survey Results

The hauler survey resulted in five responses, or 31 percent of those surveyed. The tons collected and hauled by these five respondents represents approximately 30 percent of the total amount of District waste sent for disposal during 2015. Two of the respondents provided only the gate rate charges (or tipping fees) at the Montgomery County South Transfer Facility, so these surveys could not be used to estimate the total hauling costs from Clark County. Based on the remaining three surveys, the total hauling costs from the District is approximately $135 per ton, which includes collection, transportation to the Montgomery County South Transfer Facility, and disposal expenses at this facility. ($135 per ton represents a weighted average based upon the tonnage transported by each hauler.)

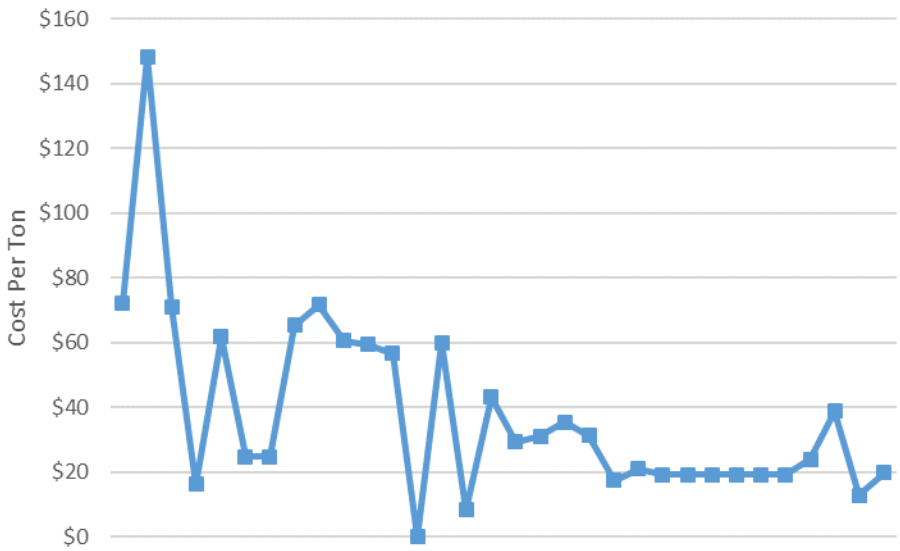
Generator Survey Results

The generator survey effort resulted in a total of 19 returned surveys. In addition to the name of the company or institution, most respondents provided the name of the hauler, the number and size of dumpsters, the frequency of pickup, the cost per month, and an estimate of the amount trash collected. A few surveys included the estimate of trash in both tons and cubic yards, however, in most cases, the amount of trash was provided only in cubic yards. In order to develop a composite cost estimate which could be used in additional analysis, estimates of trash volume in cubic yards was converted to tons utilizing the following assumptions:

- Weight of waste in dumpsters without a compactor – 450 lbs./cu. yd.
- Weight of waste in dumpsters with a compactor – 606 lbs./cu. yd.
- Fullness of dumpsters when emptied – 75% unless specific information indicated otherwise

Information was provided for a total of 64 dumpsters, most of which are 6 or 8 cubic yards in size. However, eight, large dumpsters, 40 to 50 cubic yards in size equipped with a compactor are also included in this total. Figure 3 shows the results of the cost analysis for all of the 64 dumpsters after converting the amount of waste to tons, where necessary. The estimated costs for most dumpsters is under $60 per ton, with the overall average equal to $36 per ton. The median cost for all dumpsters is approximately $42 per ton. If the assumptions above are changed to 225 pounds/cubic yards for un-compacted waste, the overall average and median cost estimates become $59 and $42/ton, respectively.

Figure 3. Costs Per Ton Reported by Generators



A significant difference in the cost per ton can be seen by comparing the averages for dumpsters with and without compactors: $57 versus $31 per ton. However, the cost differential is very dependent upon the assumptions used for compacted vs. uncompacted waste (pounds/cubic yards) as seen above.

The results of the hauler and generator surveys are surprising, at best. The hauler survey shows an estimated cost per ton of $135, while the overall average for the generator survey is $36 to $59 per ton, depending on the assumptions used in the calculations. The expectation is that the costs paid by the generator would approximate the total costs incurred by the hauler plus any profit for the hauler. However, these results show the generator costs at two to four times less than estimated hauler costs. It is worth noting that only one of the 64 dumpsters included in the generator surveys is serviced by a hauler which returned a survey.

Transfer Station Survey Results

Eight existing transfer stations in Ohio were contacted by telephone to obtain the advertised gate rate for disposing waste at the facility. These facilities were selected

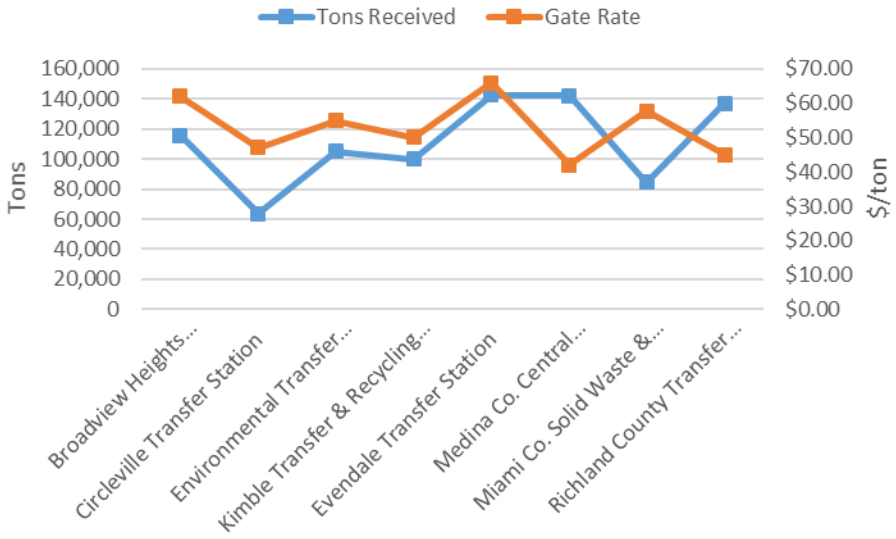
because the amount of waste processed by each transfer station is similar to the estimated tons of waste generated from Clark County and sent for disposal. The costs per ton shown in Table 3 below reflect the total costs for delivering waste at each facility, including the tipping fee and the State of Ohio disposal fee.[2]

Table 3. Selected Transfer Facilities: Gates Rates and Tons Received for 2015

Facility	Cost/ton	Tons
Broadview Heights Recycling Center	$62.00	115,878
Circleville Transfer Station	$47.00	63,482
Environmental Transfer Systems Inc.	$55.00	104,999
Kimble Transfer & Recycling Facility - Cambridge	$50.00	100,097
Evendale Transfer Station	$65.87	142,644
Medina Co. Central Processing Facility	$42.00	142,229
Miami Co. Solid Waste & Recycling Facility	$57.80	84,535
Richland County Transfer Station	$45.00	137,033

Figure 4 shows the information from Table 3 in a chart. The average cost per ton for the gate rate at these facilities is $53.08.

Figure 4. Tons Received and Gates Rates for Selected Transfer Facilities



It is important to note that the advertised gate rates provided by transfer stations do not necessarily reflect the costs for all haulers which use the facilities. It is not uncommon for haulers to negotiate contracts with facilities for rates which are lower than those advertised by the facility. However, this type of information was not available for the Study.

[2] Waste being delivered to these transfer facilities from a solid waste district with a generation fee would pay an additional amount equal to the generation fee.

Additional information for the facilities included in Figure 4 is shown in Table 4 below. The source of the waste processed at the facilities (in-district vs. out-of-district), the solid waste management district (SWMD) where the facility is located, and the total amount of waste disposed from each of these SWMDs is provided in this table. Some of these facilities handle the majority of waste from the SWMD, while others process only a small portion of the total.

Table 4. Tons Received at Selected Transfer Stations: 2015

Facility	Solid Waste Management District (SWMD)	Tons Received at Transfer Station			Total Tons Disposed from SWMD [1]
		In-district	Out-of-district	Total	
Broadview Heights Recycling Center	Cuyahoga	74,337	41,541	115,878	1,372,584
Circleville Transfer Station	Fayette-Highland-Pickaway-Ross	28,212	35,270	63,482	227,720
Environmental Transfer Systems Inc.	Geauga-Trumbull	95,908	9,091	104,999	369,370
Evendale Transfer Station	Hamilton	61,876	80,768	142,644	1,048,222
Hardin County Solid Waste & Recycling Facility	North Central Ohio	10,582	190	10,772	383,360
Huron County Transfer Station	Huron	36,722	510	37,232	48,322
Kimble Transfer & Recycling Facility - Cambridge	Guernsey-Monroe-Morgan-Muskingum-Noble-Washington	80,583	19,514	100,097	723,952
Medina Co. Central Processing Facility	Medina	142,197	32	142,229	191,449
Miami Co. Solid Waste & Recycling Facility	Miami	84,296	239	84,535	83,181
Morse Road Transfer Facility	Solid Waste Authority of Central Ohio	244,617	631	245,248	1,057,664

Facility	Solid Waste Management District (SWMD)	Tons Received at Transfer Station			Total Tons Disposed from SWMD [1]
		In-district	Out-of-district	Total	
Richland County Transfer Station	Richland	79,794	57,239	137,033	319,193

[1] Total tons from the SWMD is based upon 2014 data.

IV. IDENTIFY AND EVALUATE OHIO SOLID WASTE DISTRICTS THAT UTILIZE TRANSFER STATIONS

This section of the report summarizes the facilities surveyed and evaluated as a part of this Study. The facilities selected for evaluation are shown in Table 5, and are also included in the gate rate study in the previous section. The transfer stations in this section were selected for evaluation based upon the size of facility, the ownership of the facility, the entity responsible for operations, and the arrangements for hauling the waste to a landfill. Two facilities – Hardin County and Morse Road facilities – are owned publicly, operated by a public entity, and the waste is hauled from the facilities by a public entity.[3] In contrast, the ownership, operation, and hauling for both the Kimble facility in Cambridge and the Richland County Transfer Station are controlled by private businesses. The Medina and Miami facilities represent a combination, or hybrid of public ownership, but private operation and/or hauling.

Table 5. Ownership and Operation of Selected Transfer Stations

Facility	Ownership	Operation	Hauling
Hardin County Solid Waste & Recycling Facility	Public	Public	Public
Huron County Transfer Station	Public	Public	Private
Kimble Transfer & Recycling Facility - Cambridge	Private	Private	Private
Medina Co. Central Processing Facility	Public	Private	Private
Miami Co. Solid Waste & Recycling Facility	Public	Public	Private
Morse Road Transfer Facility	Public	Public	Public
Richland County Transfer Station	Private	Private	Private

[3] "Public entity" refers to any local government, and in the case of the Hardin County facility, the public entity is Hardin County. For the Morse Road facility, the public entity is the Solid Waste Authority of Central Ohio.

Each of the facilities listed in Table 5 was mailed a survey to collect the following information:

- Basic information (i.e., address, contact information, etc.);
- Background information about the facility such as size, capacity, hours open to the public, and the year which the facility opened;
- Flow control information;
- Labor requirements;
- Initial start-up costs; and
- Annual operating costs.

(See Appendix C for a copy of the survey form sent to transfer stations to collect data for this section.)

While seven facilities were sent surveys, only two responded to the survey and provided 2015 data – Hardin County and the Solid Waste Authority of Central Ohio (SWACO) for the Morse Road facility. However, after examining the data provided for these facilities, it was determined that the cost information from an earlier survey (2013) was more accurate. As a result, the annual operating cost data in Table 6 below is based upon 2013 data which has been inflated to 2015 dollars using the consumer price index. (The annual operating costs for Medina are the only exception to this statement, and these costs are based upon published information which captures the change in operation of the Medina facility to private operation in 2015.) No data is available for the privately-owned and operated Richland County Transfer Station or the Kimble Transfer and Recycling Facility except the tons received.

In terms of the amount of waste processed, the Miami County and Medina County facilities are closest to the disposal totals for Clark County. Table 6 also shows that the Hardin County Transfer Station is the only one of the five facilities which does not utilize flow control to direct waste to the facility.

Staffing information was not available for Huron or Miami County facilities. Since the Medina County facility is now privately operated, staffing information was not available for this facility as well.

Table 6. Selected Transfer Stations in Ohio: Operational and Cost Data

Description	Facility Name				
	Hardin County Solid Waste & Recycling Facility	Huron County Transfer Station	Medina Co. Central Processing Facility	Miami Co. Solid Waste & Recycling Facility	Morse Road Transfer Facility
Basic Facility Information					
Year opened	prior to 1988		1993	1988	2013
Size (in square feet)	6,500		73,000		27,000
Property acreage	8		52		7
Staffing	public sector		private sector	public sector	public sector
Hours open to public	8:30 am - 4:15 pm		52/week		5 a.m. to 3 p.m.
Daily capacity (in tons)	average = 41 tons				1,000
Annual Capacity (in tons)	10,772		130,000		260,000
Tons Received in 2015	10,772	37,232	142,229	86,958	245,248
Is flow control used to direct waste to the facility?					
	no	yes	yes	yes	yes
Staffing Details					
Managers	1 @ 16.46/hr.		Private operation; info not available		1 @ $50.01/hr.
Supervisors					1 @ $36.36/hr.
Equipment operators					2 @ $23.75/hr.
Transfer drivers	2 @ 18.84/hr.				10.5 @ $17.18/hr.
Laborers	1 @ $13.31/hr.				3 @ 15.74/hr.
Revenues					
Tipping fee [a]	$542,001	$2,010,528	$5,973,618	$4,737,478	$13,672,576
Other	$3,964			$250,417	$287
Initial Start-up Costs					
Total [b]	DNR	DNR	DNR	DNR	$10,395,167
Annual Operating Costs [c]					
Labor (including benefits)	$161,510	$343,347		$885,823	$728,692
Contracts			$3,875,740		
Overhead, maintenance	$15,142	$0		$138,771	$279,951

Description	Facility Name				
	Hardin County Solid Waste & Recycling Facility	Huron County Transfer Station	Medina Co. Central Processing Facility	Miami Co. Solid Waste & Recycling Facility	Morse Road Transfer Facility
Supplies	$1,262	$986			$23,141
Equipment	$72,856	$32,010			$187,835
Landfill disposal and transportation	$265,619	$1,268,088		$2,182,517	$7,384,594
Misc. expenses	$28,279	$332,163		$364,660	$12,145
Debt retirement		$29,100	$1,068,945	$128,226	$688,582
Totals	$544,668	$2,005,694	$4,944,685	$4,176,185	$9,304,941
Total Cost/Ton	$50.56	$53.87	$34.77	$48.03	$37.94

[a] Tipping fee revenue for the Huron, Medina, Morse Road, and Miami County facilities is estimated based upon tons received multiplied by the gate rate.
[b] The start-up costs for the Morse Road facility were split between the City of Columbus and SWACO. Only SWACO's costs are reported. The asset is held as a leasehold improvement and detail is not available.
[c] Annual operating costs for all facilities except Medina are based upon 2013 data which has been updated with the consumer price index.

SWACO was the only entity which provided initial start-up costs (Morse Road facility) such as land expense, site work, engineering costs, construction costs, etc. However, SWACO provided only aggregated start-up costs, and as indicated in the second footnote in Table 6, the start-up costs shown for the Morse Road facility do not capture the total costs for this category.

As stated above, the annual operating costs in Table 6 are based on 2013 data which has been inflated with the consumer price index. The most expensive category for each of these facilities is the landfill disposal and transportation costs. For the Medina facility, the landfill and transportation costs are included in the “Contracts” category since the facility is now privately operated.

Four of these facilities reported costs for debt retirement which could be used as an estimate of the annual amortized value for initial start-up (or capital) costs. However, it is not clear if the debt retirement amounts shown include the initial capital costs, or as in the case of the Morse Road facility, appear to address only more recent upgrades or improvements.

The total costs per ton for the five facilities range from approximately $35/ton at Medina to $56/ton at the Miami County facility. As expected, the facilities processing more waste generally have lower costs per ton.

The Medina County Board built the Medina County Central Processing Facility (CPF) in 1993 in order to be in compliance with the Solid Waste Act of Ohio. All solid waste generated and collected within Medina County is delivered to this facility. Prior to January of 2015, the mixed municipal solid waste, which totals between 120,000 and 140,000 tons per year, was then sorted in order to remove recyclable material and organic compost. In addition, yard waste is brought into the facility separately and is processed into compost material which is made available to the public for a nominal fee. This facility is currently recovering approximately 17% of the solid waste collected thus diverting it from valuable landfill space. After January 2015, the mixed waste processing ceased operations and only continued as a solid waste transfer station.

The CPF is located at 8700 Lake Road, Seville, Ohio 44273. The CPF is located on 52 acres, has one main building that is 73,000 square feet in size. In early 2015, the CPF began operations as a transfer station only facility, under public ownership with private operations.

The Huron County Transfer Station began receiving mixed solid waste in September 1998. Prior to that date, the facility operated as a material recovery facility for recyclables. The transfer station has continued to process waste and a small amount of recyclables, with more than 98 percent of the mixed solid waste (or trash) originating from Huron County. General solid waste comprises approximately 75 to 80 percent of the trash received, while industrial waste contributes 16 to 19 percent.

Morse Road Transfer Station is jointly operated by the Columbus's Department of Public Service Refuse Collection Division and the Solid Waste Authority of Central Ohio. Although the facility was built in the early 1970s and has been in operation for many years, an upgrade which began in 2012 transformed the transfer station into an "Eco-Station", costing approximately $18 million. This project brought about numerous environmental improvements, and involved constructing a new transfer building, a new maintenance and administration building, and an indoor parking garage for collection vehicles. The transfer station is the northeast base for Columbus refuse operations.

The Hardin County Solid Waste and Recycling Facility processes waste which is sent for disposal and also serves as a drop-off for recyclables. The facility has been in operation for more than 25 years. The County currently operates the transfer station and hauls the waste to a landfill, although contracting with a private company for these services has been explored recently.

The Miami County Transfer Station was built by the county and began operations in 1998. The transfer station was constructed to process waste which was previously handled by a county incinerator. The transfer station site also includes a drop-off for recyclables with processing capability.

In an effort to establish a range of capital and operating costs from another data source, the costs shown in Table 7 are from a 2014 study conducted for Beaufort County, South Carolina. While these costs may not be completely accurate for Clark County, Ohio, they provide a basis of comparison which can be helpful in evaluating the potential feasibility of a transfer station for the District. Facilities of two sizes were evaluated: 51,508 tons processed per year and 136,512 tons processed per year. Assuming capital costs were amortized over 20 years at a 3 percent interest rate, the total annual owning and operating costs are estimated at $748,000 and $1,151,000 for the alternate sized facilities. (These costs do not include landfill disposal and transportation costs to the landfill.)

Table 7. Transfer Station Options for Beaufort County, South Carolina

Tons processed per year (2015)	51,508	136,512
Capital Costs		
Site acquisition	$160,000	$290,000
Site work	$828,000	$1,231,000
Transfer building & maneuvering area	$1,237,000	$1,595,000
Scale house and scales	$317,000	$317,000
Subtotal - Construction	**$2,542,000**	**$3,433,000**
Design & engineering	$508,000	$686,000
Permitting	$51,000	$69,000
Construction inspection	$102,000	$137,000
Construction contingency	$508,000	$686,000
Surveying and soils report	$30,000	$30,000
Total Construction Costs	**$3,741,000**	**$5,041,000**
Mobile equipment	$375,000	$455,000
Total Capital Costs	**$4,116,000**	**$5,496,000**
Operating Costs		
Labor	$247,000	$432,000
Building & Site Maintenance	$25,000	$34,000
Equipment operating & maintenance	$15,000	$36,000
Utilities	$13,000	$13,000
Rolling stock fuel costs	$37,000	$69,000
Insurance	$75,000	$99,000
Subtotal	**$412,000**	**$683,000**
Contingency (10%)	$41,000	$68,000
Accounting, supplies, misc. (5%)	$21,000	$34,000
Total Operating Costs	**$474,000**	**$785,000**
Total Annual Costs		
Amortized capital, @ 3% for 20 yrs.	$273,927	$365,768
Operating	$474,000	$785,000
Total	**$747,927**	**$1,150,768**

V. ESTIMATE OF TRANSPORTATION COST SAVINGS

As part of the evaluation to determine the feasibility of building a transfer station in Clark County, the hauler transportation costs for SWMD waste have been estimated to the Montgomery County South Transfer Station and compared to transportation costs to a location in the City of Springfield which could be used as a transfer station site. In the context of this Study, several categories comprise the total costs of managing solid wastes, including:

- Collection route costs. Defined as the owning and operating cost of driving a collection vehicle from house to house, or business to business, until the end of the route is reached or the vehicle reaches capacity.

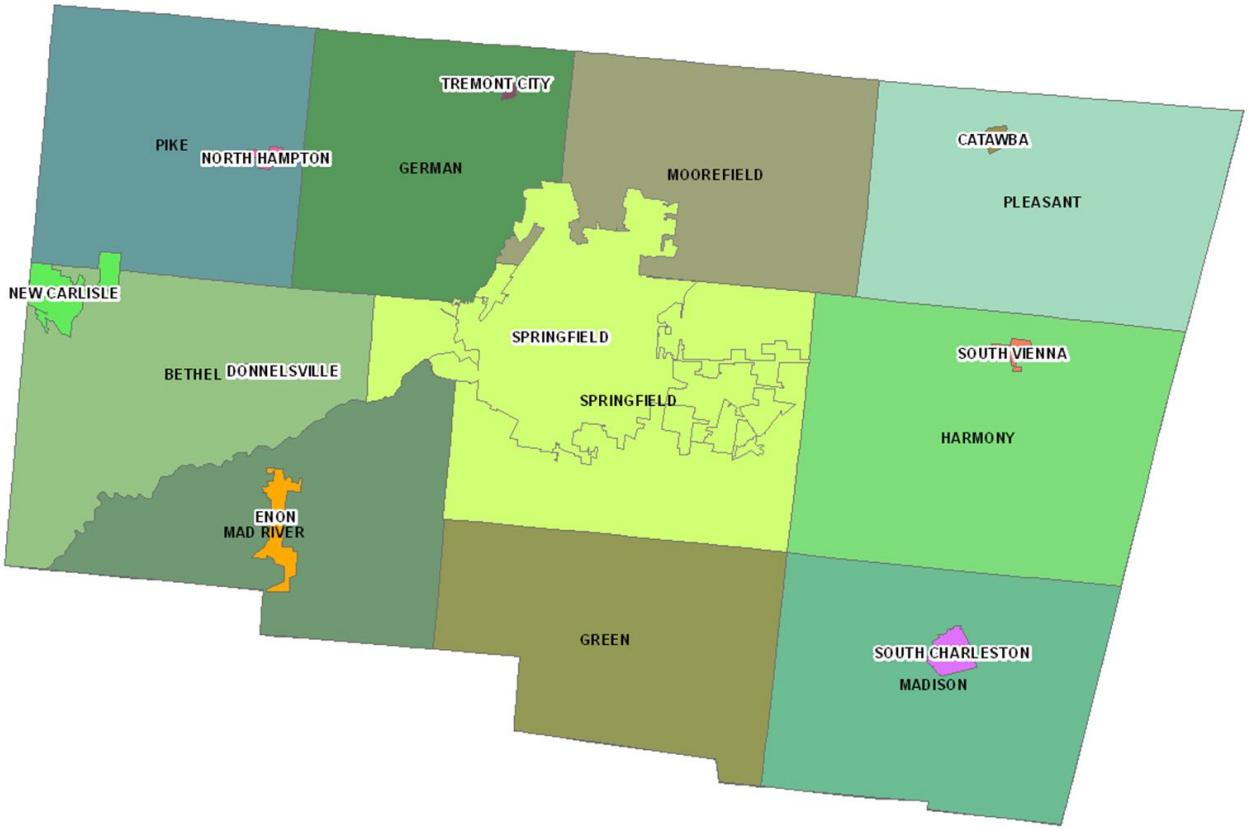
- Transportation costs. The owning and operating costs of driving a fully-loaded collection vehicle from the end of a collection route to a transfer station or landfill, and then returning to the next collection route.

- Tipping fee. The cost charged at the transfer station or landfill for depositing solid waste at the facility. The tipping fee would be expected to be set at an amount which would equal or exceed the owning and operating costs of the facility, some amount of profit, plus in the case of transfer stations, the cost of delivering the waste from the transfer station to the landfill and the tipping fee at the landfill.

While it is expected that collection route costs will remain relatively constant regardless of the location where the waste is disposed or deposited, the transportation costs as defined above could vary substantially. Furthermore, the transportation cost differential between delivering waste to an existing facility such as the Montgomery County Transfer Station versus a new Clark County transfer station represents the category in which a cost savings can occur. The cost differential must be large enough to offset the expense of a new transfer station plus the cost to deliver the waste to a landfill in order to justify the economic feasibility of building a new transfer station.

One of the first tasks towards conducting this evaluation involved determining the distances associated with the transportation costs and the tons hauled from various parts of the County. The round-trip distances to the Montgomery County Transfer Station were estimated for each community shown in Figure 5. The tons hauled to the transfer station from each community in 2015 were approximated based upon the percentage of total county population. For instance, the City of Springfield comprises almost 84 percent of the total community population analyzed in this evaluation, so it has been assumed that 84 percent of the District waste received at the Montgomery County Transfer Station originated from Springfield.

Figure 5. Clark County Communities



Since the types and sizes of collection vehicles actually used in Clark County was not available, a range of sizes for rear-loading packer trucks has been incorporated into this analysis. The capital costs used for larger vehicles is higher, however, the operating costs were assumed to be the same for all vehicle sizes. Operating costs included in the analysis are insurance, permits and licenses, repair and maintenance, tires, fuel, and labor.

A number of other assumptions have been used in the analysis, including the following:

- Fuel cost – $2.50 per gallon
- Fuel efficiency – 4 miles per gallon
- Labor cost for driver – $15 per hour
- Benefits for driver – 150 percent of hourly rate
- Interest rate for collection vehicle purchase – 5 percent
- Expected life for collection vehicle – 7 years
- Average unloading time at Montgomery County Transfer Station – 20 minutes
- Average unloading time at Clark County Transfer Station – 15 minutes

Four scenarios have been developed using the data and assumptions discussed above in an attempt to capture the range of possible transportation cost savings associated with a transfer station located within the City of Springfield. The scenarios are:

1. Waste is collected and transported from the City of Springfield using a 12-ton packer truck. Ten-ton vehicles are used in all other communities. One laborer is assumed for all collection vehicles in addition to the driver both paid $15/hour plus benefits. Fuel is assumed to be $2.50/gallon.
2. All assumptions are the same as Scenario 1 except labor costs include only the driver.
3. Waste in all the communities is collected by a range of vehicle sizes, from 8-ton to 12-ton packer trucks. One laborer is assumed for all collection vehicles in addition to the driver.
4. All assumptions are the same as Scenario 3 except labor costs include only the driver.

Table 8 shows that the range of transportation cost savings is quite large – $530,000 to $782,000 per year. As expected the majority of the cost savings is associated with waste hauled from the City of Springfield for each scenario. This analysis also shows that savings associated with the City of Springfield increase significantly if it is assumed that waste is hauled by a range of vehicle sizes. (Scenarios 3 and 4) Although the inclusion of a laborer in each collection vehicle (Scenarios 1 and 3) is an important factor which adds to the overall savings, it is not as significant as the vehicle size.

Table 8. Annual Transportation Cost Savings

Scenarios	Annual Cost Savings			Assumptions
	Springfield	All other communities	Total	
1	$571,497	$95,042	$666,539	Driver/Laborer, 12 ton trucks in Springfield, 10 ton trucks others
2	$454,090	$75,987	$530,077	Driver, 12 ton trucks in Springfield, 10 ton trucks others
3	$684,686	$97,454	$782,139	Driver/Laborer, 8-12 ton trucks
4	$539,884	$77,869	$617,753	Driver, 8-12 ton trucks

Additional sensitivity analysis showed that changes in other factors could result in variation of the cost savings as well. If the fuel cost increases to $3 per gallon, the cost savings under Scenarios 2 and 4 increases to $567,000 and $662,000, respectively. If diesel fuel prices increase even higher to $3.50 gallon, the savings under Scenarios 2 and 4 become $603,000 and $706,000, respectively. Increasing the hourly rate for the drivers to $17 per hour increases the cost savings only slightly to $548,000 for Scenario 2 and $640,000 for Scenario 4. If it is assumed that the unloading time at both the Montgomery County Transfer Station and a Clark County Transfer Station is 20 minutes, the cost savings decreases by approximately $9,000 for Scenario 2 and $11,000 for Scenario 4.

The transportation analysis described above was repeated for Clark County waste which was hauled to the Cherokee Run Landfill in Logan County and the Stony Hollow Landfill in Montgomery County during 2015. Table 9 shows the total transportation cost savings for a Clark County transfer station using each facility currently receiving District waste (i.e., Montgomery County Transfer Station, Stony Hollow Landfill, and Cherokee Run Landfill). In general, the distances to the Cherokee Run Landfill from communities in Clark County are greater than those for the other facilities, but the amount of waste sent to Cherokee Run is much less so the savings is also less. The distances from Clark County communities to Stony Hollow Landfill are slightly greater than those to the Montgomery County Transfer Station. However, the amount of waste hauled directly to Stony Hollow was less than half the tonnage hauled to the transfer station, therefore, the Stony Hollow cost saving is much less.

Table 9. Total Transportation Cost Savings by Facility

Scenarios	Annual Cost Savings			
	Montgomery Transfer St.	Stony Hollow LF	Cherokee Run LF	Total
1	$666,539	$298,484	$85,188	$1,050,211
2	$530,077	$237,457	$67,786	$835,320
3	$782,139	$349,901	$99,693	$1,231,733
4	$617,753	$276,473	$78,797	$973,023

Table 10 presents the results of the analysis categorized by Clark County communities.

Table 10. Total Transportation Cost Savings by Clark County Community

Scenarios	Annual Cost Savings		
	Springfield	All other communities	Total
1	$896,966	$153,245	$1,050,211
2	$712,833	$122,487	$835,320
3	$1,074,600	$157,133	$1,231,733
4	$847,503	$125,521	$973,023

It is important to note that the cost savings calculated in this section do not necessarily mean that the generator of the solid waste would realize the projected savings, only that an overall cost savings could result from shorter distances traveled for local haulers.

VI. IDENTIFIED TRANSFER STATION OPTIONS

As discussed above, several ownership and operational combinations for transfer stations are possible and are reflected in existing facilities within Ohio. These options include:

1. Publicly-owned and operated
2. Publicly-owned and privately-operated
3. Privately-owned and operated
4. Regional public facility
5. Hybrid models

While each of these options may have certain advantages, only the first (publicly-owned and operated), second (publicly-owned and privately-operated), and fifth (hybrid model) options are evaluated further in this analysis based upon the availability of data, and the circumstances associated with the existing facilities in counties adjacent to Clark. Data is not available for a privately-owned and operated facility (option 3), and a regional facility with the ability to attract waste from adjacent counties (option 4) does not seem feasible given the locations of existing facilities.

With the absence of private sector data, it is recommended that private sector investment and/or involvement should be explored. This is further discussed in the Conclusion Section of this report.

VII. EVALUATION OF COSTS FOR IDENTIFIED TRANSFER STATIONS

The various capital and operational costs of the transfer stations included in Section VI were analyzed to obtain average baseline data to be used in this economic analysis. The economic analysis includes 4 scenarios to assist the District in determining the full spectrum of the risks and rewards of developing the proposed transfer station. Also, sensitivity analysis was applied to certain cost factors to determine a range of possible costs. The scenarios are the following:

Table 11. Scenarios for Transfer Station Ownership and Operation

Scenario	Description
1	Publicly Owned and Operated Transfer Station
2	Publicly Owned and Privately Operated
3	Publicly Owned and Operated with Private Hauling
4	Publicly Owned and Operated – Miami Model

A. Operational Assumptions Used in this Analysis

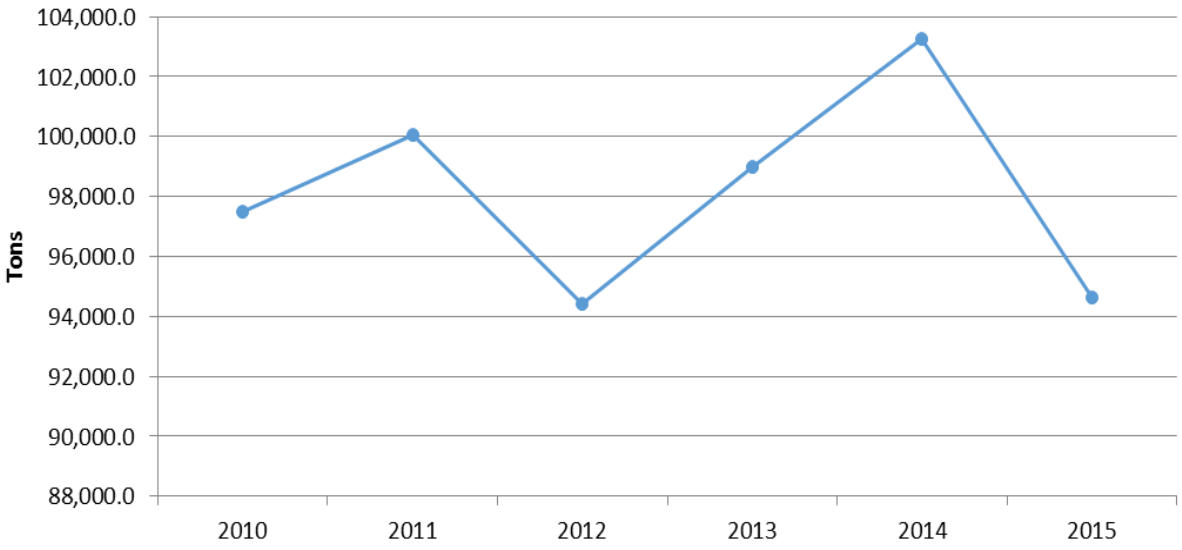
One key parameter for this analysis is ensuring the transfer station is sized, equipped and staffed to process the appropriate amount of solid waste from the District. The analysis completed for this study included a transfer station that processed solid waste from the residential/commercial and industrial sectors that is currently landfilled. Currently, this volume of solid waste is not controlled by the District.

The following Section summarizes the basic assumptions utilized to conduct the economic analysis for each presented scenarios.

1. Solid Waste and Recycling Tonnage

A waste generation analysis of the District's residential/commercial/industrial sectors solid waste stream was conducted in Section II of this report. The following chart depicts the amount of solid waste being landfilled by the District from 2010-2015:

Figure 6. Clark County Solid Waste Disposed: 2010 – 2015



Determining the amount of trash that would need to be managed by a District owned transfer station with flow control was determined by taking a 6-year average of the data depicted above. The raw average is 98,144 tons. By removing the high and low of the six-year data gives an average of 97,798 tons. For the purposes of this Study, 98,000 tons annually will be used for calculation purposes.

2. Capital Costs

The capital costs associated with designing, constructing and equipping the various scenarios covered in this Study and the amortization of those capital costs on an annualized basis were evaluated. The capital expenses include the cost of land, facility design, transfer station permit application, equipment and other start-up costs. The costs also include a portion of the facility dedicated as a licensed transfer station. This license requires a separate process and about a year and a half to permit through Ohio EPA.

Factors that could impact the actual capital costs include:

- Use of current county-owned property could reduce the capital costs estimated in this Study.
- Acquisition of an existing developed site with buildings adequate for the transfer station could reduce the cost. (Note: There are significant potential environmental liabilities associated with sites that have been contaminated from prior activity. Discounted properties should be reviewed carefully to confirm the costs associated with clean-up actions.)
- Acquisition of a site nearby the intersections of major arterial roadways and/or interstate highway interchanges may increase the cost.

3. Annual Debt Retirement

The largest portion of the projected annual operating expenses for the scenarios studied will be the debt retirement for the buildings/land and equipment. These costs are projected to range from $5,000,000 – $10,000,000. To retire this debt, GT assumed that a 20-year payback schedule would be utilized. GT also assumed that a commercial loan, bond or Ohio Department of Development Research and Development (ODOD) Loan could be used to finance the proposed transfer station. The District should review the latest opinion from the State Auditor regarding loans for solid waste districts. The assumed interest rate was 3.0 percent. Based on these figures, the annual payment for the scenarios studied ranges from $332,758 - $665,517.

4. Annual Operating Costs for Staff

Besides debt service, the next largest annual operating expense relates to salaries and salary overhead (e.g., insurance, retirement benefits, etc.). It is assumed that salary overhead, or fringe benefits, represent 60 percent of baseline salary.

The following are assumptions and general comments regarding staffing:

- The Study incorporates labor rates and the required number of staff from current operations from the comparable facilities.

- The District may be able to structure labor rates and the number of workers to reduce the impact of labor costs on the scenarios presented in this study.

5. Other Annual Operating Costs

The other annual operating costs reported by similar facilities include the following:

- Utilities
- Maintenance
- Supplies
- Professional Services
- Miscellaneous Costs
- Residuals Disposal

6. Other Costs: Transportation to the Landfill and Disposal Costs, District Generation Fee and EPA Fee

While these costs do not pertain to the processing of wastes at the transfer station, they are necessary costs associated with the overall operation of any transfer station. Average costs from the comparable transfer stations were used to estimate the cost for the proposed facility in Clark County.

Finally, each scenario studied included the cost of the District generation fee ($8.50/ton) and the Ohio EPA disposal fee ($4.75/ton) which are collected at the first licensed solid waste facility in Ohio that solid waste is delivered.

7. Revenues

The revenue associated with this analysis is the tipping fee which would be charged at the transfer station for waste received from haulers. The estimated tip fees shown in each scenario reflect the necessary fee to cash flow each scenario and range from $52-$57 per ton.

B. Economic Models

Scenario 1: Publicly-Owned and Operated

Table 12 shows the baseline estimated costs and revenue for a publicly-owned and operated transfer station, assuming that all District-generated waste is processed at the transfer station. The analysis shows that a tipping fee of $56.90 per ton will result in a slight annual “profit” of approximately $8,523. The costs used in the analysis are based upon data from existing transfer stations and studies that have been conducted for other political jurisdictions.

Table 12. Scenario 1: Publicly-Owned and Operated

Item			Annual Totals
Tons Managed Annually	**98,000**		
Annual Revenues			
Category	**Revenue**		
Tipping Fee	$56.90		$5,576,200.00
		Total Revenue	**$5,576,200.00**
Capital Costs			
Building/Land/Equipment Costs	$5,000,000	3% for 20 Years	$332,758.56
Annual Costs			
Laborer	Number of Laborers		2
	Labor rate per hour		$16.00
	Salary Per Year		$66,560
	Fringe Benefits		$45,427
Supervision/Equipment Operators	Number of Supervisors/Operators		4
	Labor rate per hour		$22.00
	Salary Per Year		$192,192
	Fringe Benefits		$124,925
Utilities			$60,000
Equipment Maintenance			$100,000
Equipment Replenishment			$50,000
Supplies			$25,000
Professional Services			$50,000
Misc. Costs			$225,000
Landfill Disposal	$18.00		$1,764,000.00
Solid Waste Transportation	$12.58		$1,233,313.67
District Generation Fee and Ohio EPA Fee	$13.25		$1,298,500.00
Total Annual Operating Cost			**$5,567,676**
Cost Per Ton			**$56.81**
Profit/Loss			**$8,523.77**

Scenario 2: Publicly-Owned and Privately-Operated

Table 13 presents the estimated costs and revenue for a publicly-owned and privately-operated transfer station. This scenario has been developed using the same costs as Scenario 1, except for the following cost factors:

- Fringe benefits. It is assumed that fringe benefits paid by the private sector are less than the public sector.

- Transportation costs. The baseline analysis for this scenario uses a lower cost per ton based upon information obtained from private hauling companies.
- Profit. This scenario also includes a profit margin for the private sector of 10 percent.

As shown in the table, an estimated "break-even" tipping fee of $52.20 is somewhat lower than Scenario 1 costs per ton when a 10 percent profit margin is incorporated into the analysis. (It is important to acknowledge that actual detailed costs from the private sector were not available this evaluation, and as a result, the most of the costs used for Scenario 1 were also used for Scenario 2. However, summary data was obtained for one facility – the Medina County Central Processing Facility – which showed that a private company is charging approximately $30 per ton to operate the transfer station, haul the waste to the landfill, and pay for disposal. If debt service is included at $3 to $4 per ton, the total annual costs become $33 to $34 per ton.)

Table 13. Scenario 2: Publicly-Owned and Privately-Operated

Item			Annual Totals
Tons Managed Annually		**98,000**	
Annual Revenues			
Category	**Revenue**		
Break-even tipping fee w/ profit margin	$52.20		$5,115,600.00
		Total Revenue	**$5,115,600.00**
Capital Costs			
Building/Land/Equipment Costs	$5,000,000	3% for 20 Years	$332,758.56
Annual Costs			
Laborer	Number of Laborers		2
	Labor rate per hour		$16.00
	Salary Per Year		$66,560
	Fringe Benefits		$17,472
Supervision/Equipment Operators	Number of Supervisors/Operators		4
	Labor rate per hour		$22.00
	Salary Per Year		$192,192
	Fringe Benefits		$48,048
Utilities			$60,000
Equipment Maintenance			$100,000
Equipment Replenishment			$50,000
Supplies			$25,000
Professional Services			$50,000
Misc. Costs			$225,000

Item		Annual Totals
Tons Managed Annually	**98,000**	
Landfill Disposal	$18.00	$1,764,000.00
Solid Waste Transportation	$8.99	$880,938.33
District Generation Fee and Ohio EPA Fee	$13.25	$1,298,500.00
Total Annual Operating Cost		**$5,110,469**
Cost Per Ton		**$52.15**
Profit/Loss		**$5,131.11**

Scenario 3: Publicly-Owned and Operated with Private Hauling

Table 14 shows the estimated costs and revenue for a publicly-owned and operated transfer station, except that hauling the waste to a landfill and negotiating a disposal contract would be the responsibility of a private sector company. The only costs in this scenario which are different than Scenario 1 are lower transportation costs of $8.99 per ton which are based upon information obtained from a private hauling company.

Table 14. Scenario 3: Publicly-Owned and Operated w/ Private Hauling

Item			Annual Totals
Tons Managed Annually	**98,000**		
Annual Revenues			
Category	**Revenue**		
Tipping Fee	$53.30		$5,223,400.00
		Total Revenue	**$5,223,400.00**
Capital Costs			
Building/Land/Equipment Costs	$5,000,000	3% for 20 Years	$332,758.56
Annual Costs			
Laborer	Number of Laborers		2
	Labor rate per hour		$16.00
	Salary Per Year		$66,560
	Fringe Benefits		$45,427
Supervision/Equipment Operators	Number of Supervisors/Operators		4
	Labor rate per hour		$22.00
	Salary Per Year		$192,192
	Fringe Benefits		$124,925

Item		Annual Totals
Tons Managed Annually	**98,000**	
Utilities		$60,000
Equipment Maintenance		$100,000
Equipment Replenishment		$50,000
Supplies		$25,000
Professional Services		$50,000
Misc Costs		$225,000
Landfill Disposal	$18.00	$1,764,000.00
Solid Waste Transportation	$8.99	$880,938.33
District Generation Fee and Ohio EPA Fee	$13.25	$1,298,500.00
Total Annual Operating Cost		**$5,215,301**
Cost Per Ton		**$53.22**
Profit/Loss		**$8,099.11**

Scenario 4: Publicly-Owned and Operated – Miami Model

Table 15 shows the baseline estimated costs and revenue for a publicly-owned and operated transfer station based on operational expenses incurred at the Miami County Transfer Station for 2015. This scenario also is assuming that all District-generated waste is processed at the transfer station. The analysis shows that a tipping fee of $53.10 per ton will result in a slight annual "profit" of approximately $6,581. The costs used in the analysis are based upon data from the Miami County Transfer Station for 2015.

Table 15. Scenario 4: Publicly-Owned and Operated – Miami Model

Item			Annual Totals
Tons Managed Annually		**98,000**	
Annual Revenues			
Category	**Revenue**		
Tipping Fee	$53.10		$5,203,800.00
		Total Revenue	**$5,203,800.00**
Capital Costs			
Building/Land/Equipment Costs	$5,000,000	3% for 20 Years	$332,758.56
Annual Costs			

Item		Annual Totals
Tons Managed Annually	**98,000**	
Laborer	Number of Laborers	4
	Labor rate per hour	$16.00
	Salary Per Year	$133,120
	Fringe Benefits	$45,427
Supervision/Equipment Operators	Number of Supervisors/Operators	6
	Labor rate per hour	$22.00
	Salary Per Year	$288,288
	Fringe Benefits	$124,925
Operations and Maintenance		$514,400
Landfill Disposal	$25.10	$2,459,800.00
Solid Waste Transportation		
District Generation Fee and Ohio EPA Fee	$13.25	$1,298,500.00
Total Annual Operating Cost		**$5,197,219**
Cost Per Ton		**$53.03**
Profit/Loss		**$6,581.44**

Sensitivity Analysis of Scenarios 1-4

The following discussion below summarizes the analyses discussed above and shows the key cost factors which were varied in order to develop a range of likely costs for a Clark County transfer station. The lowest baseline cost in the analysis, is $52.15 per ton (Scenario 2, baseline), while the highest cost is $56.81 per ton for Scenarios 1. The variables analyzed for the sensitivity analysis for each scenario are as follows:

- Capital expenses to build the transfer station increased from $5,000,000 to $10,000,000.
- Cost for outbound disposal increased from $18.00/ton to $30.00/ton for Scenarios 1-3 and $12.00/ton to $20.00/ton for Scenario 4.
- Cost of outbound hauling of solid waste from the transfer station to the landfill was increased by $10.00 per ton.

The following explains each sensitivity analysis by scenario.

Sensitivity Analysis of Scenario 1

Based on data obtained from one source, the capital costs for the facility could be as much as $10,000,000. As discussed above, the capital costs depend upon a number of factors, including the price of land for the site. The total annual cost per ton for

assuming a capital cost of $10 million would increase the base cost of this scenario from $56.81 to $60.21 per ton.

The landfill disposal rate has a greater effect on the annual cost per ton than the capital cost of the transfer station. A disposal rate of $18.00 per ton assumes that the District could secure a contract with a landfill owner. However, if the District is unable to negotiate terms of a contract for $18.00 per ton and is forced to pay $30 per ton for disposal, the total annual costs would increase the base cost of this scenario from $56.81 to $68.81 per ton.

The transportation costs from the transfer station to a landfill also comprise a significant portion of the total costs.[4] In the baseline analysis shown above, the transportation costs of $12.58 per ton have been estimated based on the annual amortized cost of transfer tractor-trailers plus operating costs per mile including fuel. If these costs were to increase to $10 per ton, the total annual cost for the transfer station would be $79.39 per ton. Higher capital costs of $10 million, higher disposal costs of $30 per ton, and higher transportation costs of $10 per ton result in total annual costs of $94.79 per ton.

Without flow control (or designation) which is discussed in the next section, the District would need to have a tipping fee at their transfer station which is competitive with other facilities currently being used by haulers operating in Clark County in order to attract waste. Using the Montgomery County South Transfer Station as the competing facility, a Clark County facility would need to have a tipping fee no more than $50.25 per ton (Montgomery County's current fee for Clark County waste) plus the cost savings which would be realized from the shorter hauling distances to a Clark County facility. The most conservative transportation cost savings estimate as discussed above in Section V is $835,000, or $8.52 per ton. Assuming that haulers would save an average of $8.52 per ton by bringing waste to a Clark County transfer station, the Clark County facility tipping fee could theoretically be slightly higher than $58 per ton and remain competitive with the Montgomery County South Transfer Station.[5]

Using a capital cost estimate of $5 million, the landfill disposal rate paid by Clark County could be as high as $19 per ton to maintain an overall cost per ton approximating $58 per ton. If the capital costs increased to $10 million, the landfill disposal rate would need to be $15 per ton in order for a Clark County transfer station to remain competitive.

Sensitivity Analysis of Scenario 2

[4] Each scenario in the analyses assumes that waste would be delivered from a Clark County transfer station located in Springfield to the Cherokee Run Landfill in Logan County or the Stony Hollow Landfill in Montgomery County. Approximate distances to these landfills is very similar – 34 and 33 miles, respectively.

[5] It is important to note that a tipping fee of approximately $58 per ton represents an average price which would be competitive with the Montgomery County South facility. For example, haulers transporting from locations in Clark County which are closer to Montgomery County (such as New Carlisle) would likely save less than $8.52 per ton by bringing waste to a Clark County facility. Therefore, a competitive tipping fee for these haulers would need to be less than $58 per ton.

Based on data obtained from one source, the capital costs for the facility could be as much as $10,000,000. As discussed above, the capital costs depend upon a number of factors, including the price of land for the site. The total annual cost per ton for assuming a capital cost of $10 million would increase the base cost of this scenario from $52.15 to $55.54 per ton.

The landfill disposal rate has a greater effect on the annual cost per ton than the capital cost of the transfer station. A disposal rate of $18.00 per ton assumes that the District could secure a contract with a landfill owner. However, if the District is unable to negotiate terms of a contract for $18.00 per ton and is forced to pay $30 per ton for disposal, the total annual costs would increase the base cost of this scenario from $52.15 to $64.15 per ton.

The transportation costs from the transfer station to a landfill also comprise a significant portion of the total costs.[6] In the baseline analysis shown above, the transportation costs of $8.99 per ton have been estimated based on the average costs for private hauling from the comparable transfer stations plus operating costs per mile including fuel. If these costs were to increase to $10 per ton, the total annual cost for the transfer station would be $71.14 per ton. Higher capital costs of $10 million, higher disposal costs of $30 per ton, and higher transportation costs of $10 per ton result in total annual costs of $86.53 per ton.

Using a capital cost estimate of $5 million, the landfill disposal rate paid by Clark County could be as high as $23 per ton to maintain an overall cost per ton approximating $58 per ton. If the capital costs increased to $10 million, the landfill disposal rate would need to be $20 per ton in order for a Clark County transfer station to remain competitive.

Sensitivity Analysis of Scenario 3

Based on data obtained from one source, the capital costs for the facility could be as much as $10,000,000. As discussed above, the capital costs depend upon a number of factors, including the price of land for the site. The total annual cost per ton for assuming a capital cost of $10 million would increase the base cost of this scenario from $53.22 to $56.61 per ton.

The landfill disposal rate has a greater effect on the annual cost per ton than the capital cost of the transfer station. A disposal rate of $18.00 per ton assumes that the District could secure a contract with a landfill owner. However, if the District is unable to negotiate terms of a contract for $18.00 per ton and is forced to pay $30 per ton for disposal, the total annual costs would increase the base cost of this scenario from $53.22 to $65.22 per ton.

[6] Each scenario in the analyses assumes that waste would be delivered from a Clark County transfer station located in Springfield to the Cherokee Run Landfill in Logan County or the Stony Hollow Landfill in Montgomery County. Approximate distances to these landfills is very similar – 34 and 33 miles, respectively.

The transportation costs from the transfer station to a landfill also comprise a significant portion of the total costs.[7] In the baseline analysis shown above, the transportation costs of $8.99 per ton have been estimated based on the average costs for private hauling from the comparable transfer stations plus operating costs per mile including fuel. If these costs were to increase to $10 per ton, the total annual cost for the transfer station would be $72.21 per ton. Higher capital costs of $10 million, higher disposal costs of $30 per ton, and higher transportation costs of $10 per ton result in total annual costs of $87.60 per ton.

Using a capital cost estimate of $5 million, the landfill disposal rate paid by Clark County could be as high as $22 per ton to maintain an overall cost per ton approximating $58 per ton. If the capital costs increased to $10 million, the landfill disposal rate would need to be $19 per ton in order for a Clark County transfer station to remain competitive.

Sensitivity Analysis of Scenario 4

Based on data obtained from one source, the capital costs for the facility could be as much as $10,000,000. As discussed above, the capital costs depend upon a number of factors, including the price of land for the site. The total annual cost per ton for assuming a capital cost of $10 million would increase the base cost of this scenario from $53.03 to $56.43 per ton.

The landfill disposal rate has a greater effect on the annual cost per ton than the capital cost of the transfer station. A disposal rate of $12.00 per ton assumes that the District could secure a contract with a landfill owner based on the same rate as Miami County. However, if the District is unable to negotiate terms of a contract for $12.00 per ton and is forced to pay $20 per ton for disposal, the total annual costs would increase the base cost of this scenario from $53.03 to $61.03 per ton.

The transportation costs from the transfer station to a landfill also comprise a significant portion of the total costs.[8] In the baseline analysis shown above, the transportation costs incurred by Miami County have been included. If these costs were to increase to $10 per ton, the total annual cost for the transfer station would be $63.03 per ton. Higher capital costs of $10 million, higher disposal costs of $20 per ton, and higher transportation costs of $10 per ton result in total annual costs of $74.43 per ton.

[7] Each scenario in the analyses assumes that waste would be delivered from a Clark County transfer station located in Springfield to the Cherokee Run Landfill in Logan County or the Stony Hollow Landfill in Montgomery County. Approximate distances to these landfills is very similar – 34 and 33 miles, respectively.

[8] Each scenario in the analyses assumes that waste would be delivered from a Clark County transfer station located in Springfield to the Cherokee Run Landfill in Logan County or the Stony Hollow Landfill in Montgomery County. Approximate distances to these landfills is very similar – 34 and 33 miles, respectively.

Sensitivity Analysis of Scenarios 1-4 Summary

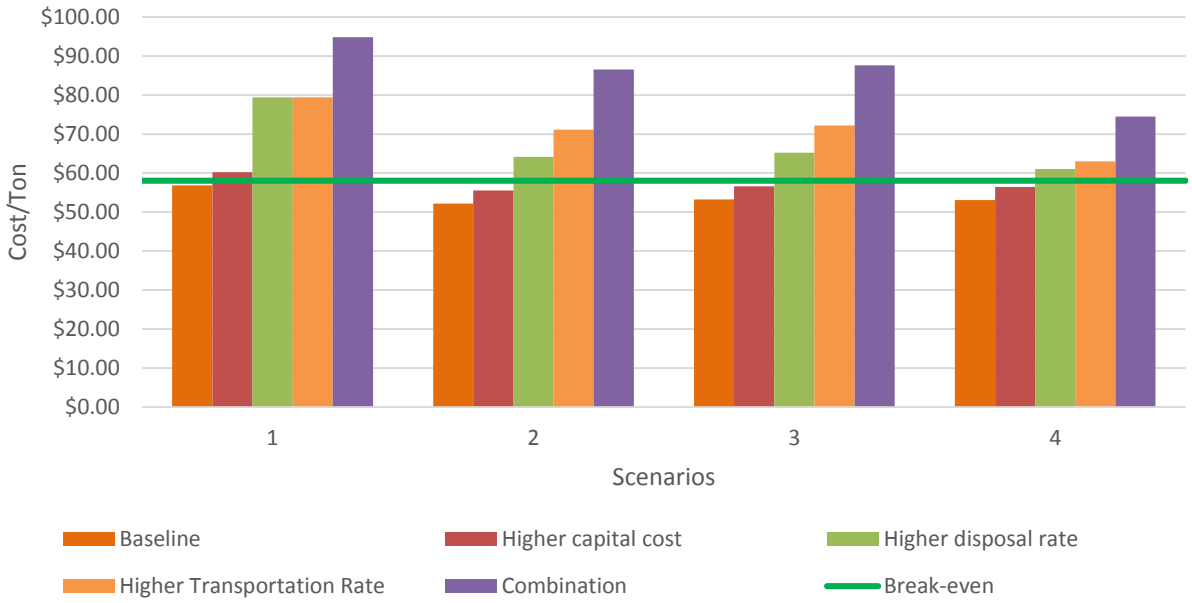
The following table summarizes the sensitivity analysis for each scenario evaluated. Varying each of the selected cost factors resulted in significant changes to total annual costs per ton. However, the total annual cost per ton is most sensitive to changes in the landfill disposal rate and the transportation costs from the transfer station to the landfill.

Table 16. Sensitivity Analysis for Transfer Station Scenarios

Scenario	Category Name	$ Amount	Tip Fee
1	Baseline		$56.81
	Transfer station capital cost	$10,000,000	$60.21
	Landfill disposal rate/ton	$30.00	$68.81
	Transportation cost/ton	$22.58	$79.39
	Combination of all three factors		$94.79
2	Baseline		$52.15
	Transfer station capital cost	$10,000,000	$55.54
	Landfill disposal rate/ton	$30.00	$64.15
	Transportation cost/ton	$18.99	$71.14
	Combination of all three factors		$86.53
3	Baseline		$53.22
	Transfer station capital cost	$10,000,000	$56.61
	Landfill disposal rate/ton	$30.00	$65.22
	Transportation cost/ton	$12.00	$72.21
	Combination of all three factors		$87.60
4	Baseline		$53.03
	Transfer station capital cost	$10,000,000	$56.43
	Landfill disposal rate/ton	$20.00	$61.03
	Transportation cost/ton	$23.10	$63.03
	Combination of all three factors		$74.43

Figure 7 shows the results from the above table in a chart, and also includes a "break-even" horizontal, green, target line at $58 per ton which represents the fee charged at the Montgomery County South Transfer Station plus the average transportation cost savings for haulers delivering waste to a Clark County facility.

Figure 7. Cost/Ton w/ Generation Fee for Transfer Station Scenarios



VIII. CONTRACTS AND DESIGNATION OPTIONS

The current solid waste management system in the District is considered an open market, and thus mostly managed by the private sector in a competitive system. The District's potential engagement with a publicly-owned transfer station presents several issues that must be addressed. GT will summarize the available tools that can be utilized by the District to implement each of the suggested options. These tools can include, but are not limited to the following:

- Facility Designations and Flow Control of Solid Waste

- Solid Waste District Rules
- Solid Waste Facility Siting Criteria

The District currently has the following tools in its solid waste management plan:

- The Board is authorized to establish facility designations in accordance with Sections 343.013 and 343.014 of the Ohio Revised Code. In addition, facility designation will be established and governed by applicable District rules.
- District Rule #1-796 regarding solid waste facility siting criteria.

This section evaluates the options available regarding the use of contracts and designations as it relates to District facilities for operations and flow control. In order for any District operations to be successful, there must be an adequate flow of materials for processing. All solid waste management facilities that process, dispose or transfer solid

waste/recyclable materials require a certain level of volume (or throughput) to sustain the operation economically.

Ohio law authorizes solid waste districts to direct the flow of solid waste to public sector facilities. This power ensures that publicly-invested dollars have the requisite revenues to pay the debt for the facility. Section A, Designation and Flow Control, explains how flow control is authorized and implemented.

A. Designation and Flow Control with Public Debt

Section 3734.53 (E)(1) of the Ohio Revised Code (ORC) requires a solid waste district to prepare the solid waste management plan with a clear statement as to whether the Board (Board) is authorized to, or precluded from, establishing facility designation under Section 343.013 or 343.014 of the ORC. The current solid waste plan states the following:

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

In addition, the solid waste plan includes a statement on identifying facilities:

> *The District continues to support an open market for the collection, transport and disposal of solid waste. As required in Section 3734.53(A)(13)(a) of the Ohio Revised Code, 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. The District is also identifying recycling and composting programs and facilities that are identified in Section III Inventories.*

The outcome of this Study and the recommendations proposed to the Board will help determine whether it is in the best interest of the District to develop a Transfer Station. The development of a District-operated Transfer Station presents many issues (economic and legal) that will require further refinement. The collection and delivery of solid waste for transfer could require a review of flow control provisions and available contracting options. The procedures to designate the Transfer Facility and enact flow control would need to be followed.

When contemplating designation of facilities, the District will also need to consider the impact of recent changes to the law with regard to recyclables. In June 2015, the Ohio General Assembly passed House Bill 64 which included language to eliminate flow control for source-separated recyclables. As used in this section: (1) “Source separated recyclable materials” means materials that are separated from other solid wastes at the location where the materials are generated for the purpose of recycling the materials at a legitimate recycling facility. (2) “Legitimate recycling facility” has the same meaning as in rule 3745-27-01 of the Administrative Code.

The new law excludes source separated recyclables from district flow control District.

If the District decides to build a transfer station through public financing and debt, then Section 3734.13 of the Revised Code becomes applicable. This approach is governed by the following requirements in the ORC:

> ***Designations with public debt.***
>
> *(A) The designations under the initial solid waste management plan of a county or joint solid waste management district approved under section 3734.55 of the Revised Code of solid waste disposal, transfer, and resource recovery facilities and recycling activities that are owned by a municipal corporation, county, county or joint solid waste management district, township, or township waste disposal district created under section 505.28 of the Revised Code and are financed in whole or part by debt issued under Chapter 133., 343., or 6123. of the Revised Code shall continue until they are terminated by the board of county commissioners or directors of the district or they end pursuant to division (C) of this section.*
>
> *(B) The board of county commissioners or directors of a district, at any time and by resolution, may designate additional solid waste disposal, transfer, or resource recovery facilities or recycling activities that are owned by a municipal corporation, county, county or joint solid waste management district, township, or township waste disposal district created under section 505.28 of the Revised Code, and that are financed in whole or in part by debt issued under Chapter 133., 343., or 6123. of the Revised Code, where solid wastes generated within or transported into the district shall be taken for disposal, transfer, resource recovery, or recycling.* ***(Note: Reminder recyclables can now be taken directly to a legitimate recycling facility.)***
>
> *(C) The designation of a facility or activity under division (A) or (B) of this section shall not continue beyond the time that all such debt issued to finance the facility or activity has been retired. The board, at any time and by resolution, may terminate the designation of any such facility or activity.*

B. Required Procedures for Facilities with ***No*** Outstanding Public Debt

There would be a need to evaluate establishing and designating the Transfer Station with no outstanding debt. The District would be required to follow the (cumbersome) procedures under Section 343.014 of the Ohio Revised Code. The procedures for designating facilities where no public debt is outstanding include:

- Adopting a resolution expressing the intent of the Board to designate a solid waste facility to receive wastes generated within and transported into the District.

After adoption, the Board would need to complete the following:

- Hold a public hearing on the proposed designation.
- Publish notice of the adoption of the resolution and date, time and location of the hearing in at least one newspaper of general circulation.
- Mail notice of the adoption of the resolution to the fifty industrial, commercial and institutional generators of solid wastes within the District that generate the largest quantities of solid waste as determined by the Board and their local trade associations.
- Mail notice of the adoption of the resolution to the legislative District of each municipal corporation, county and township located in the District.
- Mail notice of the adoption of the resolution to the Director of Ohio EPA.

After the hearing, the Board would decide whether to proceed with the proposed designation. If the Board decides to proceed, it adopts a resolution of preliminary designation. The resolution may include criteria or procedures for selecting the solid waste disposal, transfer or resource recovery facilities or recycling activities that are to receive wastes generated within and transported into the District.

If, after compiling the list of solid waste facilities, the Board wishes to designate, and the Board wants to proceed with designation, it shall adopt a resolution declaring its intent to establish designation. The resolution shall contain the list of facilities and activities the Board proposes to designate.

After adopting the resolution of intent to establish designations, the Board must do all of the following:

- Establish a reasonable period for receiving comments from the public concerning designation.

- Publish in at least one newspaper of general circulation in the District notice of the adoption of resolution and where it is available for review and dates for the comment period.
- Mail notices about the comment period and the list of facilities in the resolution to the fifty industrial, commercial and institutional generators of solid wastes within the District that generate the largest quantities of solid waste.
- Mail notices about the comment period and the resolution to each municipal corporation, county and township located in the District.
- Mail notices about the comment period and the resolution to the Director of Ohio EPA.

After considering comments submitted by the public during the comment period, the Board may revise the list of solid waste disposal, transfer or recycling activities to be designated. The designations shall become effective sixty days after the adoption of the resolution of final designation.

Flow Control Summary

Establishing designated facilities is an important decision for any District and in the past Clark County has chosen to operate in an open market. A change to flow control is an important decision. The District should seek appropriate legal advice prior to the flow control of solid waste. There are numerous court cases of legal precedent regarding designation and flow control. A decision by the United States Supreme Court on April 30, 2007 has given broader discretion to public sector facilities and operations. The decision upheld a flow control ordinance where the facility was publicly-owned and operated. Experts in the field believe the case gives public sector facilities the ability to flow control materials to publicly-owned and operated facilities without including provisions to either bring the material to the Transfer Station or ship it out-of-state.

A county-owned and operated Transfer Facility would not likely be successful without control of the solid waste. Prior to the April 30, 2007 Supreme Court decision, designating the proposed Transfer Facility may have been controversial with the private sector and have led to a legal challenge under the *Commerce Clause* of the U.S. Constitution. This issue may not be a factor any longer. However, prior to establishing any strategy for a Transfer Station, the District should fully explore with legal experts all flow control issues that could impact any District facility.

C. Solid Waste Facility Siting Criteria

For certain facilities, there are setback requirements to protect the environment. For example, a transfer station cannot be located within 500 feet of the following:

- State nature preserve,
- State wildlife area,
- State scenic river,
- Surface waters of the state designated as a state resource water, cold water habitat or exceptional warm water habitat.

Waste handling areas cannot be located within 250 feet of a domicile.

In addition to environmental setbacks a solid waste district could have rules in place regarding siting near schools, places of worship, hospitals and other similar facilities. Clark County has authorized through the solid waste management the District to adopt rules but as of the writing of this report has not adopted rules.

D. Contracting

Contracting with local municipalities is another option available to the District to control the flow of residentially generated solid waste and recyclables. This process can involve several scenarios consisting of the following:

- Contract between the District and all, or select, political subdivisions to require delivery of solid waste to a District facility. This is the model used in Montgomery County.
- Contract between the District and political subdivisions and a third party solid waste hauler that requires delivery of collected materials to the proposed District facility.
- Create a cooperative contract between the District and multiple political subdivisions within the District.

E. Solid Waste Management Plan Rules

Another option available to the District is to use the solid waste management District rule-making District. Ohio Revised Code Section 3734.53(C) states, "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." This allows solid waste management districts to create rules in any of the following four areas described in Ohio Revised Code Section 3734.53(C) and summarized below:

> "**ORC 3734.53 (C)(1)** Prohibiting or limiting the receipt at facilities located within the solid waste management district 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. However, rules adopted by a board under division (C)(1) of this section may be adopted and enforced with respect to solid waste disposal facilities in the solid waste management district that are not owned by a county or the solid waste management district only if the board submits an application to the director of environmental protection that demonstrates that there is insufficient capacity to dispose of all solid wastes that are generated within the district at the solid waste disposal facilities located within the district and the director approves the application. The demonstration in the application shall be based on projections contained in the plan or amended plan of the district. The director shall establish the form of the application. The approval or disapproval of such an application by the director is an action that is appealable under section 3745.04 of the Revised Code.
>
> In addition, the director of environmental protection may issue an order modifying a rule authorized to be adopted under division (C)(1) if 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: ***This section of the law was passed in July 2009 by the Ohio General Assembly requires District's to obtain approval from Ohio EPA in order to enact this rule. An application and authorization is required prior to enforcing and enacting a rule limiting solid waste at in-district facilities.***
>
> - "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 or board of directors of the District for review and approval as complying with the plan or amended plan of the District;"

- "Governing development and implementation of a program for the inspection of solid wastes that are being disposed of at solid waste facilities included in the District's plan;"

- "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 reauthorized 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."

Montgomery County Solid Waste District owns and operates two transfer facilities. The District recently adopted rules that require all source-separated recyclable materials to be delivered for recycling to a legitimate recycling facility. This would be in-line with new state law. The rules also require all solid waste to be delivered to designated facilities. The District operated transfer facilities are the only designated facilities in the Plan Update.

In general, rules in a solid waste management plan work in tandem with the designation District of solid waste management districts. New rules can be established after a Plan is developed that includes the rule-making District. In the latest Plan Update, the Plan reserves the right to adopt rules. As stated earlier, the District has not adopted any rules.

F. Collection of Recyclables

This Study is focused on a transfer facility for solid waste. Source separated recyclables cannot be flow controlled to the Transfer Station unless it also would operate as a legitimate recycling facility. It is unlikely the Transfer Station would qualify under the legitimate recycling facility exemption. So recyclables can be processed if delivered to the Transfer Station; they just cannot be mandated through flow control.

IX. CONCLUSIONS AND ROAD MAP FOR DECISION MAKING

A. Discussion

The decision to proceed with an investment in a solid waste transfer station for the District could be made on the basis of the answer to the following questions:

> *Will the annual revenues from tipping fees collected more than pay for the cost of the facility?*
>
> *Or*
>
> *Is the required tipping fee competitive with current facilities located outside the District?*

As with any public sector decision, the decision of whether or not to proceed with the project to develop a facility is complex. The benefits associated with a solid waste transfer station include meeting public policy objectives that do not always fit into a simplified analysis of revenues versus annualized costs.

The benefits of a solid waste transfer station that should be considered in the decision include:

- Decreasing cost for solid waste management for generators and haulers in the District.
- Providing local disposal option for small haulers that do not own landfills.
- Providing local disposal option for residents and businesses.
- Providing bulky item disposal options for residents.
- Creating economic development opportunities including new jobs.
- Creating an environment that fosters the development of more local haulers.
- Creates the opportunity to work with other solid waste management districts in Ohio to share facilities and or to jointly contract for disposal capacity (Montgomery and Miami County example).

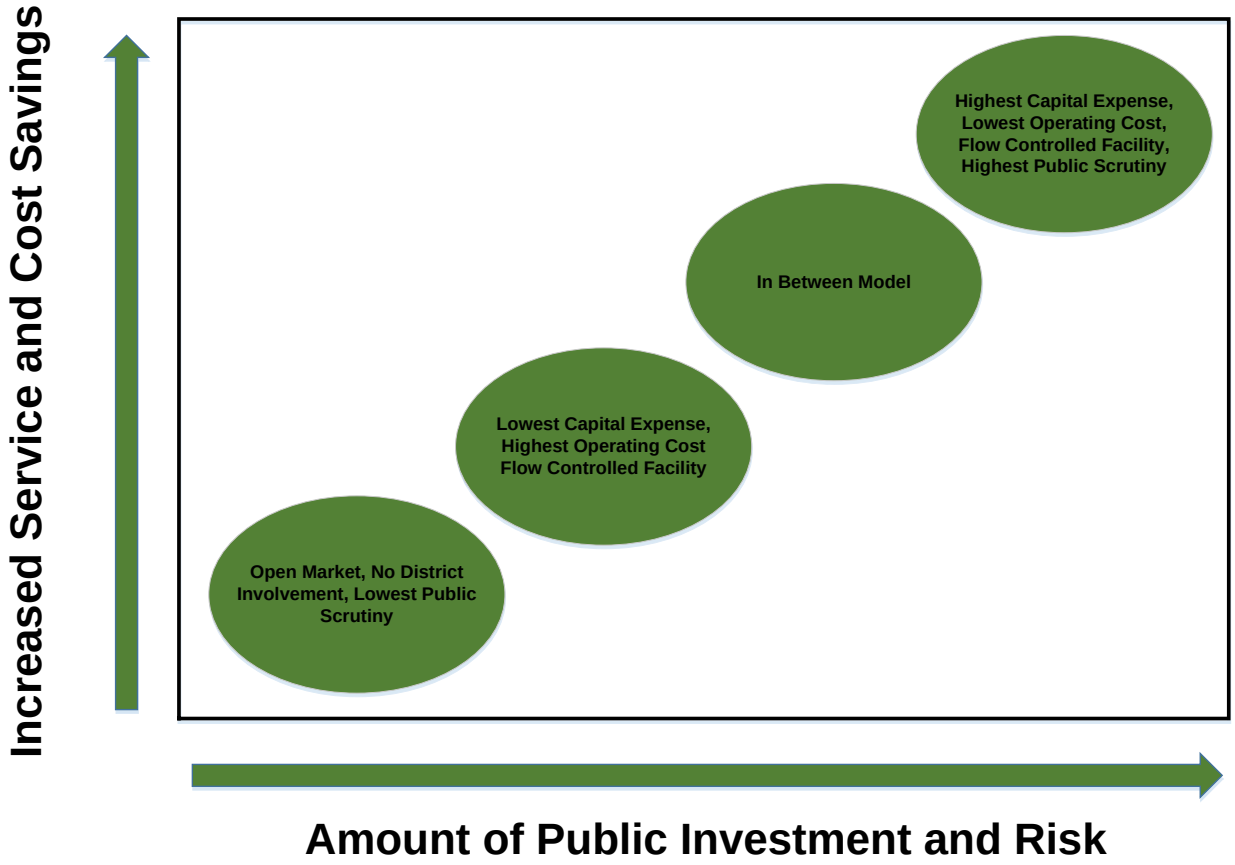
There are also possible negative consequences that should be considered. These include:

- Moving from an open market to flow control.
- Political considerations regarding flow control.
- Impacts on existing private sector transfer stations and landfills outside the District.
- Market downturns significantly impacting facility revenues.
- More competition could bring more haulers with additional trucks on the road causing damage and creating safety concerns.
- Cost savings not being passed onto the generators from the haulers.

- Large haulers that own landfills could pull out of the District because of loss of disposal tonnage.

There are risks associated with any significant economic decision. Generally, the risks are greater with larger investments than with smaller investments. Likewise, the potential benefits are greater with larger investments. The following figure illustrates the relationship between risk/investment and the reward that is likely to occur.

Figure 8. Risk versus Reward



As depicted in the figure above, a decision to develop a solid waste transfer station locally involves several levels of risk and reward versus doing nothing in an open market.

B. Suggested Road Map for Decision Making

This Study evaluated the economics, public operations and other factors to arrive at the conclusions and options stated in this section. The financial analysis section demonstrates that there are several scenarios where a publically owned facility with variants of private sector involvement or no involvement are feasible. Since no viable private sector data was submitted for a privately owned and operated transfer station was obtained during the development of this Study, GT has included a private sector

process to ensure no viable private sector operator would be willing to develop a solid waste transfer facility before proceeding with a public option. This process would occur before any other public option was explored.

The recommendations are designed as a road map to lead the District in the direction to consider the alternatives developed in this Study.

Road Map for Decision Making

Each step listed is dependent on an affirmative position or action by the Board of County Commissioners and the District Policy Committee on the previous step.

Step #1

The District must decide if it is in the best interest of the District and its stakeholders (residents, communities and businesses) to transition from an open market solid waste management system to a closed system where the District controls the flow of solid waste for disposal. If the Board agrees, then proceed to Step #2.

Step #2

The District must determine from discussions with the leadership and legislative bodies of political subdivisions that flow control of residential/commercial/industrial solid waste is attainable. The District should have concurrence from the County Commissioners, the City of Springfield and a majority of the cities, villages and townships representing the District also to concur. The designation process does not require ratification by the communities as the power to designate is already in the District's solid waste plan. Concurrence is suggested to ensure the communities are on board before going down the path of designation since this would be a major change in the District's powers within the County.

If the Board can determine and assure political agreement is attainable, then proceed to Step #3.

Step #3

The District would request a Letter of Interest from developers and operators of solid waste transfer station's. The purpose of the letter of interest is to determine if any private sector operator would be interested in developing a solid waste transfer station in lieu of the District developing a facility.

The request developed by the District would include a narrative explanation of the project. The narrative should include a summary of this Study. The summary could include information and data prepared for this Study. The complete Study can also be included as a PDF attachment to the requested Letter of Interest.

The requested Letter of Interest would require a respondent to provide specific data and information about their company and initial information about their financial position. Specifically, the Letter of Interest must identify the necessary amount of tons of solid waste necessary to operate the proposed facility.

The District would review the Letters of Interest and determine from the information submitted whether there is adequate interest to develop formal Requests for Proposals or to begin a process to support a private sector facility. If the District determines that it make sense to move forward after reviewing the Letters of Interest, a Request for Proposals will be developed. The Request for Proposals will include detailed forms for developers to provide in a format that would be easy for the District to review. It would be the intent to make apples to apples comparisons of all of the proposals. It would help the review of proposals if the District can narrow down the goals and objectives of the facility that the District would be willing to support.

A private sector solid waste transfer station should meet the following criteria:

- Sustainable and cost effective.
- Competitive with current solid waste disposal facilities in the region.
- Centrally located.

The District would utilize the Policy Committee and any consulting and engineering expertise necessary to provide a review of the proposals. Proposals would be ranked and look at several factors including environmental permitting, operations, facility construction, processing capacity, equipment, pro forma financials, and many other factors.

The Policy Committee would present the proposal rankings and evaluations to the Board of County Commissioners. The Board would then make final decisions and consider recommendations of the Policy Committee. If the Board of County Commissioners determined that it was in the best interests of the District to pursue one of the proposal options, then they would formally need to address the flow control issues and design a roadmap to achieve political approval for a change in the District's engagement with solid waste management in the District. This step may also be addressed prior to engaging the private sector.

Once a developer and operator is determined to be the best option for the District and offers the best operation at a reasonable cost, the District would begin contract negotiations using both inside and outside counsel as appropriate. The contract would have specific milestones, performance and financial requirements to ensure the District will be satisfied with the services to be provided and the timely development of the solid waste transfer facility.

If a contract can be negotiated, the District would need to include this option in its next solid waste plan update and incorporate all milestones for implementation of the facility.

Step #4

If Step #3 does not produce a viable operation from the private sector that meets the needs of the District and is economically and politically acceptable, then the District would consider a District owned and operated solid waste transfer facility or to remain at the current status quo system.

If the Board determines that a District owned and operated solid waste transfer facility is not in the best interest of the District and its stakeholders (residents, communities and businesses), then proceed to Step #5.

If the District determines that a District owned and operated or hybrid operation is feasible, the District would need to include this option in its next solid waste plan update and incorporate all milestones for implementation of the facility including but not limited to the following:

- Designing of the facility
- Siting of the facility
- Permitting of the facility,
- Procurement process for land acquisition, equipment, construction
- Any new rules governing the facility
- Funding mechanisms
- Facility start-up process and staff hiring/training
- Other policy and or procedural requirements

Step #5

There are several reasons why continuing the current open market solid waste management system may be the best course of action for the District. This includes the following:

- Volatility in the economic conditions that affect solid waste generation.
- Cost to design a new facility.
- New equipment costs.
- Labor and management requirements.
- Requirement to shift District from open market policy.
- Need for flow control to ensure debt and operational costs can be covered.
- There is no guarantee that transportation costs savings incurred by the local haulers will be passed on to the generators of solid waste in the District.
- Siting issues and negative public feedback from a change is solid waste management in the District.
- Impacts on existing private sector transfer stations and landfills outside the District.
- Large haulers that own landfills could pull out of the District because of loss of disposal tonnage.

- Legal and Contractual issues.

These issues suggest concerns that a District solid waste transfer facility may face numerous regulatory and financial hurdles that prove to be cost and risk prohibitive.

Other Issues to Consider

If the District determines it is in their best interest to completely evaluate Steps 1-5, then a full legal review of the following issues should be completed prior to any final decision. The issues include:

- The ability of the District to create specific contracts between political subdivisions and the County for the purposes of requiring the use of the solid waste transfer facility and or to control the flow of residential, commercial and industrial generated solid waste to be delivered to the solid waste transfer facility.

- The legal ramifications for enacting flow control. Since flow control has been upheld by the Ohio Supreme Court as well as at the federal level at the US Supreme Court, it seems unlikely that a challenge would be filed by local haulers and landfill facilities as long as all requirements of the Ohio Revise Code are followed. The demonstration of "Maximum Feasible Use of Existing Facilities" will need to be carefully evaluated and then demonstrated before finalizing flow control in the District.

D. Final Discussion

A decision to move forward with the development of a District solid waste transfer station should be based on the following criteria:

1. The ability of the private sector to provide the solid waste transfer station.

2. Economic feasibility of designing, constructing and operating the solid waste transfer station.

3. The political will of the communities in the District to commit (as a District) to borrow through bonds or other means a significant amount of funding, take on financial and legal liabilities and enact and enforce flow control.

4. Other legal issues addressed in this report.

Ultimately, the final decision to move forward with a solid waste transfer station lies with the District's Board of County Commissioners. Input from major stakeholders in the District will assist and influence the decision making process. The stakeholders include the following:

- The District
- Political Sub-Divisions of the District
- Residents of the District
- Commercial and Industrial businesses in the District
- Existing private sector solid waste facilities (landfills, transfer stations, recycling facilities) in the region
- Waste haulers and processors serving the District

A strategic planning session to present the recommendations and data collected for a solid waste transfer station should be considered with the stakeholders listed above if the District is interested in continuing with the steps listed in this Study.

Appendix A
Hauler Survey Instrument

CLARK COUNTY
Solid Waste District
Reducing Waste, Litter & Pollution

Dear Solid Waste Hauler,

Thank you for completing this survey. The information you provide for your company is crucial to developing an accurate analysis of solid waste flows and costs of transportation for solid waste (or trash) from Clark County. Any information provided from your company will be combined with information submitted by other haulers and used to calculate tonnages and costs for the Clark County Solid Waste Management District (SWMD) as a whole. Your company's survey response **will not** be reported individually.

For assistance completing this form or any questions related to the survey, please contact Molly Kathleen at GT Environmental, Inc. (GT), the Solid Waste District's consultant, with any questions regarding this survey. Molly can be reached by phone at 740-212-3430, or by email at mkathleen@gtenvironmental.com.

Please complete and submit this survey no later than April 11, 2016.

Options for Returning the Completed Survey

- Return the survey using **U.S. mail** in the enclosed pre-paid envelope
- **Email** directly to mmccullough@gtenvironmental.com, Subject line: Transfer Station Study
- **Fax** to 614-899-9255

Please provide all information requested below.

Company Information		
Name:		
Address:	City:	Zip:
Contact Person:	Title:	
Email:	Telephone Number (include area code): ( ) —	

Solid Waste Disposal (Trash) Collection Information for Calendar Year 2015		
Destination (Landfill or Transfer Station where trash is delivered)	**Tons Delivered**	**Total Costs (Collection costs, transportation costs, and costs charged at destination facility)**

Thank you again for taking the time to complete this survey. Please contact **Molly Kathleen** at GT Environmental, Inc. (GT), the Solid Waste District's consultant, with any questions regarding this survey. Molly can be reached by phone at **740-212-3430**, or by email at mkathleen@gtenvironmental.com.

Appendix B
Large Generator Survey Instrument

CLARK COUNTY
Solid Waste District
Reducing Waste, Litter & Pollution

Dear Company/Institution Facility Manager,

Thank you for completing this survey. The information you provide for your company is crucial to developing an accurate analysis of solid waste flows and costs of transportation for solid waste from Clark County. Any information provided from your company will be combined with information submitted by other businesses and used to calculate tonnages and costs for the Clark County Solid Waste Management District (SWMD) as a whole. Your survey response **will not** be reported individually. For assistance completing this form or any questions related to the survey, please contact Molly Kathleen at GT Environmental, the solid waste district's consultant with any questions regarding this survey. Molly can be reached by phone at 740-212-3430, or by email at mkathleen@gtenvironmental.com. Please complete and submit this survey no later than March 31, 2016.

Options for Returning the Completed Survey

- Return the survey using **U.S mail** in the enclosed pre-paid envelope
- **Email** directly to mmccullough@gtenvironmental.com. Subject line: Transfer Station Study
- **Fax** to 614-899-9255

Please provide all information requested below.

Company or Institution Information			
Name:			
Address:		City:	Zip:
Contact Person:		Title:	
Email:		Telephone Number (include area code): ( ) —	
Primary NAICS:	Secondary NAICS:	Number of full-time employees:	

Solid Waste Disposal (Trash) Collection Information for Calendar Year 2015

Name of Hauler	Dumpsters (if applicable)			Pickup Service		Annual Estimated Amt. of Trash *
	# of Dumpsters or containers	Is a compactor used?	Size (in Cubic Yds.)	Collection Frequency/Month	Cost/ Month	

* Please estimate the amount of trash using the following formula: (# of dumpsters x size of dumpsters x Collection Frequency/Month)

Thank you again for taking the time to complete this survey. Please contact **Molly Kathleen** at GT Environmental, the solid waste district's consultant with any questions regarding this survey. Molly can be reached by phone at **740-212-3430**, or by email at mkathleen@gtenvironmental.com.

Appendix C
Transfer Station Survey Instrument

General Information

Information	Description
Name of Facility	
Address	
City, State	
Zip	
County	
Contact	
Title	
Phone	
Fax	
Email	

Facility Information

Facility Information	Description
Year Opened	
Facility Square Footage	
Property Acreage	
Staffing Type (County, Inmate, Community Service, Private Sector)	
Hours Open to the Public	
Days Open to Public	
Daily Capacity in Tons	
Annual Capacity in Tons	
2015 Residential/Commercial Tons Received	
2015 Industrial Tons Received	
Charge Per Ton for Solid Waste Received	

Material Flow Information

Flow Information	Answer
Do Materials Flow to Facility Via an Open Market	
Do Materials Flow to Facility Via Flow Control	

Staffing Details

Staffing	Quantity	Hourly Pay
Managers		
Supervisors		
Sorters		

Staffing	Quantity	Hourly Pay
Equipment Operators		
Other:		
Other:		
Other:		

2015 Revenues Details

Type of Revenue	Revenue Totals
Tipping Fee Revenue	
Other Misc. Revenue	
Total	

Initial Start-Up Costs

Start-up Costs	Cost to Purchase
Land Expense	
Site Work	
Architectural/Engineering Costs	
Building Construction Costs	
Transfer Station Permit Costs	
Driveways and Parking Lots	
Office Furniture/Equipment	
Conveyors	
Front End Loader	
Skid Steer Loader	
Truck Scales	
Other:	
Other:	
Other:	
Total Start-Up Costs	

2015 Annual Operating Costs

Annual Operation Details	Expenses Totals
Labor/Benefits	
Contracts	
Overhead, Maintenance	
Supplies	
Equipment	
Landfill Disposal and Transportation	
Misc. Expenses	
Debt Retirement	
Total	