

Summit Akron Solid Waste Management Authority dba



Lead, Teach, Act — Target Zero

Draft Summit County Solid Waste Management Plan Update Planning Period 2021-2036

Table of Contents

i: Solid Waste Management District Information	i-1
Chapter 1: Introduction	1-1
A. Brief Introduction to Solid Waste Planning in Ohio	1-1
B. Requirements of County and Joint Solid Waste Management Districts	1-1

C. District Overview 1-2

D. Waste Reduction and Recycling Goals 1-3

Chapter 2: District Profile 2-1

A. Profile of Political Jurisdictions 2-1

B. Population 2-2

C. Profile of Commercial and Institutional Sector 2-4

D. Other Characteristics 2-4

Chapter 3: Waste Generation 3-1

A. Solid Waste Generated in Reference Year 3-1

B. Historical Waste Generated 3-3

C. Waste Generation Projections 3-6

Chapter 4: Waste Management 4-1

A. Waste Management Overview 4-2

B. Profile of Waste Management Infrastructure 4-3

C. Solid Waste Facilities Used in the Reference Year 4-4

D. Use of Solid Waste Facilities During the Planning Period 4-8

E. Siting Strategy 4-9

F. Designation 4-10

Chapter 5: Waste Reduction and Recycling 5-1

A. Solid Waste Management District’s Priorities 5-2

B. Program Descriptions 5-2

C. Waste Reduction and Recycling Rates 5-12

Chapter 6: Budget 6-1

A. Overview of the SWMD’s Budget 6-1

B. Revenue 6-2

C. Expenses 6-5

D. Budget Summary 6-6

E. Alternative Budget X-X

F. Major Facility Project 6-7

Appendix A: Miscellaneous Information A-1

A. Reference Year A-1

B. Planning Period (first and last years) A-1

C. Goal Statement A-1

D. Explanations of differences between data previously reported and data used in the solid waste . A-1

E. Material Change in Circumstances/Contingencies

Appendix B: Recycling Infrastructure Inventory..... B-1

A. Curbside Recycling Services, Drop-Off Recycling Locations, and Mixed Solid Waste Materials Recovery Facilities B-1

B. Curbside Recycling and Trash Collection Service Providers B-7

C. Composting Facilities B-8

D. Other Food Waste and Yard Waste Management Programs B-9

E. Material Handling Facilities Used by the SWMD in the Reference Year B-10

Appendix C: Population Data C-1

A. Reference Year Population C-1

B. Population Projections C-2

Appendix D: Disposal Data D-1

A. Reference Year Waste Disposal D-1

B. Historical Waste Analysis D-4

C. Disposal Projections D-5

Appendix E: Residential/Commercial Reduction and recycling Data E-1

A. Reference Year Recovery Data E-1

B. Historical Recovery E-7

C. Residential/Commercial Recovery Projections E-8

Appendix F: Industrial Waste Reduction and Recycling Data F-1

A. Reference Year Recovery Data F-1

B. Historical Recovery F-3

C. Industrial Recovery Projections F-4

Appendix G: Waste Generation G-1

A. Historical Year Waste Generated G-1

B. Generation Projections G-2

Appendix H: Strategic Evaluation H-1

H-1

1. Residential Recycling Infrastructure Analysis H-1

2. Commercial/Institutional Sector Analysis H-2

3. Industrial Sector Analysis H-2

4. Residential/Commercial Waste Composition Analysis H-2

5. Economic Incentive Analysis H-2

6. Restricted and Difficult to Manage Waste Streams Analysis H-5

7. Diversion Analysis H-6

8. Special Program Needs Analysis H-8

9. Financial Analysis H-8

10. Data Collection Analysis H-10

11. Education/Outreach Analysis H-11

Appendix I: Actions, Priorities, and Program Descriptions I-1

A. Actions and Priorities I-1

B. Programs I-1

Appendix J: Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1 J-1

A. Residential Sector Opportunity to Recycle J-1

B. Commercial Sector Opportunity to Recycle J-4

C. Demonstration of Meeting Other Requirements for Achieving Goal 1 J-5

Appendix K: Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2 K-1

Appendix L: Minimum Required Education Programs: Outreach and marketing plan and General Education Requirements L-1

A. Minimum Required Education Programs L-1

B. Outreach and Marketing Plan L-2

C. Outreach Priority L-6

Appendix M: Waste Management Capacity Analysis M-1

A. Access to Publicly-Available Landfill Facilities M-1

B. Access to Captive Landfill Facilities M-1

C. Incinerators and Energy Recovery Facilities
M-1 **Appendix N: Evaluating Greenhouse Gas Emissions** N-1

Appendix O: Financial Plan O-1

A. Funding Mechanisms and Revenue Generated O-1

B. Cost of Implementing Plan O-5

C. Explanation of Expenses O-6

D. Alternative Budget O-X

E. Major Facility Project O-X

Appendix P: Designation P-1

A. Statement Authorizing/Precluding Designation P-1

B. Designated Facilities P-1

Appendix Q: District Rules Q-1

A. Existing Rules Q-1

B. Proposed Rules Q-1

Appendix R: Blank Survey Forms and Related Information R-1

Appendix S: Siting Strategy S-1

Appendix T: Miscellaneous Plan Documents T-1

Appendix U: RATIFICATION RESULTS U-1

i Solid Waste Management District Information

Table i-1 Solid Waste Management District Information

SWMD Name	Summit/Akron Solid Waste Management Authority (dba ReWorks)
Member Counties	Summit
Coordinator's Name (main contact)	Marcie Kress
Job Title	Executive Director
Mailing Address	PO Box 13620
City, State, Zip Code	Fairlawn, OH 44333
Phone	330-374-0383
Fax	330-374-1819
E-mail address	mkress@summitreworks.com
Webpage	http://www.summitreworks.com/

Table i-2 Members of the Board of Trustees *Reflects Board Roster as of October 2020

Board Member	Position	Employer	Title	By-Law Appointment
Ilene Shapiro	Chair	County of Summit	County Executive	Two (2) trustees appointed by the County of Summit, one of whom shall be the County Executive, one shall be a resident of the City of Akron
Robert Genet	Alternate	County of Summit	Deputy Director Community Services & Prevailing Wage	Appointed by Summit County Executive
Mayor William Roth	Vice-Chair	City of Fairlawn	Mayor	One (1) trustee representing the cities of Summit County, excluding the City of Akron, appointed by the Summit County Mayor's Association (MAPPS)
Mayor Gerard Neugebauer	Alternate	City of Green	Mayor	Appointed by the MAPPS
Steve Fricker	Trustee	City of Akron	Director of Finance	Three (3) trustees appointed by the City of Akron, one of whom shall be the Mayor of Akron;
Cindy Donel	Alternate	City of Akron	Audit & Budget Manager	Appointed by The City of Akron
Diane Miller-Dawson	Secretary/Treasurer	County of Summit	Director of Finance & Budget	Two (2) trustees appointed by the County of Summit, one of whom shall be the County Executive; one shall be a resident of the City of Akron
Deborah Matz	Alternate	County of Summit	Director of Law, Insurance & Risk Management	Appointed by Summit County Executive
Mayor Daniel Horrigan	Trustee	City of Akron	Mayor	Three (3) trustees appointed by the City of Akron, one of whom shall be the Mayor of Akron;
Jim Hall	Alternate	City of Akron	Public Works Manager	Appointed by The City of Akron
Sharon Connor	Trustee	City of Akron	Ward 10 Council Representative	Three (3) trustees appointed by the City of Akron, one of whom shall be the Mayor of Akron;
Robert Harris	Alternate	City of Akron	Deputy Public Works Manager	Appointed by The City of Akron
Donna Skoda, M.S., R.D., L.D.	Trustee	Summit County Public Health	Health Commissioner	Two (2) trustees appointed by Summit County Public Health, one of whom shall be the Health Commissioner;
Tonya Block	Alternate	Summit County Public Health	Assistant Health Commissioner	Appointed by Summit County Public Health

Board Member	Position	Employer	Title	By-Law Appointment
Tonia Burford M. S., R. S.	Trustee	Summit County Public Health	Environmental Health Director	Two (2) trustees appointed by Summit County Public Health, one of whom shall be the Health Commissioner;
Sam Rubens, R.S., M.P.A.	Alternate	Summit County Public Health	Manager of ARAQMD	Appointed by Summit County Public Health
Mayor Bill Goncy	Trustee	Village of Boston Heights	Mayor	One (1) trustee representing the villages of Summit County, Summit County Mayor's Association; (MAPPS)
Mayor Michael Rick	Alternate	Village of Mogadore	Mayor	Appointed by the MAPPS
James N. Nelson	Trustee	Bath Township	Township Trustee	One (1) trustee appointed by the Summit County Trustees and Clerks Association;
Paul Schweikert	Alternate	Sagamore Hills Twp	Township Trustee	Appointed by the Summit County Trustees and Clerks Association
William R. Sanderson, CIH	Corporate Representative			Two (2) trustees chosen by the other ten trustees who represent a large non-public generator and who do not represent the solid waste industry
Andrew Henry	Corporate Representative	University of Akron	Director of Building Services, Grounds, Recycling, Special Services, Parking & Athletic Maintenance	Two (2) trustees chosen by the other ten trustees who represent a large non-public generator and who do not represent the solid waste industry
Gary Sutor	Corporate Representative Floating Alternate		Store Manager	Appointed by the Board of Trustees
Vacancy	Corporate Representative Floating Alternate	Lowes		Appointed by the Board of Trustees
Brenda Fargo	Citizen-at-large	Strategic Aggregation Consultants	President	Three (3) trustees chosen by the other ten trustees who are not public officials and who do not represent the solid waste industry; and,

Kim Edward Stanley	Citizen-at-Large	Struktol Company of America	Director of Environmental Health, Safety & Product Stewardship	Three (3) trustees chosen by the other ten trustees who are not public officials and who do not represent the solid waste industry; and,
Nancy Ellis McClenaghan	Citizen-at-Large	Goodwill Industries serving Summit, Portage, Medina, Ashland & Richland Counties	President & CEO	Three (3) trustees chosen by the other ten trustees who are not public officials and who do not represent the solid waste industry; and,
Nicole Chavers	Citizen-at-large Floating Alternate	Unirted Way of Summit County	Manager, Bank On	Appointed by the Board of Trustees
Vacancy	Citizen-at-large Floating Alternate			Appointed by the Board of Trustees
Vacancy	Citizen-at-large Floating Alternate			Appointed by the Board of Trustees

Table i-3 Chairperson of the Board of Trustees

Name	County Executive, Ilene Shapiro
Street Address	175 South Main Street
City, State, Zip Code	Akron, Ohio, 44308
Phone	330-643-2520
Fax	330-643-2507
E-mail address	lshapiro@summitoh.net

Technical Advisory Committee

A Strategic Planning Committee was formed to provide direction on the following key issues for the solid waste plan update.

- Recommendations and planning for ReWorks facility and office needs
- Review of Community Recycling Assistance Grant
- Future financial plans upon final payment of landfill closure fund

The committee is made up of members of the Board Trustees as well as non-Board of Trustee members. They continue to meet and will provide recommendations.

1	Shapiro	Ilene	County of Summit	County Executive	Trustee/Board Chair
or	Genet	Robert	County of Summt	Designated Alternate for Chair	Trustee
2	Fargo	Brenda	Strategic Aggregation Consultants	President	Trustee
3	McClenaghan	Nan	Goodwill Industries	President & CEO	Trustee
4	Roth	William	Fairlawn, City of	Mayor	Trustee/Board Vice Chair
5	Stanley	Kim	Stuktol Companies of America	Plant Manager	Trustee
6	Sutor	Gary	Lowes	Store Mangager, Bath Twp	Trustee
7	Swansinger	John	Summa Health System	Waste & Recycling Manager	Non-Trustee
8	Neugebauer	Gerard	Green, City of	Mayor	Trustee
9	Hall	James	Akron, City of	Public Works Manager	Trustee

Consultant Information

No consultants were used to complete this document.

Chapter 1: Introduction

A. Brief Introduction to Solid Waste Planning in Ohio

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

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

B. Requirements of County and Joint Solid Waste Management Districts

1. Structure

As a result of H.B. 592, each of the 88 counties in Ohio must be a member of a solid waste management district (SWMD). A SWMD is formed by county commissioners through a resolution. A board of county commissioners has the option of forming a single county SWMD or joining with the board(s) of county commissioners from one or more other counties to form a multi county SWMD. Ohio currently has 52 SWMDs. Of these, 37 are single county SWMDs and 15 are multi county SWMDs. Summit County's SWMD has been formed as a solid waste management authority (Authority) though the Ohio EPA generally refers to both solid waste management districts and solid waste management authorities as SWMDs or solid waste management districts.

A solid waste management authority is governed by the board of trustees. The board of trustees performs all of the duties of a SWMD's board of directors and policy committee. The board of trustees prepares, adopts and submits the solid waste management plan.

2. Solid Waste Management Plan

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

Solid waste management plans must contain the information and data prescribed in Ohio Revised Code

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

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

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

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

C. District Overview

The goals of H.B. 592 are to reduce the reliance on landfills and increase solid waste reuse, recycling, and waste minimization.

A County ordinance proposing the establishment of The Summit Akron Solid Waste Management Authority (Authority) was introduced on March 6, 1989 and adopted on March 20, 1989. It was approved and enacted effective on March 28, 1989. The Authority was formed in 1993 after the first solid waste plan was implemented. These actions were taken by the Summit County Council in accordance with the provisions of Ohio Revised Code (ORC) 343 and 3734.

Summit County with the approval of its municipal subdivisions delegated to the Authority all of the powers and duties provided under ORC 343 and 3734 for the development of a solid waste management plan. The Authority may establish programs, services, rules, regulations and funding mechanisms necessary to ensure the successful implementation of the Plan. In 2017, the base reference year for this Plan, the jurisdiction served by the Authority had a population of 542,511.

It was the responsibility of the Authority to prepare the Solid Waste Management Plan with the interest of the health, safety and welfare of the Summit County residents in mind. The purpose of the Plan is to

ensure that Summit County has at least ten years of acceptable solid waste disposable capacity, and to develop strategies for managing waste so that it will be prohibited from future landfill disposal.

ReWorks is governed by a Board of 15 trustees representing the:

- City of Akron
- County of Summit
- Summit County Mayor's Association
- Summit County Public Health
- Summit County Trustees and Clerks Association
- Villages and cities of Summit County,
- Corporate and Citizens at Large

The Authority is funded by a "generation fee" that is collected for every ton of waste that is generated within Summit County. The fee is \$5.00 and is used to fund the on-going, as well as, new programs of the Authority.

In an effort to better deliver on our mission while building awareness of our vision, SASWMA began doing business as ReWorks in February 2013.

ReWorks Mission Statement: Provide solutions and leadership to empower our community, institutions and businesses to develop and utilize environmentally sound, cost-effective recycling and waste management strategies.

D. Waste Reduction and Recycling Goals

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

1. The SWMD shall ensure that there is adequate infrastructure to give residents and commercial businesses opportunities to recycle solid waste.
2. The SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector and at least 66 percent of the solid waste generated by the industrial sector.
3. The SWMD shall provide the following required programs: a Web site; a comprehensive resource guide; an inventory of available infrastructure; and a speaker or presenter.
4. The SWMD shall provide education, outreach, marketing and technical assistance regarding reduction, recycling, composting, reuse and other alternative waste management methods to identified target audiences using best practices.

5. The SWMD shall provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.
6. The SWMD shall explore how to incorporate economic incentives into source reduction and recycling programs.
7. The SWMD will use U.S. EPA's Waste Reduction Model (WARM) (or an equivalent model) to evaluate the impact of recycling programs on reducing greenhouse gas emissions.
8. The SWMD has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.
9. The SWMD shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

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

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

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

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

Chapter 2: District Profile

Purpose

This chapter provides context for the SWMD's solid waste management plan by providing an overview of general characteristics of the SWMD. Characteristics discussed in this chapter include:

- The communities and political jurisdictions within the SWMD;
- The SWMD's population in the reference year and throughout the planning period;
- The available infrastructure for managing waste and recyclable materials within the SWMD;
- The commercial businesses and institutional entities located within the SWMD;
- The industrial businesses located within the SWMD; and
- Any other characteristics that are unique to the SWMD and affect waste management within the SWMD or provide challenges to the SWMD.

Understanding these characteristics helps the policy committee make decisions about the types of programs that will most effectively address the needs of residents, businesses, and other waste generators within the SWMD's jurisdiction.

Population distribution, density, and change affect the types of recycling opportunities that make sense for a particular community and for the SWMD as a whole.

The make-up of the commercial and industrial sectors within the SWMD influences the types of wastes generated and the types of programs the SWMD provides to assist those sectors with their recycling and waste reduction efforts.

Unique circumstances, such as hosting an amusement park, a large university, or a coal burning power plant present challenges, particularly for providing waste reduction and recycling programs.

The policy committee must take into account all of these characteristics when developing its overall waste management strategy.

A. Profile of Political Jurisdictions

1. Counties in the Solid Waste Management District

The Summit/Akron Solid Waste Management Authority features Summit County as its only constituent.

2. County Overview

Summit County is located in Northeast Ohio, south of major metropolitan Cuyahoga County which houses Cleveland. Behind Franklin County (Columbus), Cuyahoga County (Cleveland) and Hamilton County (Cincinnati), Summit County is the 4th most populous county in the state of Ohio. The largest city within the county, Akron, hosts an estimated population of 197,846 as of 2017 according to the U.S. Census Bureau. See Table 2.1 below for more information about the population, administrative division and estimated population, again according to the 2017 Subcounty Resident Population Estimates

produced by the U.S. Census Bureau, or each of the 31 political jurisdictions that comprise Summit County.

B. Population

1. Reference Year Population

Each political jurisdiction's population is listed in Table 2.1 below. The total population of Summit County in the reference year (2017) is 542,511.

2. Population Distribution

Table 2.1 – District Composition

Community Title	Admin. Division	Est. 2017 Pop.	County Pop. %
Akron	city	197,846	36.5%
Barberton	city	26,120	4.8%
Bath	township	9,691	1.8%
Boston	township	706	0.1%
Boston Heights	village	1,298	0.2%
Clinton	village	1,209	0.2%
Copley	township	17,307	3.2%
Coventry	township	10,876	2.0%
Cuyahoga Falls	city	49,247	9.1%
Fairlawn	city	7,468	1.4%
Green	city	25,747	4.7%
Hudson	city	22,245	4.1%
Lakemore	village	3,073	0.6%
Macedonia	city	11,940	2.2%
Mogadore*	village	3,826	0.7%
Munroe Falls	city	5,063	0.9%
New Franklin	city	14,165	2.6%
Northfield	village	3,669	0.7%
Northfield Center	township	5,841	1.1%
Norton*	city	12,013	2.2%
Peninsula	village	562	0.1%
Reminderville	village	4,248	0.8%
Richfield	township	2,515	0.5%
Richfield	village	3,637	0.7%
Sagamore Hills	township	10,955	2.0%
Silver Lake	village	2,499	0.5%
Springfield	township	14,576	2.7%
Stow	city	34,769	6.4%
Tallmadge*	city	17,552	3.2%
Twinsburg	city	18,959	3.5%
Twinsburg	township	2,889	0.5%
Total		542,511	100%

*These Communities have adjusted populations based on their overlapping nature with neighboring counties. Mogadore, Norton and Tallmadge's populations were adjusted to include an additional 994, 4, and 285 respectively. Sourced from the U.S. Census Bureau's 2017 Subcounty Resident Population Estimates.

3. Population Change

According to the Ohio Department of Development's April 2018 Population Projections, Summit County's population is meant to decrease annually at a rate of 414 to 678 depending on the 5 year time period being examined. The projections used for the planning period adhere exactly to this schedule. See Appendix C for further details.

4. Implications for Solid Waste Management

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

C. Profile of Commercial and Institutional Sector

Summit County has a broad mix of commercial and industrial businesses located throughout the county. The U.S. Census Bureau reports that, as of 2016, 13,391 employer establishments exist within the county (excluding NAICS codes 4248, 44531, 511130, 522120, 522130). Hospitals are also excluded from this count of which there are 6 within Summit County. Several of these hospitals are located within the Greater Akron area. The following breakout of the top 10 largest employers in Northeast Ohio (by full time employment equivalency) were provided by the Summit County Executive Office via Crain's Cleveland Business, D&B Hoovers, and ESRI Business Analyst for 2017 and 2018. The top 10 largest sectors of employment according to NAICS Code as provided by the Summit County Executive Office's JobsEQ Software are also listed below. These figures depicted below do include hospitals within the county, but also consider the entire hospital system. This creates an artificial inflation of the number of Full Time Equivalency employees counted for those entities within Summit County. The data within these tables should not be considered as concrete, rather as fairly accurate for Northeast Ohio.

Table 2.4 features the employment information from the same sources according to the number of employees estimated per Industrial sector as defined by the Ohio EPA within the instructions listed in Appendix R (NAICS code sectors 22 - 33).

D. Other Characteristics

Summit county also features one University (The University of Akron) and two satellite campuses of colleges headquartered outside of the county (Stark State College Akron; Kent State University Regional Academic Center, Twinsburg). The University of Akron (according to their 2017 census) had enrolled 19,953 students between Undergraduate and Graduate students.

Table 2.2 – Top Ten Employers in Northeast Ohio

Company name	HQ City	2018 NEO FTE
Cleveland Clinic	Cleveland	44,843.02
University Hospitals	Cleveland	21,714.00
Group Management Services Inc.	Richfield	15,942.00
Progressive Corp.	Mayfield Village	10,370.00
Giant Eagle Inc.	Bedford Heights	8,300.00
Summa Health	Akron	5,787.70
FirstEnergy Corp.	Akron	5,066.00
Akron Children's Hospital	Akron	4,880.48
Huntington National Bank	Cleveland	3,481.00
Goodyear Tire & Rubber Co.	Akron	3,000.00

Table 2.3 – Top Ten Employment Sectors by NAICS Code

NAICS	Industry	Employees
62	Health Care and Social Assistance	47,629
72	Accommodation and Food Services	23,201
44	Retail Trade	21,312
56	Administrative and Support and Waste Management and Remediation Services	18,300
61	Educational Services	18,226
33	Manufacturing	17,075
54	Professional, Scientific, and Technical Services	15,324
55	Management of Companies and Enterprises	14,767
23	Construction	13,860
42	Wholesale Trade	13,578

Table 2.4 – Top Ten Employment Sectors by NAICS Code (Industrial Codes only – 22-33)

NAICS	NAICS Sector	Sector Description	Employees
326199	32	All Other Plastics Product Manufacturing	2162
238222	23	Nonresidential Plumbing, Heating, and Air-Conditioning Contractors	1433
237310	23	Highway, Street, and Bridge Construction	1381
238212	23	Nonresidential Electrical Contractors and Other Wiring Installation Contractors	1279
333249	33	Other Industrial Machinery Manufacturing	1275
325620	32	Toilet Preparation Manufacturing	1271

332710	33	Machine Shops	1092
236220	23	Commercial and Institutional Building Construction	1051
236118	23	Residential Remodelers	942
336413	33	Other Aircraft Parts and Auxiliary Equipment Manufacturing	856

Chapter 3: Waste Generation

Purpose of Chapter 3

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

The SWMD's policy committee calculated how much solid waste was generated for the residential/commercial and industrial sectors. Residential/commercial waste is essentially municipal solid waste and is the waste that is generated by a typical community. Industrial solid waste is generated by manufacturing operations. To calculate how much waste was generated, the policy committee added the quantities of waste disposed of in landfills and reduced/recycled.

The SWMD's policy committee obtained reduction and recycling data by surveying communities, recycling service providers, collection and processing centers, commercial and industrial businesses, owners and operators of composting facilities, and other entities that recycle. Responding to a survey is voluntary, meaning that the policy committee relies upon an entity's ability and willingness to provide data. When entities do not respond to surveys, the policy committee gets only a partial picture of recycling activity. How much data the policy committee obtains has a direct effect on the SWMD's waste reduction and recycling and generation rates.

The policy committee obtained disposal data from Ohio EPA. Owners/operators of solid waste facilities submit annual reports to Ohio EPA. In these reports, owners/operators summarize the types, origins, and amounts of waste that were accepted at their facilities. Ohio EPA adjusts the reported disposal data by adding in waste disposed in out-of-state landfills.

The policy committee analyzed historic quantities of waste generated to project future waste generation. The details of this analysis are presented in Appendix G. The policy committee used the projections to make decisions on how best to manage waste and to ensure future access to adequate waste management capacity, including recycling infrastructure and disposal facilities.

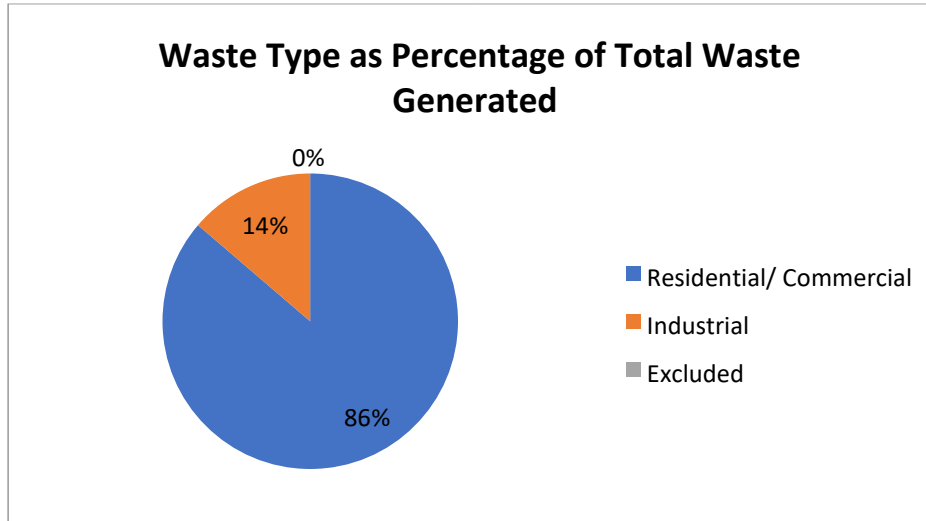
A. Solid Waste Generated in Reference Year

Table 3-1 contains information pertaining to waste generation within Summit County. As per the instructions for the Ohio EPA provided workbook used to construct this data, any Excluded waste is ignored so long as the percentage of said waste is below 10%. It is not believed that the actual percentage of Excluded waste is zero within Summit County.

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

Type of Waste	Quantity Generated (tons)
Residential/Commercial	603,405
Industrial	96,005
Total	699,410

Figure 3-1: Waste Generation by Sector - 2017



Sources of information: Generation Fee Submittal forms submitted to ReWorks along with Generation Fees on a monthly basis.

Assumptions: Accuracy of information provided. Division between Commercial and Industrial sources is also assumed.

1. Residential/Commercial Waste Generated in Reference Year

Residential, Commercial and Industrial waste reported through collection and consolidation of generation fees. ReWorks generation rate is similar to the average in Ohio.

2. Industrial Waste Generated in Reference Year

See Residential/Commercial Waste Generated in Reference Year explanation.

3. Excluded Waste Generated in Reference Year

Excluded waste falls below 10% within Summit County and is therefore not considered as a part of the Solid Waste Plan required responses in accordance with the instructions for Appendix G of this Solid Waste Plan format.

B. Historical Waste Generated

Table 3-1: Reference Year and Historical Waste Generated

Year	Population	Residential/ Commercial				Industrial		
		Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)
2013	541,929	430,418	168,877	599,295	6.06	53,864	43,194	97,058
2014	542,267	407,755	158,343	566,098	5.72	50,435	47,458	97,893
2015	541,316	409,249	140,024	549,273	5.56	60,678	51,375	112,053
2016	540,300	423,686	131,229	554,915	5.63	66,267	42,144	108,412
2017	542,511	435,135	168,270	603,405	6.09	49,887	46,118	96,005

Table 3-2: Reference Year and Historical Waste Generated

Year	Total Tons Generated	Annual % Change	
		Residential/Commercial	Industrial
2013	696,353	-	-
2014	663,991	-6%	1%
2015	661,327	-3%	14%
2016	663,327	1%	-3%
2017	698,638	9%	-11%

1. Historical Residential/Commercial Waste Generated

The Figures within this section represent the years 2013 – 2017 for each of the following categories: Total Waste Generation; Residential/Commercial Waste Generation Breakout; Residential/ Commercial Waste Generation Per Capita; Industrial Waste Generation Breakout.

Data in this section is provided by the annual waste disposal information provided to each Solid Waste District by the Ohio EPA. Facilities that accept material from waste haulers report that information to the Ohio EPA where that information is compiled and redistributed to the Solid Waste Districts/Authorities. The Waste Generation Per Capita figure is generated by dividing the average total pounds of residential/commercial waste generated per day by the population of the county.

Sources for figures found in workbook appendix G-Calculations.

Figure 3-2. District Total Waste Generation: 2013-2017

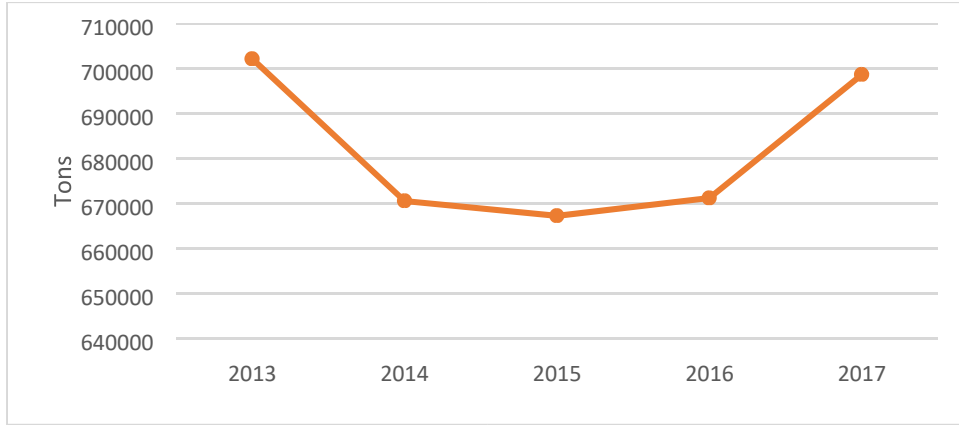


Figure 3-3: Residential/Commercial Waste Generation Breakout

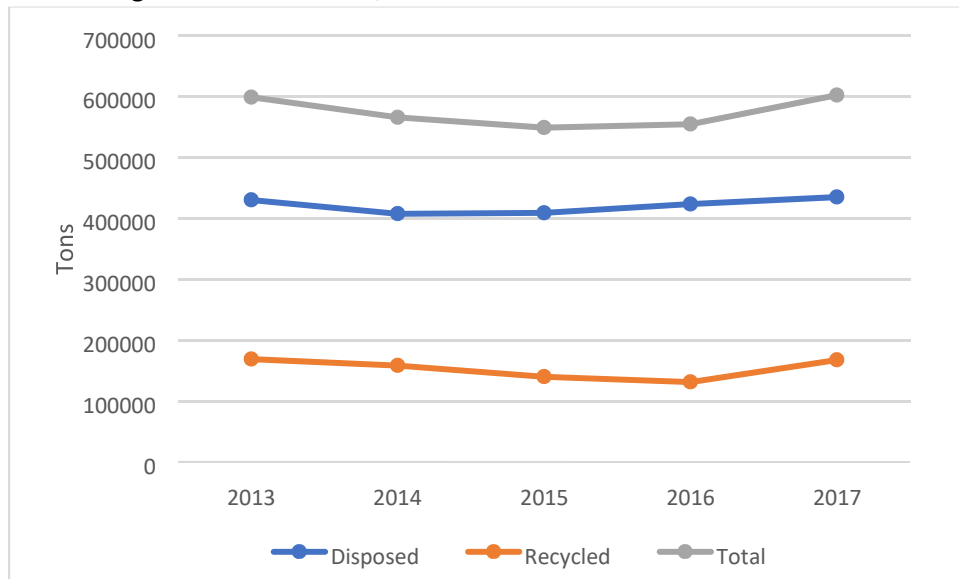
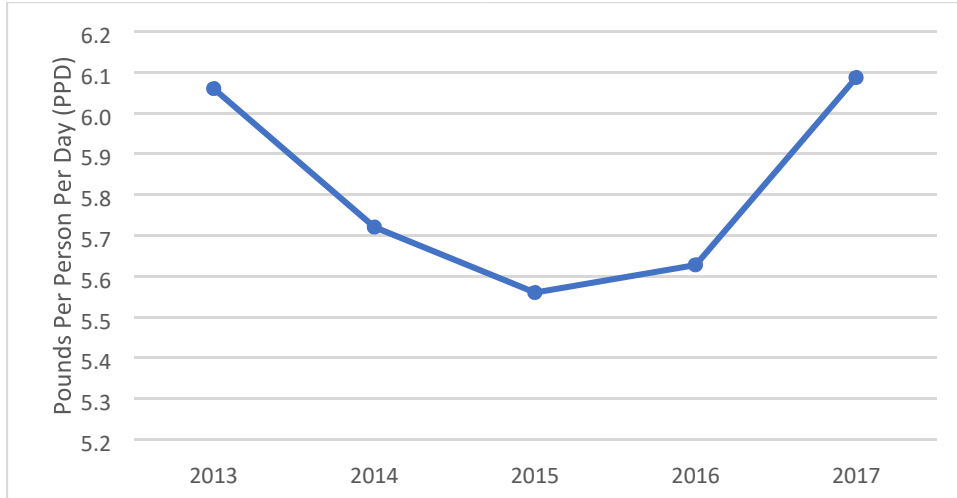
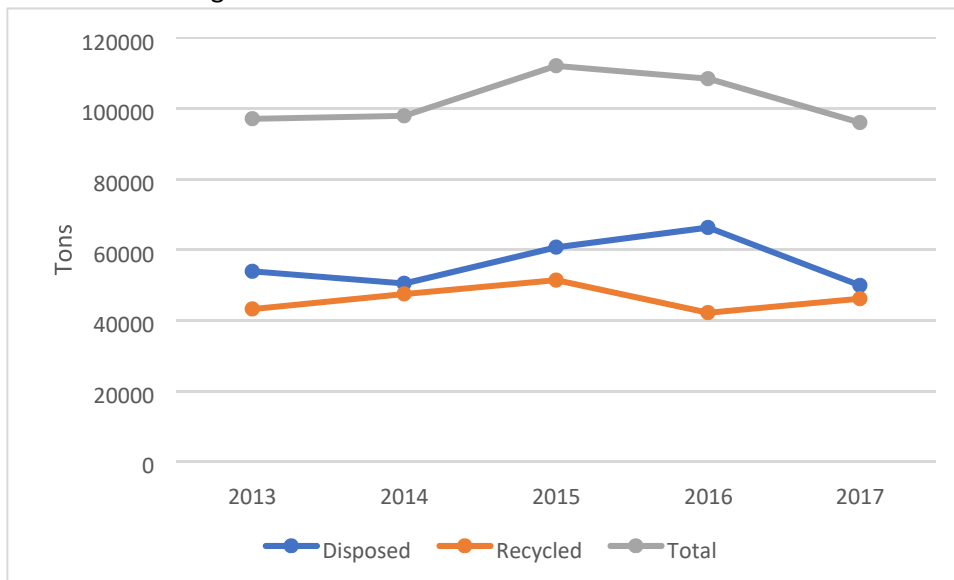


Figure 3-4: Residential/ Commercial Waste Generation Per Capita



2. Historical Industrial Waste Generated

Figure 3-5: Industrial Waste Generation Breakout



3. Historical Excluded Waste Generated

Excluded waste falls below 10% within Summit County and is therefore not considered as a part of the Solid Waste Plan required responses in accordance with the instructions for Appendix G of this document.

C. Waste Generation Projections

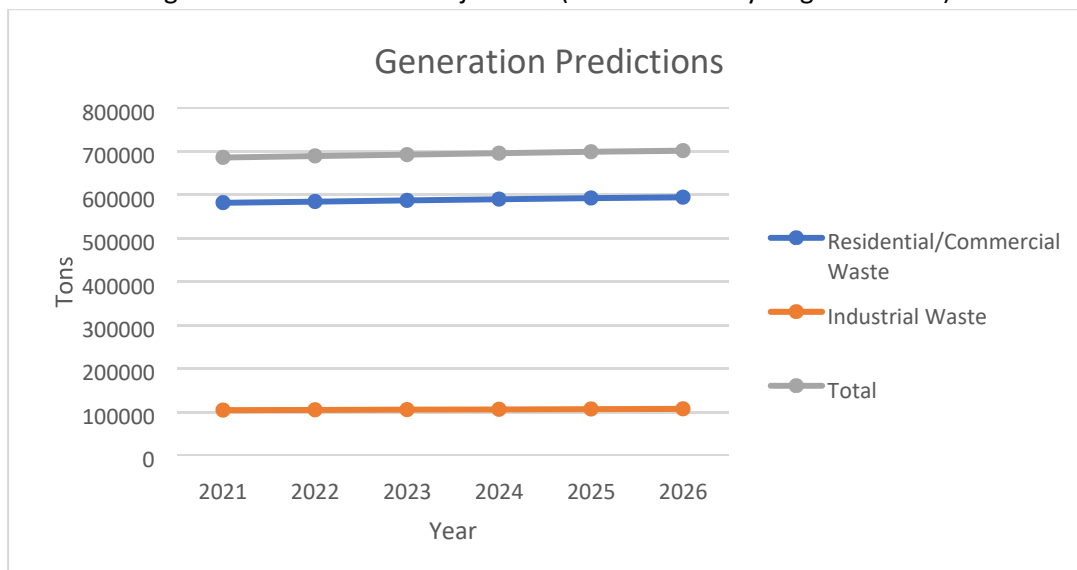
Table 3-3: Generation Projections

Year	Residential/Commercial Waste	Industrial Waste	Total
2021	582,024	104,300	686,324
2022	584,720	104,887	689,607
2023	587,423	105,474	692,897
2024	590,131	106,062	696,193
2025	592,846	106,649	699,495
2026	594,667	107,236	701,903

Prediction based off of halving the linear regression based increase of Residential/Commercial and Industrial waste/recycling trends from 2013 to 2017.

Assumptions: These waste streams will continue to increase similarly to how they have in the past. There are currently no developments in place that would drastically alter the trajectory of these streams that can be accounted for currently which allows for this assumption to be reasonable

Figure 3-6: Generation Projections (Waste and Recycling Combined)



1. Residential/Commercial Waste Projections

The trend for this waste stream as determined by data gathered from years 2013 – 2017 is projected to continue to increase through the planning period. The linear regression of the plotted data points (see Figure 3-3 for solid waste data) calculated to an annual increase of 2,536 tons per year for residential and commercial solid waste generation. This annual increase was halved (1,268.3 tons per year) in order to derive the predictions as presented. This was done in order to come to what is believed to be a more conservative and realistic annual increase in the waste stream. The recycling portion of this calculation was determined through various projections further explained in Chapter 5.

2. Industrial Waste Projections

The trend for this waste stream as determined by data gathered from years 2013 – 2017 is projected to continue to increase through the planning period. The linear regression of the plotted data points (see Figure 3-5 for solid waste data) calculated to an annual increase of 787.8 tons per year for industrial solid waste generation. This annual increase was halved (393.9 tons per year) in order to derive the predictions as presented. This was done in order to come to what is believed to be a more conservative and realistic annual increase in the waste stream. The recycling portion of this calculation was determined through various projections further explained in Chapter 5.

3. Excluded Waste Projections

Excluded waste falls below 10% within Summit County and is therefore not considered as a part of the Solid Waste Plan required responses in accordance with the instructions for Appendix G of this Solid Waste Plan format.

Chapter 4: Waste Management

Purpose of Chapter 4

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

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

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

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

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

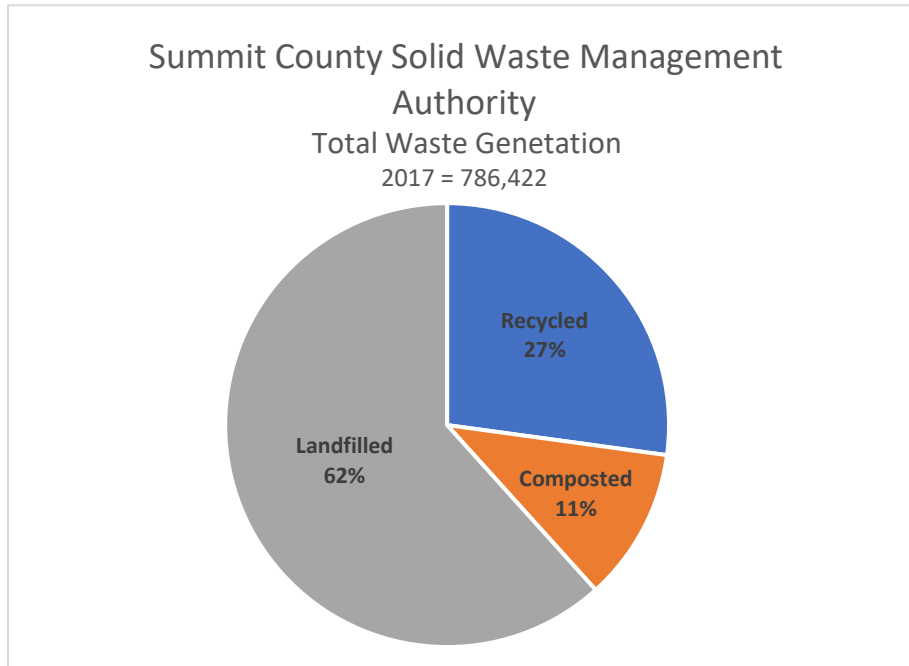
Finally, the SWMD has the ability to control which landfill and transfer facilities can, and by extension cannot, accept waste that was generated within the SWMD. The SWMD accomplishes this by designating solid waste facilities (often referred to as flow control). A SWMD's authority to designate facilities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

A. Waste Management Overview

Reference year featured waste disposal according to the data featured in Figure 4-1. The methods that these waste streams are disposed of are further described in section B of this chapter.

ReWorks’ waste management strategy through the planning period is to increase and encourage landfill diversion through recycling and composting. Current landfill capacities require no action to be taken in order to accommodate the anticipated waste streams to be generated through the planning period.

Figure 4-1: 2017 Waste Management Methods



B. Profile of Waste Infrastructure 1. Solid Waste Management Facilities

a. Landfills

Landfills and associated tonnage contributions from Summit County are listed in Table 4-1. The Noble Road Landfill and the Lorain County Landfill are projected to reach capacity within 10 years of the completion of this document. Several other landfill options are available to absorb this anticipated expiration of capacity, so these potential closures do not pose a threat to the County’s ability to dispose of solid waste, especially given that the amount of material directly sent to these landfills amounts to less than 3% of the total for the county.

b. Transfer Facilities

Transfer Facilities and associated tonnage contributions from Summit County are listed in Table 4-2. Transfer stations receive a majority of the waste within the county. After the waste is consolidated at these locations, it is transferred to its disposal destination. It is anticipated that these facilities will continue to operate as they have throughout the planning period. No out of state facilities were recorded to have taken in material from Summit County.

c. Compost Facilities

Compost Facilities and associated tonnage contributions from Summit County are listed in Table 4-3. This data has been reported as it was presented by the Ohio EPA. It is anticipated that these facilities will continue to take in material according to the trends of the industry. ReWorks continues to support composting infrastructure and is evaluating our role in improving the availability of Class II compost facilities to support food waste diversion.

d. Processing Facilities

Processing Facilities of Note Receiving Recyclables from the District in the Reference Year are listed in Table 4-4. These were the facilities either taking in more than 2 tons of material as reported during the 2017 commercial/industrial survey, or material of particular note including batteries and donated food. These facilities will presumably continue to take in material in accordance with their capacities outside of the influence of ReWorks. These tonnages are expected to rise and fall along proportionally to the amount of waste produced throughout the county.

e. Other Waste Management Facilities

Summit County holds no other waste management facilities of note. As the capacity to intake more food waste grows, we anticipate that facilities with the ability to take in this material will make themselves known to ReWorks.

2. Waste Collection

Waste haulers operating within the county are expected to continue operating at similar rates to where they are now throughout the planning period.

C. Solid Waste Facilities Used in the Reference Year

1. Landfill Facilities

Table 4-1: Landfill Facilities Used by the District in the Reference Year

Facility Name	Location		Waste Accepted from SWMD (tons)	Percent of all SWMD Waste Disposed	Remaining Capacity (years)
	County*	State			
<i>Out-of-District</i>					
Tunnel Hill Reclamation 272650	Perry	Ohio	0	0%	17.1
Pine Grove Landfill 230010	Fairfield	Ohio	51	0%	57
Noble Rd LF 36417	Richland	Ohio	1,034	1%	5.26
Lorain Co Landfill 26024	Lorain	Ohio	689	1%	9.8
Lake Co. Solid Waste Facility	Lake	Ohio	21	0%	36
Kimble Sanitary Landfill 42709	Tuscarawas	Ohio	1,035	1%	36.4
Countywide Recy & Disposal	Stark	Ohio	50,934	49%	70.7

Carbon Limestone LF 28726	Mahoning	Ohio	279	0%	49.3
Athens Hocking Reclamation Ctr	Athens	Ohio	13	0%	47.7
American Landfill 38042	Stark	Ohio	49,293	48%	65
Totals			103,349	100%	394

*No In-District or Out-of-State facilities utilized

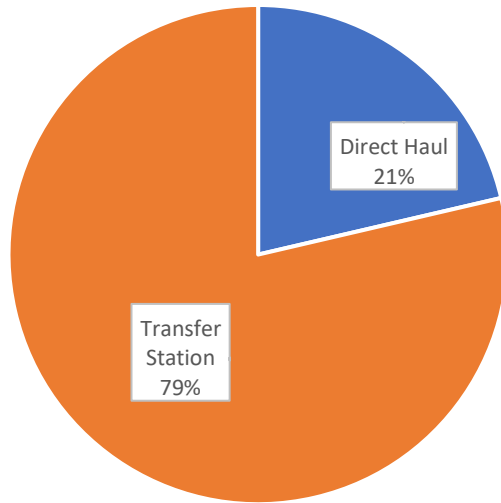
2. Transfer Facilities

Table 4-2 Transfer Facilities Receiving Waste from the District in the Reference Year

Facility Name	Location		Waste Accepted from District (tons)	Percent of all District Waste Transferred	Landfill Where Waste was Taken to be Disposed
	County	State			
<i>In-District</i>					
Akron Cntrl Xfr-Fountain St	Summit	Ohio	121,491	32%	American LF
Akron Xfr-Hazel St.	Summit	Ohio	123,953	33%	Countywide
Kimble Twinsburg Xfr & Recy Fac	Summit	Ohio	55,098	14%	Kimble San LF
<i>Out-of-District</i>					
Broadview Hts Recy Ctr 8345	Cuyahoga	Ohio	17,171	5%	Noble Rd
Glenwillow Xfr Station 54244	Cuyahoga	Ohio	21,094	6%	Lorain LF
Harvard Rd Xfr Station 10687	Cuyahoga	Ohio	110	0%	Noble Rd
Oakwood Xfr Sta 10688	Cuyahoga	Ohio	17,976	5%	American LF
Kimble Xfr Canton 38787	Stark	Ohio	23,696	6%	Kimble San LF
Total			380,587	100%	

Figure 4-2 Transfer versus Direct Haul

Summit County Solid Waste
Management Authority
Direct Haul and Transfer Station Percentages



3. Composting Facilities

Table 4-3 Composting Facilities Receiving Waste from the District in the Reference Year

Facility Name	Location (County)	Tons Composted	Percent of all Composted
<i>In District</i>			
All Seasons Landscaping, Twinsburg	Summit	2,300	3%
City of Akron - Street Cleaning	Summit	1,675	2%
City of Akron Street Cleaning	Summit	385	0%
City of Akron White Pond Compost Site	Summit	3,642	4%
City of Green Recycling Center	Summit	2,346	3%
Exeter Rd Class IV Composting Facility	Summit	6,993	8%
John's Tree Service	Summit	376	0%
Lewis Landscape	Summit	50	0%
Mulch Makers of Ohio	Summit	4,500	5%
Nied Garden Center	Summit	833	1%
Pro Tree & Landscape Co	Summit	333	0%
Pro Tree & Landscape Co	Summit	1,450	2%
Regional Groundworks	Summit	250	0%
Roller Farms	Summit	1,949	2%
Sagamore Soil Compost	Summit	5,730	7%
Sagamore Soils Compost	Summit	6,008	7%
Sagamore Soils Twinsburg	Summit	3,741	4%
Silver Lake Village	Summit	3,297	4%
Stow Composting	Summit	2,997	3%
Stow Composting Facility	Summit	464	1%
Twinsburg facility	Summit	650	1%
Village of Richfield	Summit	715	1%
Woodland Mulch & Landscape Center	Summit	1,570	2%
<i>Out-of-District</i>			
#1 Landscape	Medina	116	0%
Brimfield Aggregate	Portage	5,328	6%
Earth 'N Wood Products Inc	Stark	13,980	16%
Hauser Services	Geauga	6,689	8%
Kurtz Bros Inc - Bridgeview	Cuyahoga	5,286	6%
MRLM Landscaping	Cuyahoga	668	1%

Savarino Bros	Cuyahoga	483	1%
Savarino Brothers	Cuyahoga	15	0%
Smith Bros Inc	Medina	648	1%
Zollinger Sand & Gravel Co	Wayne	634	1%
Total		86,101	

4. Processing Facilities

Table 4-4: Processing Facilities of Note* Receiving Recyclables from the District in the Reference Year

Name of Facility	Location		Facility Type	Recyclables Accepted from District (tons)
	County	State		
In-District				
Akron Canton Waste Oil	Summit	OH	Motor Oil	
C&P Pallets	Summit	OH	Pallet Yard	
City Scrap and Salvage	Summit	OH	Scrap Yard	
Decco Alloys	Summit	OH	Scrap Yard	
E-Waste, LLC	Summit	OH	Electronics	
Georgia-Pacific	Summit	OH	Fiber	
Holub	Summit	OH	Scrap Yard	
Kimble Twinsburg MRF	Summit	OH	MRF	
Maxwell Recycling	Summit	OH	Scrap Yard	
Metalico Annaco	Summit	OH	Scrap Yard	
Pinnacle Recycling LLC	Summit	OH	Fiber & Other	
PSC Metals	Summit	OH	Scrap Yard	
River Valley Paper Company	Summit	OH	Fiber	
Tri County Pallets	Summit	OH	Pallet Yard	
Waste Management MRF	Summit	OH	MRF	
Weaver SecurShred	Summit	OH	Fiber	
Out-of-District				

Eastside Metals Corp.	Cuyahoga	OH	Scrap Yard	
FPT	Cuyahoga	OH	Scrap Yard	
Gateway	Cuyahoga	OH	Fiber and Other	
Iron Mountain	Cuyahoga	OH	Fiber	
Miles Alloys, Inc.	Cuyahoga	OH	Scrap Yard	
PSC Metals	Cuyahoga	OH	Scrap Yard	
Royal Oak	Cuyahoga	OH	Fiber	
Stericycle	Cuyahoga	OH	Fiber	
Woodstock Pallet	Cuyahoga	OH	Pallet Yard	
CHEP Recycled Pallet Solutions	Medina	OH	Pallet Yard	
Decco Alloys	Medina	OH	Scrap Yard	
Allshred Services	Portage	OH	Fiber	
Montgomery's Pallet Service	Portage	OH	Pallet Yard	
Akron Canton Waste Oil	Stark	OH	Motor Oil	
FPT	Stark	OH	Scrap Yard	
Slesnick Iron and Metal	Stark	OH	Scrap Yard	
Out-of-State				
Battery Solutions		MI	Batteries	
Caraustar		GA	Fiber	
Total				0

* Processing Facilities of Note meant to denote larger quantities (above 2 Tons) of recyclables according to the 2017 Commercial Recycling Generator survey performed by the District; or handling particular recycling streams of note.

D. Use of Solid Waste Facilities During the Planning Period

1. Landfills

The landfills provided in Table 4-1 indicated adequate capacity and therefore will likely be the same facilities utilized for waste disposal during the planning period.

2. Transfer Facilities

The transfer facilities provided in Table 4-2 have not indicated the intent to cease operating, and therefore will likely be the same facilities utilized for the transfer of waste during the planning period

3. Composting Facilities

The compost facilities listed in Table 4-3 are expected to remain in operation, and therefore will likely be the same facilities utilized for composting during the planning period. In 2020, Earth N Wood became a licensed Class II compost facility allowing for potential increase of food waste composting opportunities.

4. Processing Facilities

The processing facilities listed in Table 4-4 are those facilities responding to the recycling data survey. It is expected that these facilities will likely be the same facilities used to process material during the planning period.

5. Alternate Waste Management

Summit County holds one anaerobic digester located in Akron. This Akron Renewable Energy Facility is owned by the City of Akron and operated by KB Bioenergy. This facility uses anaerobic digestion technologies to process wastewater biosolids and generate biogas. Providing financial support to this facility to make facility adjustments necessary to give it the ability to take in food waste is one key issue being reviewed by the Board and Strategic Planning Committee.

As the capacity to intake more food waste grows, we anticipate that facilities with the ability to take in this material will make themselves known to ReWorks.

E. Siting Strategy

Purpose of the Siting Strategy

As explained earlier, the solid waste management plan must demonstrate that the SWMD will have access to enough capacity at landfill facilities to accept all of the waste the SWMD will need to dispose of during the planning period. If existing facilities cannot provide that capacity, then the policy committee must develop a plan for obtaining additional disposal capacity.

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

ReWorks does not specifically plan to own and/or operate any solid waste management facilities during the planning period. Moreover, the inventories of waste generated and of available capacity at solid waste facilities indicate that ReWorks does not need additional solid waste capacity during the planning period. Consequently, ReWorks does not intend to adopt siting strategy beyond that which is in

accordance with Ohio Administrative Code 3745-27, 3645-37, 3745-30, or other provisions relating to the siting of solid waste facilities.

F. Designation

Purpose of Designation

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

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

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

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

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

The Board of Trustees of ReWorks is authorized to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code.

Although the Board is not opting to designate any facilities, it still retains the authorization to do so during the period of the Plan Update. If the Board does exercise its authority to designate solid waste facilities, the Board will concurrently develop, if determined appropriate, a waiver process that complies with section 343.01(I)(2) of the Ohio Revised Code.

Chapter 5: Waste Reduction and Recycling

Purpose of Chapter 5

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

Between achieving the goals of the state plan and meeting local needs, the SWMD ensures that a wide variety of stakeholders have access to reduction and recycling programs. These stakeholders include residents, businesses, institutions, schools, and community leaders. These programs and services collectively represent the SWMD's strategy for furthering reduction and recycling in its member counties.

Before deciding upon the programs and services that are necessary and will be provided, the policy committee performed a strategic, in-depth review of the SWMD's existing programs and services, recycling infrastructure, recovery efforts, finances, and overall operations. This review consisted of a series of 12 analyses that allowed the policy committee to obtain a holistic understanding of the SWMD by answering questions such as:

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

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

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

A. Solid Waste Management Authority's Priorities

- Continue to provide the existing recycling and waste diversion programs and services
- Increase efforts to address food waste management
- Increase community outreach/education on curbside recycling and waste reduction -Utilize Community Recycling Assistance Grant to better serve municipalities on recycling and waste diversion.
- Relocation of administrative offices and addition of service center

B. Program Descriptions

Residential Recycling Infrastructure

Curbside Recycling Services

Table 5-1 Curbside Recycling Services

ID#	Name of Curbside Service/Community Served	Service Provider	When Service Was/Will be Available
NCS1	Akron	Republic Waste-subcontractor	Service Provider for a portion of the City service is Dependent on the terms stated in the City's Service Agreement
NCS2	Akron	City of Akron	Throughout planning period
NCS3	Barberton	Republic Waste	Throughout planning period
NCS4	Bath	Rumpke	Throughout planning period
NCS5	Boston Heights	Kimble/J&J Refuse	Throughout planning period
NCS6	Boston Township	Kimble/J&J Refuse	Throughout planning period
NCS7	Clinton	Kimble/J&J Refuse	Throughout planning period
NCS8	Copley	Republic Waste	Throughout planning period
NCS9	Coventry	Republic Waste	Throughout planning period
NCS10	Cuyahoga Falls	City of Cuyahoga Falls	Throughout planning period
NCS11	Green	Kimble/J&J Refuse	Throughout planning period
NCS12	Hudson	Kimble/J&J Refuse	Throughout planning period
NCS13	Hudson	Republic Waste	Throughout planning period
NCS14	Hudson	Waste Management	Throughout planning period
NCS15	Hudson	A A Sanitation	Throughout planning period
NCS16	Lakemore	Republic Waste	Throughout planning period
NCS17	Macedonia	Republic Waste	Throughout planning period
NCS18	Munroe Falls	Republic Waste	Throughout planning period
NCS19	New Franklin	Republic Waste	Throughout planning period
NCS20	Northfield Center	Kimble/J&J Refuse	Throughout planning period
NCS21	Norton	Republic Waste	Throughout planning period
NCS22	Peninsula	Republic Waste	Throughout planning period

NCS23	Reminderville	Kimble/J&J Refuse	Throughout planning period
NCS24	Richfield Township	Rumpke	Throughout planning period
NCS25	Richfield Village	Rumpke	Throughout planning period
NCS26	Sagamore Hills	Kimble/J&J Refuse	Throughout planning period
NCS27	Silver Lake	Kimble/J&J Refuse	Throughout planning period
NCS28	Springfield	Republic Waste	Throughout planning period
NCS29	Stow	Kimble/J&J Refuse	Throughout planning period
NCS30	Stow	Republic Waste	Throughout planning period
NCS31	Stow	Waste Management	Throughout planning period
NCS32	Stow	Hometown Services of Ohio LLC	Throughout planning period
NCS33	Tallmadge	Republic Waste	Throughout planning period
NCS34	Twinsburg Township	Kimble/J&J Refuse	Throughout planning period
NCS35	Twinsburg City	Waste Management	Throughout planning period
SC1	Fairlawn	Multiple Haulers	Throughout planning period
SC2	Springfield	Multiple Haulers	Moving to Non-subscription in 2020
SC3	Mogadore	Multiple Haulers	Reviewing options to move to nonsubscription in 2021

Tables 5-1 and 5-2 house information pertaining to the infrastructure of Summit County during the planning year (2017). Of the 31 communities comprising the county, only one did not report. After compiling all data received by the communities, we found that 14.78% of residential waste was recycled. When including yard waste that was diverted from landfill, this figure increases to 33.19% (ReWorks Year in Review Report 2017). We anticipate that through the planning process, this amount will remain steady. The potential decline in curbside recycling tonnage due to the deteriorating recycling markets will be countered by increase tonnage in diversion of other materials like organics.

Drop-off Recycling Locations

Table 5-2 Multi-Material Drop-off Recycling Locations

ID#	Drop-Off Community Served	Service Provider	Ongoing Service
FTU1	Bath Township	Rumpke	Throughout the planning period
FTU2	Copley Township	Republic	Changing to Part Time
FTU3	Cuyahoga Falls	City of Cuyahoga Falls	Throughout the planning period
FTU4	Fairlawn	Recycle America Alliance LLC	Throughout the planning period
FTU5	Hudson, City of	Not Reported	Removed May 2019
FTU6	Macedonia	Republic	Removed mid-year 2019
FTU7	Norton, City of	Republic	Throughout the planning period
FTU8	Twinsburg, City of	Waste Management	Throughout the planning period

PTU1	Green	Kimble/J&J Refuse	Throughout the planning period
FTR1	Lakemore	Republic	Throughout the planning period
FTR2	Northfield Village	Rumpke	Throughout the planning period

Multi-Family Unit Recycling

Although Multi-Family Units are categorized in the residential sector, often times multi-family facilities receive trash and recycling service in a format more similar to a commercial/industrial customer. They are more like a commercial/industrial customer in that typically multi-family facilities must contract trash and recycling service directly with a private hauler. These facilities are not serviced through residential curbside trash and recycling service agreements with a municipality.

For this reason, ReWorks offers the same services to multi-family facilities as it does to the commercial and industrial sectors:

- Technical assistance through waste assessments
- Contract guidance on trash and recycling service
- Recycling collection service through the Commercial Single Stream Recycling Program for those facilities meeting program requirements.

Commercial/Institutional Sector Reduction and Recycling Programs

School Recycling

ReWorks provides the same services to schools as is offered to multi-family facilities and commercial and industrial entities. However, schools are unique in that individual school buildings typically receive trash and recycling service through a school district-wide service agreement. Therefore, ReWorks focuses technical assistance on district-wide efforts, or independent schools that manage their own trash/recycling service agreement. ReWorks offers the same services to schools as it does to the commercial and industrial sectors:

- Technical assistance through waste assessments
- Contract guidance on trash and recycling service
- Recycling collection service through the Commercial Single Stream Recycling Program for those facilities meeting program requirements

Collection Services

Commercial Single Stream Recycling Program: Entities with SIC codes or NAICS codes that categorize them as commercial and industrial and located within Summit County can be serviced by this program. It is a program is for non-residential entities (see “Multi-Family Unit” description above). Entities must meet program requirements to participate.

ReWorks contracts with a private hauler to provide single stream recyclables collection service. This service is offered to qualified entities at no cost to the participant. ReWorks funds the recycling collection service and provides participant training, education and promotion materials.

In 2017, this program serviced 126 participants and collected an estimated 271 tons of single stream recyclables (plastic bottle & jugs, metal food beverage containers, cardboard, newspaper and cartons)

- Success: This program offers a recycling collection service for those entities that would otherwise not have the opportunity.
- Challenge: High cost to provide this service.

Waste Assessments/Waste Audits

Waste and Materials Management Consultation: ReWorks provides waste consultation for all nonresidential sectors (commercial, institutional, and industrial). Entities seeking information on how to increase recycling and waste reduction contact ReWorks. The Program Manager schedules a site visit and “walk through” of the facility. Observations and measurements are made. Recommendations on recycling and waste reduction practices are provided. Waste assessments are partnered with the Commercial Single Stream Recycling Program. The only expense for this program is the cost of staff time to perform the waste audit and consultation.

In 2017, of the 30 commercial/industrial entities contacted ReWorks about recycling collection services. Of the 30 inquires, 16 had waste assessments, 15 funded their own recycling service, 10 were added to Commercial Single Stream Program, and 5 did not pursue for various reasons. 83% Success rate to adding recycling programs through ReWorks technical support/waste assessment.

Contracting Assistance

Waste and Materials Management Consultation: ReWorks provided contracting assistance for trash and recycling as part of the waste consultation.

Workgroup/Roundtable

ReWorks provide training to the personnel of the facility on recycling and waste reduction practices.

Award/Recognition

Participants of the Commercial Single Stream Recycling Program receive recognition on ReWorks social media platforms.

Industrial Sector Reduction and Recycling Programs

NOTE: Entities with SIC codes or NAICS codes that categorize them as commercial or industrial and located within Summit County receive the same services from ReWorks. ReWorks does not request SIC/NAICS codes from entities contacting our agency for services. Therefore, program descriptions for this section are the exact same as those listed under commercial/institutional. See descriptions above for the following programs

- Waste and Materials Management Consultation
- Collection Services
- Contracting Assistance
- Workgroup/Roundtable
- Award/Recognition

Restricted/Difficult to Manage Wastes

Yard Waste

ReWorks provides financial support to municipalities through the Community Recycling Assistance grant for yard waste collection activities like curbside leaf collection and yard waste drop offs. Additionally, a resource guide with local composting facilities is available to the residential and commercial/institutional, industrial sectors.

Household Hazardous Waste

Household Hazardous Waste Recycling Center (HHWRC): Open since 1996, the seasonally operated facility is open for summit county residents to bring their household chemicals for proper management. ReWorks has a service agreement with a licensed hazardous waste contractor to operate the facility. The contractor provides labor, transportation, collection and processing for all household hazardous waste brought to the HHWRC. The service is completely funded by ReWorks and is free to Summit County residents.

In 2017, the HHWRC seasonal operations were held June through the end of September on Thursdays from 2pm to 7pm. About 4,710 households were serviced through the HHWRC. This program collected 120.91 tons of HHW and (new in 2017) 5.21 tons of oily bottles managed through the hazardous waste contract, of which 119 tons were recycled.

- Success: HHWRC keeps difficult to manage, toxic materials out of the landfill
- Challenge: The tonnage credit for this service is low, but the expense is high

Scrap Tires

Scrap Tire Collection Program: ReWorks offers multiple methods to collect scrap tires. Residents can bring scrap tires to collection days held at the Household Hazardous Waste Recycling Center (HHWRC) during its seasonal operation. Residents are charged a \$1/tire cash fee with a limit of 10 tires/vehicle. Additionally, ReWorks accepts tires from Service Departments that were dumped along roadsides or generated at service garages. Lastly, ReWorks partners with Summit County Public Health to take tires collected from dump clean up projects.

In 2017, the total tires collected by ReWorks program = 4,699 (46.99 tons)

- Success: Providing multiple methods to manager scrap tires.
- Challenge: Tires are still being improperly dumped

Electronic Equipment

Community Electronics Collection Program: New in 2019, ReWorks entered into a service agreement with private company to collect and properly process electronic equipment. ReWorks coordinates with interested and qualified municipalities (i.e. community) to collect electronics from their residents. ReWorks pays for the collection and processing of the electronics. The participating municipality provides the labor, and temporary secured storage of the material until it is collected by Reworks' contractor. ReWorks also provides a list of other electronics recyclers as there are several local options.

Being a new program in 2019, we cannot review the performance of this program yet.

Lead-Acid Batteries

Lead- acid batteries are collected at the HHWRC.

Appliances

Pharmaceuticals

This is not a ReWorks funded program. However, we direct residents to properly dispose of pharmaceuticals through the Summit County Public Health D.U.M.P. program drop box locations throughout Summit County. (<https://www.scph.org/medication-disposal>)

Target Material Streams:

ReWorks will continue to review infrastructure, technologies and recycling opportunities for difficult to manage materials. ReWorks will promote economically and environmentally sound methods to manage these material as they become available. Materials include, but are not limited to:

- textiles, glass and mattresses.

Other Material Specific Programs

Food Waste

Food Scrap Collection Projects: ReWorks offers various methods to support the diversion of food scraps from the landfill. Projects may vary from year to year. Example of past food scrap collection projects include purchasing supplies to build food scrap composting structures for community gardens and ReWorks funded food scrap collection service for large events. ReWorks contracts with a private company to transport and compost the food scraps at an OEPA licensed Class II facility.

In 2017, ReWorks funded about \$2,200 in equipment and materials to build 22 compost bins for local community gardens to compost food scraps. All garden compost activities are smaller than the 500sq ft compost exemption. This program resulted in more than 32 tons of coffee grounds/food waste being composted at community gardens. Additionally, ReWorks funded the collection of food scraps from The State of the County speech that resulted in diverting 660lbs of food scraps.

- Success: Small generators of food scraps have increased options to compost.
- Challenge: The infrastructure to manage large quantities of food scraps is minimal in our area.

Confidential Paper Documents

Document Shredding and Recycling Events: This program is offered to all Summit County residents and business (commercial and industrial) as means to have confidential paper documents shredded and recycled. ReWorks contracts with a private shredding company to host multiple events throughout the year.

In 2017, ReWorks funded 6 shredding events, May-October, in 6 different locations in Summit County. We collected a total of 155,489 pounds of paper and 4,346 pounds of cardboard from 2,600 households and businesses.

- Success: These events are well attended.
- Challenge: An increase in other entities hosting similar events may lessen the demand for our events.

Funding/Grants

Residential Recycling Assistance Grants

Community Recycling Assistance Grant (CRAG): These CRAG funds are used to support community curbside recycling (subscription and non-subscription services), drop-off community recycling centers and residential organics collection. The top two categories the grant funded, included municipal programs for diversion of organics (yard waste, leaves, etc.) from our landfills and recycling support (equipment, infrastructure and collection services.)

CRAG funds are not limited to providing grants to municipalities. A different subset of these funds provide ReWorks the ability to allocate an addition funds toward countywide education and community outreach to reduce contamination for curbside recycling programs and to increase overall waste diversion.

In 2017, Summit County cities, villages and townships received more than \$486,000 in grants. Thirtyfour percent of the grant funds helped divert organics and recycling support received 63 percent of these funds.

Business/Non Residential Grants

Waste Reduction and Recycling Grant: The funding from this grant is intended to financially support projects directly aimed at measurable waste reduction and recycling activities consistent with ReWorks' mission. Allowable project include but is not limited to expenses listed below:

- Recycling processing and collection equipment;
- Yardwaste management equipment;
- Organics diversion projects; and
- Food waste reduction projects

In 2017, a Waste Reduction and Recycling Grant in the total of \$20,000 was awarded to the Akron Zoo. The grant went towards expenses related to the construction of the building to hold their new Big Hanna, in vessel composting unit. This unit allowed the zoo to manage their food waste and organic material on site. The grant was approved in 2017 but paid out in 2018.

Ohio EPA Pass Thru Grants

Annually, ReWorks is able to sponsor interested applicants for the Ohio EPA market development and scrap tire grants. Grants vary from year to year with some years having no grants. ReWorks assists the businesses in the application process and acts as the grant administrator on behalf of the OEPA.

Additionally, ReWorks serves as a pass through for the grant funds from OEPA to the cooperating enterprise.

Data Collection (and Management)

ReWorks is contracting the construction and initial implementation of a Database meant to manage certain essential business operations, especially tracking and monitoring tonnage data associated with the material streams occurring within our county for which we are responsible. ReWorks has chosen the Summit County Office of Information Technology to construct the database.

Currently, our business operations are performed via a series of Excel spreadsheets varying in quality of data, housed in multiple files, on separate drives in some cases, without data validation or verification processes or procedures in place. Utilization of the database will be a single location allowing for fewer data touches, minimizing the opportunity to make mistakes, and maximizing efficiency in generating compliance reports.

Use of this database will also allow for ReWorks to reduce reliance on third parties to provide certain software solutions (e.g. Re-TRAC, Survey Monkey). The database will allow us to generate high quality analysis from information that is recorded.

ReWorks is also excited to spread the usage of the database to other solid waste districts.

Outreach, Education, Awareness and Technical Assistance

Web Page/Social Media

The ReWorks website is summitreworks.com. It provides information on ReWorks programs, services, and events. It also has information on residential recycling curbside and drop off programs in Summit County. The residential, commercial and industrial sectors can use the website as resource to find local recycling solutions. ReWorks also send messages through social media platforms like Facebook, Twitter, YouTube and occasionally Flickr.

In 2017, Recycling events such as the Scrap Tire, Shredding Events and the HHWRC were promoted with social media posts and on the website. Curbside recycling Facebook ads had more than 220,000 impressions. Nine (9) HHWRC Facebook ads targeted the opening date, cooking oil, CFL's, batteries and pesticides and reached 29,000.

Resource Guide

ReWorks provides resource guides for local recycling solutions and yard waste. This guide identifies locations in or around Summit County that offer services to recycle or reuse materials. The list of these facilities is provided on the website as well.

Speaker/Presenter

ReWorks staff is available to present recycling, waste reduction and other materials management topics to a variety of audiences (businesses, residents, schools, community groups, etc.) and at various events. Topics included curbside recycling, zero waste and food waste.

In 2017, ReWorks presented or attended 24 different "events" that reached more than 4,880 people.

Phone and Email Log

ReWorks staff is available to answer phone calls received at the office and emails received via the website by the public (i.e. residential, commercial/institutional and industrial sectors). The quantity and category of these activities are tracked.

In 2017, ReWorks office received about 2871 calls with the following break down by category: HHWRC 57%, ReWorks Programs 2%, Recycling Drop Off 1%, Waste Solutions 32%, Shredding Events 7%, Education/Promotion 1%. In addition, ReWorks received 257 email inquiries from the website with a breakdown by the following categories: 11 % HHWRC, 10% Rework Programs, 22% Waste Solutions, 5% Shredding Events, 5% education promotion and 46% request to be added to the newsletter.

Outreach and Marketing

Marketing Firm: Since 2013, ReWorks contracts with a marketing firm for services to create, market and promote ReWorks recycling programs and provide community outreach on single stream recycling. Furthermore, the firm develops, designs and manages the ReWorks website.

In 2017, ReWorks paid the firm a total of \$142,200 for design/branding/web services, photography, print ads, collateral materials, and digital ads.

Residential Sector

Countywide Residential Recycling Education Campaign: This comprehensive campaign includes residential recycling curbside and drop off outreach through the following : newsletters, print ads, social media, website, presentations, press releases and paid articles.

Commercial/Institutional and Industrial Sectors

As stated previously in this plan, ReWork services and outreach for commercial/institutional and industrial sectors are the same. ReWorks does not request SIC/NAICS codes from entities requesting our services that would allow us to categorize these entities to be "commercial" or "industrial."

Technical support and outreach on recycling and waste diversion options are provided to these sectors through the following: newsletters, print ads, presentations, attending trade associations and website.

Additionally, we present and provide technical assistance to business (i.e. commercial/industrial entities) associations on how to recycle and reduce waste.

Community and Elected Officials

Annually, representatives from all thirty-one Summit County municipalities are invited to attend the Community Recycling Assistance Grant meeting along with providing administrative information on the grant, this forum provides an "open discussion" with the service directors of

the participating communities. Topics include, yard waste management, contract guidance, and the current state of recycling.

Schools

The Education/Promotion Specialist is available to attend school presentations to students and training sessions on how to properly recycle.

Additionally, technical support on recycling and waste reduction options are provided to administration/operation personnel for schools. This is similar to the technical support provided to industrial and commercial sectors.

Outreach Priority

Outreach priorities focus on consumer/residential, and business sectors as this target audience has direct impact on materials management practices. While school-aged presentations are available, priorities are directed more toward adults and businesses. Campaigns and promotions cover basic topics like ReWorks funded programs and services, composting, curbside recycling, and reduction of contamination in curbside collection. However, additional priorities are focused on campaigns and promotions focused on behavior change in the form of topics like waste reduction, and food waste reduction strategies.

Other Programs

Health Department Support

ReWorks maintains a service agreement with Summit County Public Health to perform services related to solid waste: scrap tire inspections, solid waste facility inspections, open dump inspections, recycling facility inspections, compost facility inspections and open dump/litter enforcement.

Open Dumping/Litter Enforcement

In addition to the funds provided to Summit County Public Health for open dump enforcement, it is the intent of ReWorks to formulate a program in this planning period, modeled after similar programs in other solid waste districts, to work with local law agencies to provide an open dump enforcement officer.

Disaster Debris Assistance

Although ReWorks has no specific program to manage disaster debris, in event of an emergency in Summit County, ReWorks will facilitate in the management of disaster debris as allowed by definition of a solid waste management authority.

Closed Facility Maintenance/Post-Closure Care

An agreement between ReWorks and the City of Akron has been in effect for the purpose of fund the closure and post closure of Hardy Road Landfill. It is projected that this financial obligation will be met at the end of 2024. In 2017, ReWorks paid the City of Akron \$584,345.

C. Waste Reduction and Recycling Rates

1. Residential /Commercial Recycling in the District

Table 5-3: Residential/Commercial Waste Reduction and Recycling Rate

Year	Recycled	Disposed	Total Generated	Waste Reduction & Recycling Rate (%)
2021	156,971	425,053	582,024	26.97%
2022	158,399	426,322	584,720	27.09%
2023	159,833	427,590	587,423	27.21%
2024	161,273	428,858	590,131	27.33%
2025	162,719	430,126	592,846	27.45%
2026	163,272	431,395	594,667	27.46%

Table 5-3 describes the prediction of the waste recycling rate from 2021 to 2026. For more information about how these figures were attained, please see Chapter 3 Section C: Waste Generation Projections.

ReWorks projects to achieve Goal #2 of 25% diversion for Residential/Commercial throughout the planning period.

2. Industrial Recycling in the District

Table 5-4 Industrial Waste Reduction and Recycling Rate

Year	Projected Quantity Collected (tons)	Industrial WRR(1) (%)
2021	46,892	45%
2022	47,085	45%
2023	47,279	45%
2024	47,472	45%
2025	47,665	45%
2026	47,859	45%

Table 5-4 describes the prediction of the waste recycling rate from 2021 to 2026. For more information about how these figures were attained, please see Chapter 3 Section C: Waste Generation Projections.

ReWorks projects the industrial waste reduction and recycling rate to maintain at 45% throughout the planning period. The proposal to eliminate the 66% industrial recycling rate portion of state Goal #2, is supported by ReWorks. Obtaining recycling data from those industrial entities characterized by NAICS codes remains to be challenging, potentially leading to inaccurately low recycling rates. Improved recycling data collection continues to be a focus of ReWorks.

Recycling Projections

Methodology:

The recycling streams identified above were examined between 2013 and 2017 in order to establish both an average percentage of the entire waste generation stream, as well as the standard deviation of

this percentage per waste stream that has occurred throughout the timeframe. In order to estimate and project the futures of the waste streams, fractions of the standard deviations have been added or subtracted from the percentage of the entire stream that each individual stream will comprise proportional to the predicted strength or weakness of the stream into the future based on current knowledge.

Example: Curbside Recycling Services: Down 1/2 current Std Dev per year, flat by 2025

The example expresses that the Curbside recycling stream is predicted to decrease by ½ of the standard deviation per year over the next several years until 2025. The average percentage of the waste stream composed of Curbside Recycling Services over the last 5 years (5.955%) is anticipated to decrease by ½ of a standard deviation associated with the stream over the same time period ($0.521\% * \frac{1}{2} = 0.2605\%$). This represents the idea that the percentage of the total waste stream that is associated with Curbside recycling will decrease from 5.955% in 2017 to 5.6945% in 2018 to 5.434% in 2019... to 3.871% of the entire waste stream in 2025.

Commercial/Industrial Survey: Zero by 2019

This category only denotes a specific method of gathering data. As we progress into the future, this method will be used less and less in favor of surveying a smaller number of processors. Different methods of capturing this type of data will be invested into which will cause this percentage to drop off entirely to be absorbed by the "Data from Other Recycling Facilities" category.

Data from Other Recycling Facilities: Absorb Commercial Survey by 2019

This category only denotes a specific method of gathering data. As we progress into the future, we will rely on this method as it is able to be more closely monitored and associated with auditability higher than that of the self-reported survey. Investments in developing reliable reports from this source will become more prevalent as time goes on. We expect that this category will absorb the percentages of the "Commercial Survey" in two years (by 2019). Rate assumed to remain flat after absorbing Commercial Survey as stream.

Ohio EPA Commercial Retail Data: Flat Avg

We are not able to speak to the development of this data source as it is not managed by ReWorks.

ReWorks Programs: Up 1/5 current Std Dev per year, flat by 2025

Electronics collection program

Curbside Recycling Services: Down 1/2 current Std Dev per year, flat by 2025

As the recycling industry continues to reel from the changes to the acceptability of contaminants, this figure is expected to drop initially before trending upwards as the recycling industry responds to the

changes with progressive innovations. In the meantime, as contracts are developed with additional recycling fees, it is expected that tonnage collected in such programs will decline into the future before innovation is able to steady increasing recycling costs. Reduction in acceptance of glass as a common recyclable will likely cause a reduction in this number as well.

Drop-off Recycling Locations: Down 1/4 current Std Dev per year into future, flat by 2025

It is expected that single location drop offs will experience a reduction in viability due to the decreased acceptability of contaminants. We have witnessed MRFs within Summit county eliminate underperforming drop off locations from being allowed to drop off materials into the MRF. We expect that this trend will continue if drop-offs refuse to implement monitoring services..

Composting Facilities: Flat Avg

We are not able to speak to the development of this data source as it is not managed by ReWorks.

Other Food and Yard Waste Management Activities: Up by 1/4 current Std Dev per year, flat by 2025

We expect to see an increase in this category as our efforts toward food diversion mature into actionable processes that will effectively increase this category into the future until saturation estimated at 1 full standard deviation from the previous 5 year average.

Ohio EPA Scrap Tire Data: Flat Avg

We are not able to speak to the development of this data source as it is not managed by ReWorks.

Other Muni Recycling: Down 1/8 with current Std Dev per year, flat by 2025

Simple Recycling is currently undergoing reduction in service offerings for communities.

Chapter 6: Budget

Purpose of Chapter 6

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

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

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

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

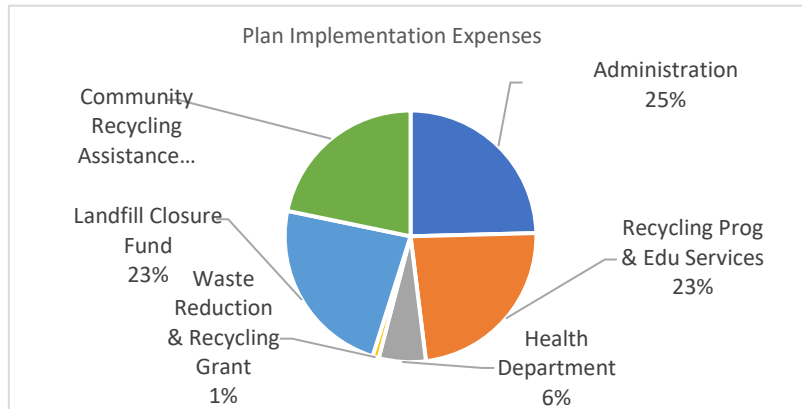
A. Overview of the SWMD’s Budget

ReWorks plan implementation, community recycling grants and landfill closure fund are primarily funded through revenue received by a Generation Fee of \$5/ton. The table to the right describes how generation fees are designated.

	Fee/ton	Est Annual Rev (470,000 tons)
Gen'l Op	2.80	\$1,316,000
Community Grant	1.00	\$470,000
Landfill Closure	1.20	\$564,000
TOTAL	\$5.00	\$2,350,000

The average annual budget is about \$2.4 million. There is no projected change in a primary revenue source for this planning period and there is no projection to increase the Generation Fee.

Estimated Expenses categories are demonstrated in the chart below



Within this planning period, ReWorks is looking at expanding services and is evaluating facility and office needs. This would be an administrative office and service center potentially including the Household Hazardous Waste Recycling Center.

If funds are not used on the proposed administrative offices/service center, they will remain in fund balance.

In comparison to solid waste districts with similar structure to ReWorks, in 2021 Cuyahoga CSWMD projects an operating budget of about \$2.2 mil. Geauga/Trumbull SWMD projected annual operating budget is about \$1.8 mil.

B. Revenue

Overview of How Solid Waste Management Districts Earn Revenue

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

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

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

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

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

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

Generation fees (see Ohio Revised Code Section 3734.573)

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

Rates and Charges (see Ohio Revised Code Section 343.08)

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

Contracts (see Ohio Revised Code Sections 343.02 and 343.03)

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

Other Sources of Revenue

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

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

1. *Generation Fees*

ReWorks' primary funding is derived from a Generation Fee. Currently, the Generation Fee remains at the level established in 2004, which was \$5 per ton. Prior to 2004, the fee was \$2.75/ton for the general operating budget. An increase in this fee is not anticipated during the planning period.

The \$5 Generation Fee directs \$2.80/ton to general operating budget (approx. \$1.4 million annually), \$1.20/ton to the post closure landfill fund (approx. \$575,000 annually) and \$1/ton to the Community Recycling Assistance Grant (approx. \$480,000 annually).

Revenue from Generation Fee is projected to increase over the planning period. The projection was calculated by one half of the annual growth in tonnage disposed based solely off of the linear regression of the previous 4 years of recorded disposal activity.

2. *Other Funding Mechanisms**Grants*

ReWorks received an Ohio EPA Market Development Grant in 2017. The grant was for \$250,000 to cooperating enterprise: Liberation Capital Vadx of Akron, LLC for equipment to increase the use of post-consumer plastics in a process to produce fuel. However, the cooperating enterprise chose not to proceed with the grant project. For this reason, ReWorks returned \$125,000 of the funds to the OEPA. ReWorks will continue to serve as a sponsor for qualified private industry grant applicants as well as act as the agency for the financial pass through grant funds. OEPA pass through grant applications vary from year to year and cannot be predicted.

Revenue from Selling Recyclable Materials

ReWorks did not collect this form of revenue in the reference year and is not projecting to collect this form of revenue during the planning period. However, in the request for proposal/bidding process for services, ReWorks provides an opportunity for contractors to respond with revenue sharing.

Interest

ReWorks collects interest on STAR Ohio and STAR Plus. This revenue will remain flat through the most of the planning period, then decrease.

User Fees

ReWorks charges residents a \$1/tire cash fee for the scrap tire collection program, and it is intended to maintain this user fee during the planning period. In 2017, this fee generated about \$3,600. With the proposed addition of a service center that collects materials from residents and businesses, a user/service fee may also be future means of revenue.

Miscellaneous

ReWorks received miscellaneous revenue for unique occurrences like insurance reimbursements or reimbursement for a replacement of broken equipment. In 2017, miscellaneous revenue equaled \$80. This is not a significant source of revenue and it is projected to be about \$100 annually.

3. *Summary of Revenue*

Table 6-1 Summary of Revenue

Year	Generation Fees	Other Revenue				Total Revenue
		Interest	Service Revenue/User Fee	OEPA Pass thru Grants	Misc	
Reference Year						
2017	\$2,419,680	\$26,733	\$3,602	\$125,000	\$80	\$2,575,095
Planning Period						
2021	\$2,420,618	\$20,000	\$5,384	\$0	\$100	\$2,446,102
2022	\$2,428,928	\$20,000	\$5,519	\$0	\$100	\$2,454,547
2023	\$2,437,239	\$20,000	\$5,657	\$0	\$100	\$2,462,996
2024	\$2,445,550	\$20,000	\$5,798	\$0	\$100	\$2,471,448
2025	\$2,453,861	\$20,000	\$5,943	\$0	\$100	\$2,479,904
2026	\$2,462,171	\$20,000	\$6,092	\$0	\$100	\$2,488,363

Source(s) of Information:

-ReWorks references the audit financials to project revenues and expenses

Assumptions:

- Service Fee/User fee projected to increase 2.5%
- Interest will remain level for several years then slightly decrease.
- OEPA Pass thru grant varies year to year and cannot be predicted.
- Miscellaneous revenue is minimal and varies and projected to be flat for the duration of the plan.

C. Expenses

Overview of How Solid Waste Management Districts Spend Money

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

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

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

- salaries and benefits;
- purchasing and operating equipment (such as collection vehicles and drop-off containers);
- operating facilities (such as recycling centers, solid waste transfer facilities, and composting facilities);
- offering collection programs (such as for yard waste and scrap tires);
- providing outreach and education;
- providing services (such as curbside recycling services); and
- paying for community clean-up programs.

Table 6-2 Summary of Expenses

Expense Category	Year						
	Reference	Planning Period					
	2017	2021	2022	2023	2024	2025	2026
Personnel	\$309,376	\$380,000	\$387,600	\$395,352	\$403,259	\$411,324	\$419,551
Overhead	\$69,259	\$80,000	\$80,000	\$80,000	\$80,000	\$85,000	\$85,000

Professional Services	\$83,612	\$150,000	\$150,000	\$140,000	\$130,000	\$130,000	\$133,250
Recycling Program Operations	\$73,698	\$160,000	\$161,350	\$161,850	\$165,600	\$166,250	\$166,750
HHWRC	\$204,454	\$330,000	\$330,000	\$330,000	\$330,000	\$330,000	\$340,000
Recycling Education & Awareness	\$142,200	\$180,000	\$180,000	\$190,000	\$190,000	\$200,000	\$200,000
Health Dept/Open Dump	\$150,000	\$150,000	\$160,000	\$160,000	\$160,000	\$165,000	\$165,000
Community Recycling Assistance Grant	\$615,391	\$525,000	\$525,000	\$525,000	\$500,000	\$500,000	\$500,000
Landfill Post Closure	\$584,345	\$578,954	\$580,948	\$582,943	\$410,000	\$0	\$0
Proposed Admin/Service Center	\$0	\$800,000	\$300,000	\$0	\$0	\$150,000	\$150,000
Total Expenses	\$2,232,336	\$3,333,954	\$2,854,898	\$2,565,145	\$2,368,859	\$2,137,574	\$2,159,551

D. Budget Summary

Table 6-3 Budget Summary

Year	Revenue	Expenses	Net Difference	Ending Balance
Reference Year				
2017	\$2,575,095	\$2,249,700	\$325,395	\$3,090,118
Planning Period				
2021	\$2,447,660	\$3,333,954	(\$886,294)	\$2,382,683
2022	\$2,446,102	\$2,854,898	(\$408,796)	\$1,973,886
2023	\$2,454,547	\$2,565,145	(\$110,597)	\$1,863,289
2024	\$2,462,996	\$2,368,859	\$94,137	\$1,957,426
2025	\$2,471,448	\$2,137,574	\$333,874	\$2,291,300
2026	\$2,479,904	\$2,159,551	\$320,353	\$2,611,653

Assumptions:

-Landfill closure fund will be paid off in 2024

E. Major Facility Project

Purpose of a Budget for a Major Facility Project

SWMDs can own and operate solid waste management facilities, and a number already do. Other SWMDs include feasibility studies or strategies to build new or make renovations to existing facilities in their solid waste management plans.

The types of facilities solid waste management districts own and operate include landfills, transfer facilities, material recovery facilities, recycling centers, household hazardous waste collection centers, and composting facilities.

Solid waste facilities represent major financial undertakings that can result in substantial capital investments along with ongoing operating costs. For this reason, when the policy committee decides that the SWMD will develop a new or make extensive renovations to an existing solid waste management facility, the solid waste management plan provides a specific budget for that facility.

This chapter of the solid waste management plan provides a summary of the SWMD's major facility budget. The full details of the budget are provided in Section D of Appendix O.

This is a key issue currently being reviewed by the Strategic Planning Committee

ReWorks is taking steps to relocate administrative offices and combine them with a service center, ideally on the same property, but potentially at properties in close proximity to each other. This project is contingent upon approval of the ReWorks Board and Strategic Planning Committee. In 2020, the lease expired on the ReWorks offices located in downtown Akron, and ReWorks moved into temporary offices housed at another County agency. Potential locations include property close to the Household Hazardous Waste Recycling Center in Stow, Ohio or locations meeting certain criteria. These major expenses are projected to occur during the planning period.

If funds are not used on the proposed administrative offices/service center, they will remain in fund balance.

Appendix A: Miscellaneous Information

A. Reference Year

2017

B. Planning Period 2021 – 2031

C. Goal Statement

The SWMD will achieve the following Goal(s):

ReWorks will demonstrate achieving Goal 2 for this planning period. However, we also will continue to support efforts to meet the requirements of Goal 1.

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

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

The data being used to craft the Solid Waste plan is the same data that was used to create the annual report. Some differences in data exist between the annual report provided by the Ohio EPA and the data that was reported in the annual report. These differences can be attributed to the differences in data that was reported by communities concerning the amount of material that they sent to Class IV yard waste recycling/compost facilities.

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

In 2019, ReWorks submitted to the OEPA revised quarterly fee reports (QFR) for 2017 (reference year) and 2018. Every year for the financial audit, GAAP (generally accepted accounting principles) conversions are made to the accounting system which changes what was initially reported in the QFR. It is the intent of ReWorks to have the QFRs match the audited financials which means revised QFRs for the year will be submitted every year.

E. Material Change in Circumstances/Contingencies

This plan is meant to be a dynamic and flexible mechanism to guide ReWorks in the implementation of programs and policies to advance integrated solid waste management practices within its jurisdiction. It allows for minor shifts and deviations as the Plan progresses. It is feasible that due to unforeseen factors or events, ReWorks could experience conditions of circumstances significantly different from those presented in the base reference year of this Plan. In the event that ReWorks should encounter such a scenario, it is considered a material change, and Ohio Law [ORC Section 3734.56(D) requires the Plan to be updated or modified to address the pending issues.

Appendix B: Recycling Infrastructure Inventory

A. Curbside Recycling Services, Drop-Off Recycling Locations, and Mixed Solid Waste Materials Recovery Facilities

1. Curbside Recycling Services

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

ID #	Name of Curbside Service	Service Provider	County	How Service is Provided	Collection Frequency	Materials Collected ⁽¹⁾	Type of Collection	PAYT (Y/N)	Weight of Materials Collected from SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
NCS1	Akron	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	2,885	Y
NCS2	Akron	City of Akron	Summit	City sanitation service	Weekly	Single Stream	Curbside	N	5,657	Y
NCS3	Barberton	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	1,900	Y
NCS4	Bath	Rumpke	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	1,096	Y
NCS5	Boston Heights	Kimble/J&J Refuse	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	157	Y
NCS6	Boston Township	Kimble/J&J Refuse	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	99	Y
NCS7	Clinton	Kimble/J&J Refuse	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	62	Y
NCS8	Copley	Republic Waste	Summit	Hauler/Municipality agreement	Bi-Weekly	Single Stream	Curbside	N	497	Y
NCS9	Coventry	Republic Waste	Summit	Hauler/Municipality agreement	Bi-Weekly	Single Stream	Curbside	N	562	Y

Appendix B: Recycling Infrastructure Inventory

NCS10	Cuyahoga Falls	City of Cuyahoga Falls	Summit	City sanitation service	Weekly	Single Stream	Curbside	N	4,172	Y
NCS11	Green	Kimble/J&J Refuse	Summit	Hauler/Municipality agreement	Bi-Weekly	Single Stream	Curbside	N	1,548	Y
NCS12	Hudson	Kimble/J&J Refuse	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	137	Y
NCS13	Hudson	Republic Waste	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	815	Y
NCS14	Hudson	Waste Management	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	573	Y
NCS15	Hudson	A A Sanitation	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	556	Y
NCS16	Lakemore	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	135	Y
NCS17	Macedonia	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	989	Y
NCS18	Munroe Falls	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	516	Y
NCS19	New Franklin	Republic Waste	Summit	Hauler/Municipality agreement	Bi-Weekly	Single Stream	Curbside	N	1,008	Y
NCS20	Northfield Center	Kimble/J&J Refuse	Summit	Hauler/Municipality agreement	Bi-Weekly	Single Stream	Curbside	N	384	Y
NCS21	Norton	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	852	Y
NCS22	Peninsula	Republic Waste	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	38	Y
NCS23	Reminderville	Kimble/J&J Refuse	Summit	Hauler/Municipality agreement	Weekly	Single Stream	Curbside	N	405	Y

Appendix B: Recycling Infrastructure Inventory

NCS2 4	Richfield Township	Rumpke	Summit	Hauler/Municipa lity agreement	Weekly	Single Stream	Curbside	N	256	Y
NCS2 5	Richfield Village	Rumpke	Summit	Hauler/Municipa lity agreement	Weekly	Single Stream	Curbside	N	353	Y
NCS2 6	Sagamore Hills	Kimble/J&J Refuse	Summit	Hauler/Municipa lity agreement	Bi- Weekly	Single Stream	Curbside	N	579	Y
NCS2 7	Silver Lake	Kimble/J&J Refuse	Summit	Hauler/Municipa lity agreement	Weekly	Single Stream	Curbside	N	256	Y
NCS2 8	Springfield	Republic Waste	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	150	Y
NCS2 9	Stow	Kimble/J&J Refuse	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	1,725	Y
NCS3 0	Stow	Republic Waste	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	460	Y
NCS3 1	Stow	Waste Managemen t	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	489	Y
NCS3 2	Stow	Hometown Services of Ohio LLC	Summit	Hauler/Resident agreement	Weekly	Single Stream	Curbside	N	3	Y
NCS3 3	Tallmadge	Republic Waste	Summit	Hauler/Municipa lity agreement	Weekly	Single Stream	Curbside	N	1,735	Y
NCS3 4	Twinsburg Township	Kimble/J&J Refuse	Summit	Hauler/Municipa lity agreement	Weekly	Single Stream	Curbside	N	340	Y
NCS3 5	Twinsburg City	Waste Managemen t	Summit	Hauler/Municipa lity agreement	Weekly	Single Stream	Curbside	N	1,630	Y
Total									33,017	

Hudson and Stow feature city ordinances that mandate the offering of recycling services along with solid waste at no additional charge to the customer. These documents are available online via American Legal Publishing Corporation.

Hudson: Hudson, OH Code of Ordinances: Part 8, Title 2, Chapter 848, Section 848.03: Services to be offered.

Stow: Stow, OH Code of Ordinances: Part 9, Title 5, Chapter 963, Section 963.01 – Private Refuse Hauler; Licensing Requirement.

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

ID #	Name of Curbside Service	County	How Service is Provided	Collection Frequency	Materials Collected ⁽¹⁾	Type of Collection	PAYT (Y/N)	Weight of Materials Collected from SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
SC1	Fairlawn	Summit	Republic Waste	Weekly	Single Stream	Curbside	N	34	Y
SC2	Springfield	Summit	Republic Waste	Weekly	Single Stream	Curbside	N	150	moved to Non Sub in 2020
SC3	Mogadore	Summit	Open Market- Did not report	DNR	DNR	DNR	DNR	DNR	DNR
Total								183	

None of the entries on this table feature primarily PAYT options for Solid Waste services

Each of the entries feature Single Stream Collections (Single Stream includes Paper, Cardboard, Plastic bottles and jugs, Cartons, Metal cans) Each of these services will continue throughout the planning period to our knowledge

Each of these communities is located within Summit County

2. Drop Off Location

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

ID#	Name of Drop-off Site	Service Provider	Days and Hours Available to the Public	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
FTU1	Bath Township	Rumpke	24/7	22	Y
FTU2	Copley Township*	Republic	24/7	17	N
FTU3	Cuyahoga Falls	City of Cuyahoga Falls	24/7	85	Y

Appendix B: Recycling Infrastructure Inventory

FTU4	Fairlawn	Recycle America Alliance LLC	360 Days/Year 7:00 AM - 7:00 PM Winter 7:00 AM - 8:00 PM Summer	260	Y
FTU5	Hudson, City of**	Not Reported	7 Days a week, Dawn to Dusk	100	N
FTU6	Macedonia***	Republic	Sunday-Saturday 24/7	8	N
FTU7	Norton, City of	Republic	24/7	33	Y
FTU8	Twinsburg, City of	Waste Management	24/7	46	Y
Total				571	

* Copley will reduce to part time, urban drop off in 2018-2019

** Hudson will close this drop off due to poor performance/dumping in May 2019

***Macedonia closed recycling drop off mid year 2019 due to increased fees from hauler

Each of the entries feature Single Stream Collections (Single Stream includes Paper, Cardboard, Plastic bottles and jugs, Cartons, Metal cans) and meet minimum standards

Each of these communities is located within Summit County

Cuyahoga Falls provides their own services as a City. Otherwise, service is provided by Service Provider contract.

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

ID#	Name of Drop-off Site	Service Provider	How Service is Provided	Days and Hours Available to the Public	Weight of Materials Collected from the SWMD (tons)
PTU1	Green	Kimble/J&J Refuse	Private Hauler Contract	January 1 - April 1, 2018 Tuesday & Thursday 11:00 a.m. - 5:00 p.m. Saturday 8:00 a.m. - 2:00 p.m. / April 2 - November 3, 2018 Monday - Friday 12:00 p.m. - 6:00 p.m. Saturday 8:00 a.m. - 4:00 p.m. / January 1 - April 1, 2018 Tuesday & Thursday 11:00 a.m.	26
PT2	Copley*	Republic	Private Hauler Contract		Not until 2019
Total					26

*Copley moved from FTU to PTU in 2019

Each of the entries feature Single Stream Collections (Single Stream includes Paper, Cardboard, Plastic bottles and jugs, Cartons, Metal cans) and meet minimum standards

Each of these communities is located within Summit County

Service will continue through planning period

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

ID#	Name of Drop-off Site	Service Provider	Days and Hours Available to the Public	Drop-off Meets All Minimum Standards? (Y/N)	Weight of Materials Collected from the SWMD (tons)	Service will Continue Throughout Planning Period (Y/N)
FTR1	Lakemore	Republic	24/7	Y	1	Y
FTR2	Northfield Village	Rumpke	24/7	Y	44	Y
Total					45	

Each of the entries feature Single Stream Collections (Single Stream includes Paper, Cardboard, Plastic bottles and jugs, Cartons, Metal cans) and meet minimum standards

Each of these communities is located within Summit County

Service will continue through planning period Service is provided by Service Provider contract.

Table B-3: Mixed Solid Waste Material Recovery Facility

Name of Material Recovery Facility	Location (County, City)	Communities Served	Recovered* Types of Materials	Weight of Materials Recovered** (tons)

No Mixed Solid Waste Material Recovery Facilities serving Summit County communities

B. Curbside Recycling and Trash Collection Service Providers

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

Name of Provider	Trash Collection Services			Recycling Services	
	PAYT (Y/N)	Residential	Commercial*/Industrial	Residential	Commercial/Industrial
A A Sanitaion	N	X		X	
City of Akron	N	X		X	
City of Cuyahoga Falls	N	X		X	
Hometown Services of Ohio LLC	N	X		X	
Huth Rubbish	N	X			
Kimble/J&J Refuse	Y	X	X	X	X
Republic Waste	Y	X	X	X	X
Rumpke	N	X	X	X	X
Waste Management	N	X	X	X	X

Each provider services Summit County

*Not reported in 2017;

C. Composting Facilities

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

Facility Name	Compost Facility Classification	Publicly Accessible (Y/N)	Location	Food Waste (tons)	Yard Waste (tons)	Total
#1 Landscape	IV	Y	Medina		116	116
City of Akron - Street Cleaning	IV	Y	Summit		1,675	1,675
City of Akron White Pond Compost Site	IV	N	Summit		3,642	3,642
City of Green Recycling Center	IV	Y	Summit		2,346	2,346
Earth 'N Wood Products Inc	IV	Y	Stark		13,980	13,980
Exeter Rd Class IV Composting Facility	IV	N	Summit		6,993	6,993
Kurtz Bros Inc - Bridgeview	IV	Y	Cuyahoga		5,286	5,286

Appendix B: Recycling Infrastructure Inventory

Lewis Landscape	IV	Y	Summit		50	50
Pro Tree & Landscape Co	IV	Y	Summit		1,450	1,450
Regional Groundworks	IV	Y	Summit		250	250
Roller Farms	IV	Y	Summit		1,949	1,949
Sagamore Soil Compost	IV	Y	Summit		5,730	5,730
Sagamore Soils Twinsburg	IV	Y	Summit		3,741	3,741
Savarino Brothers	IV	Y	Cuyahoga		15	15
Smith Bros Inc	IV	Y	Medina		648	648
Stow Composting Facility	IV	Y	Summit		464	464
Zollinger Sand & Gravel Co	IV	Y	Wayne		634	634
Hauler and grocer food waste data		Y		1,684		1,684
Total				1,684	48,970	50,654

The following facilities are registered Compost Facilities according to the Ohio EPA, but did not report any yard waste tonnage for 2017:

B-Sharp Property Maintenance; Fairlawn Landscape Supply; Hawk Trucking; Mulch Makers of Ohio; Nied Garden Center; Urban Organics; Woodland Mulch & Landscape Center

D. Other Food Waste and Yard Waste Management Programs

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

Facility or Activity Name	Location	Yard Waste (tons)
All Seasons Landscaping, Twinsburg	Summit	2,300
Brimfield Aggregate	Portage	5,328
Hauser Services	Geauga	6,689
John's Tree Service	Summit	376
MRLM Landscaping	Cuyahoga	668
Silver Lake Village	Summit	3,297
Twinsburg facility	Summit	650
Village of Richfield	Summit	715
City of Akron Street Cleaning	Summit	385

Mulch Makers of Ohio	Summit	4,500
Nied Garden Center	Summit	833
Pro Tree & Landscape Co	Summit	333
Sagamore Soils Compost	Summit	6,008
Savarino Bros	Cuyahoga	483
Stow Composting	Summit	2,997
Woodland Mulch & Landscape Center	Summit	1,570
Total		37,131

Each facility listed reported tonnage directly to ReWorks

Each facility handled leaf/brush collection from communities

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

Table B-7: Inventory of Material Handling Facilities Used in the Reference Year

Facility Name**	County	State	Type of Facility	Weight of Material Accepted from SWMD* (tons)
Harmon***	Summit	OH	Paper Recycler	13,441
Pinnacle Recycling	Summit	OH	Paper & Plastics Recycler	3,871
Gateway	Cuyahoga	OH	Full Service Recycling	3,778
River Valley Paper Company	Summit	OH	Paper Recycler	3,528
City Scrap and Salvage	Summit	OH	Scrap metal recycler	3,200
FPT - Cleveland	Cuyahoga	OH	Scrap metal recycler	3,145
Miles Alloys, Inc.	Cuyahoga	OH	Scrap metal recycler	1,533
PSC Metals - Cleveland	Cuyahoga	OH	Scrap metal recycler	592
Stericycle****	Lake County	IL	Paper Recycler	491
Metalico Annaco	Summit	OH	Scrap metal recycler	429
Akron MRF operated by WM	Summit	OH	MRF	27,750
Kimble Twinsburg Transfer & MRF	Summit	OH	MRF	DNR in 2017
Total				61,757

* Incomplete data; data will become more clear in the future as measurement standards increase

** Top 10 facilities according to generator survey conducted in 2017 inquiring about 2017 tonnages

*** Collected from Georgia Pacific exclusively; Harmon is a Georgia Pacific Company

**** Headquartered in Lake Forest, IL

Appendix C: Population Data

A. Reference Year Population

Table C-1a: Reference Year Population Adjustments

	Summit
Before Adjustment	541,228
Additions	
Mogadore	994
Norton	4
Tallmadge	285
After Adjustment	542,511

Population additions apply to border communities with a majority of their population within Summit County. There are no subtraction adjustments for the population.

Table C-1b: Total Reference Year Population

Unadjusted Population	Adjusted Population
541,228	542,511

C-1

B. Population Projections

Table C-2 : Population Projections

Year	Summit
2017	542,511
2018	541,897
2019	541,283
2020	540,669
2021	540,255
2022	539,841
2023	539,427
2024	539,013
2025	538,599
2026	537,981
2027	537,363

2028	536,745
2029	536,127
2030	535,509
2031	534,831
2032	534,153
2033	533,475
2034	532,797
2035	532,119

ADDED 5,236 to 2017 projections (C-3) and each consecutive year in order to reflect 2017 population prediction based on 2010 Census Bureau population prediction: OHIO DEVELOPMENT SERVICES AGENCY POPULATION PROJECTIONS: COUNTY TOTALS

Appendix D: Disposal Data

A. Reference Year Waste Disposed

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

Facility Name	County	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
Pine Grove Regional Facility	Fairfield	0	51	0	51
Lake County Solid Waste Facility	Lake	23	0	0	23
Lorain County Landfill LLC	Lorain	0	689	0	689
Carbon Limestone Landfill LLC	Mahoning	7	271	0	279
Port Clinton Landfill, Inc	Ottawa	0	0	0	0
Athens Hocking C&DD/Reclamation Center Landfill	Athens	0	13	0	13
American Landfill, Inc.	Waynesburg	29,408	19,912	766	50,086
Tunnel Hill Reclamation Landfill	Perry	0	0	0	0
Countywide Recycling & Disposal Facility	Stark	25,388	25,844	2,682	53,914
Kimble Sanitary Landfill	Tuscarawas	833	228	26	1,087
County Environmental of Wyandot	Wyandot	0	0	0	0
Noble Rd Landfill	Richland	1,034	0	0	1,034
Total		56,693	47,009	3,475	107,178

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

This information was compiled from Generation Fee Reports; All facilities are located in Ohio

Table D-2: Waste Transferred in Reference Year¹

Facility Name	County	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)
Portage County SWMD Transfer Facility	Portage	0	0	0	0
PennOhio Coal Co, dba Kimble Transfer & Recycling	Summit	55,080	750	28,410	84,240
Republic Waste Recovery (Akron Recyclery)	Summit	123,953	0	0	123,953
Kimble Transfer & Recycling Facility - Cambridge	Guernsey	0	0	0	0
BFI Glenwillow Transfer Station	Cuyahoga	20,933	161	0	21,094
Broadview Heights Recycling Center	Cuyahoga	17,023	148	210	17,380
Harvard Road Transfer Station	Summit	110	0	20	129
Akron Central Transfer Station	Summit	120,493	997	0	121,490
Kimble Transfer & Recycling Facility - Canton	Stark	23,541	155	1,151	24,847
Cleveland Transfer/Recycling Station	Cuyahoga	17,310	666	0	17,976
Total		378,442	2,877	29,790	411,109

¹ The facilities listed in Table D-2 and identified as able to accept waste from the SWMD (in Appendix M) will constitute those identified for purposes of Ohio Revised Code Section 3734.53(13)(a).

This information was compiled from Generation Fee Reports; All facilities are located in Ohio

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

An anaerobic digester producing energy does exist in Summit County, but it does not currently process material that can be counted toward solid waste diversion per OEPA definition.

Table D-4: Total Waste Disposed in Reference Year

	Residential/ Commerical (tons)	Industrial (tons)	Total (tons)	% of Total Waste Disposed

Direct Hauled	56,693	47,009	103,703	21%
Transferred	378,442	2,877	381,319	79%
Total	435,135	49,887	485,022	100%
Percent of Total	90%	10%	100%	

Excluded Waste can be excluded from the plan as it has been found to be under 10% in accordance with the Solid Waste plan instructions.

B. Historical Waste Analysis

Table D-5: Historical Disposal Data

		Residential/ Commercial Solid Waste		Industrial Solid Waste	Excluded Waste	Total Waste
			Weight	Weight	Weight	Weight
Year	Population	Rate (ppd)	(tons)	(tons) ²	(tons) ³	(tons) ⁴
2013	541,929	4.35	430,418	53,864	5,791	490,073
2014	542,267	4.12	407,755	50,435	6,547	464,737
2015	541,316	4.14	409,249	60,678	5,911	475,838
2016	540,300	4.30	423,686	66,267	7,875	497,828
2017	542,511	4.39	435,135	49,887	0	485,022

Excluded Waste can be excluded from the plan as it has been found to be under 10% in accordance with the Solid Waste plan instructions.

Information was compiled from the Ohio EPA's annual district reports.

	Annual Percentage Change		
	Residential/ Commercial	Industrial	Total
2013	N/A	N/A	N/A
2014	-5%	-6%	-5%
2015	0%	20%	2%
2016	4%	9%	5%
2017	3%	-25%	-3%

	Annual Change in Tons Disposed		
	Residential/ Commercial	Industrial	Total
2013	N/A	N/A	N/A
2014	-22,663	-3,429	-25,336
2015	1,494	10,243	11,101
2016	14,437	5,589	21,990
2017	11,450	-16,380	-12,806

C. Disposal
Projections

Table D-6: Projections for Waste to be Disposed and Transferred

Year	Residential/ Commercial Solid Waste	Industrial Solid Waste	Total Waste	Waste Transferred (as part of Total Disposal)
	Weight (tons)	Weight (tons)	Weight (tons)	Weight (tons)
2017	419,980	55,833	475,813	374,084
2018	421,249	56,226	477,475	375,391
2019	422,517	56,620	479,137	376,698
2020	423,785	57,014	480,799	378,004
2021	425,053	57,408	482,461	379,311
2022	426,322	57,802	484,124	380,618
2023	427,590	58,196	485,786	381,925
2024	428,858	58,590	487,448	383,231
2025	430,126	58,984	489,110	384,538
2026	431,395	59,378	490,772	385,845
2027	432,663	59,772	492,434	387,152
2028	433,931	60,165	494,096	388,459
2029	435,199	60,559	495,759	389,765
2030	436,468	60,953	497,421	391,072
2031	437,736	61,347	499,083	392,379

2032	439,004	61,741	500,745	393,686
2033	440,272	62,135	502,407	394,993
2034	441,541	62,529	504,069	396,299
2035	442,809	62,923	505,731	397,606

78.62% of waste assumed to be transferred determined by the average calculation. See Tables D-1 and D-2 for source of this calculation.

For more information about how these figures were attained, please see Chapter 3 Section C: Waste Generation Projections.

Appendix E: Residential/Commercial Reduction and Recycling Data

A. Reference Year Recovery Data

Table E-1: Commercial Survey Results

NAICS	Appliances/ "White Goods"	Electronics	Lead-Acid Batteries	Food	Glass	Ferrous Metals	Non-Ferrous Metals	Corrugated Cardboard
42			1			1,497	57	434
44	53	207			1	559	6	44
45							1	15
48	1		2			111	15	27
49								9
53			3			11		279
54		1	1		2	38	9	2
55								
56						1		23
61		18	2	21		118		78
62	6	35			7	49	14	594
71				155				
72					4		6	18
81		1	23			21	85	65
92								

Appendix E: Residential/Commercial Reduction and Recycling Data

Unadjusted Total	60	262	32	176	15	2,405	194	1,587
Adjustments								
Adjusted Total	60	262	32	176	15	2,405	194	1,587

Table E-1: Commercial Survey Results (continued)

NAICS	All Other Paper	Plastics	Textiles	Wood	Commingled Recyclables (Mixed)	Yard Waste	Other: Goodwill Other	Other: Used Motor Oil
42	1,887	26		103	203	1		1
44	11	2	2,874	167	10		2,874	181
45	2	1						
48	4				6			
49					4			
51	13							
52	3				6			
53	40			13	118			5
54	355	3			40			
55	77							
56					1			

Appendix E: Residential/Commercial Reduction and Recycling Data

61	479	33	1	6	170	33		5
62	999	66	0	112	12			
72	11	1			20			
81	228	1	29	27	35	1		147
92	8							
Unadjusted Total	4,117	132	2,904	429	626	35	2,874	339
Adjustments						(35)		
Adjusted Total	4,117	132	2,904	429	626	0	2,874	339

Goodwill Other consists of purses, books, and other donated items not accounted for in any other category.

Table E-1: Commercial Survey Results (continued): Survey Results Totals

Unadjusted Total	16,186
Adjustments	-35
Adjusted Total	16,151

Results of self-reported commercial and industrial recycling survey issued by ReWorks.

Table E-2: Data from Other Recycling Facilities

Program and/or Source of Materials/Data	All Other Paper	Textiles
Processors/MRF's		
Royal Oak	2,491	
Simple Recycling		242

Appendix E: Residential/Commercial Reduction and Recycling Data

Unadjusted Totals	2,491	242
Adjustments		
Adjusted Totals	2,491	242

There were no other data collected from other recycling facilities in 2017.

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

Ohio EPA Data Source	Plastic	Cardboard	Mixed Paper	Ferrous	Wood	Commingled	Other	
Walmart Recycling in Ohio	77	2,055	15				152	
Lowe's Companies, Inc.	4	313		102	99			
Home Depot Corporation	2	282		35	452			
Target Corporate	25	979	8	29		4		
Dollar General Corporation		837	12					
Big Lots Corporation		147						
Aldi Inc Hinckley Division	8	923						
Kohls Corporate Office & Headquarters	20	187						
Sam's Club	36	695	6					
Save-A-Lot	5	211						
United States Postal Service	11	33	538					
Giant Eagle	96	2,926	28				48	
Waste Management - Cleveland MRF		488						
Unadjusted Total	285	10,073	606	166	551	4	200	11,886
Adjustments								0

Adjusted Total	285	10,073	606	166	551	4	200	11,886
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No Glass, Non-Ferrous metal, Newspaper, Food Compost, and Food: Other data were reported by the Ohio EPA in 2017. "Other" defined according to the Ohio EPA

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

Other Programs or Sources of Data	Appliances / "White Goods"	HHW	Electronics	Scrap Tires	Lead-Acid Batteries	Food	Ferrous Metals	Non-Ferrous Metals
Other Food and Yard Waste Management Activities						1,684		
Ohio EPA Scrap Tire Data				15,313				
Other Muni Recycling	33	8	89		1		42	1
ReWorks Program		119				33	3	
Unadjusted Total	33	127	89	15,313	1	1,717	46	1
Adjustments								
Adjusted Total	33	127	89	15,313	1	1,717	46	1

Table E-4: Other Recycling Programs/Other Sources of Data (Continued)

Other Programs or Sources of Data	Corrugated Cardboard	All Other Paper	Plastics	Commingled Recyclables (Mixed)	Yard Waste	Unadjusted Total	Adjusted Total
Curbside Recycling Services				33,051		33,051	33,051
Drop-off Recycling Locations				642		642	642
Composting Facilities					48,970	48,970	48,970
Other Food and Yard Waste Management Activities					37,130	38,814	38,814
Ohio EPA Scrap Tire Data						15,313	15,313

Appendix E: Residential/Commercial Reduction and Recycling Data

Other Muni Recycling	81	94	21			370	370
ReWorks Program	10	78		271		514	514
Unadjusted Total	91	172	21	33,790	86,100	137,500	137,674
Adjustments						0	
Adjusted Total	91	172	21	33,964	86,100	137,674	

Other Food and Yard Waste Management Activities Yard Waste tonnage accounted for via municipality reports that were submitted to ReWorks of the 2017 calendar year.

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

Table E-6: Quantities Recovered by Program/Source

Appendix E: Residential/Commercial Reduction and Recycling Data

Material	Quantity (tons)
Appliances/ "White Goods"	93
Household Hazardous Waste	127
Used Motor Oil	339
Electronics	351
Scrap Tires	15,313
Dry Cell Batteries	0
Lead-Acid Batteries	33
Food	1,893
Glass	15
Ferrous Metals	2,616
Non-Ferrous Metals	195
Corrugated Cardboard	11,752
All Other Paper	7,386
Plastics	437
Textiles	3,146
Wood	980
Rubber	0
Commingled Recyclables (Mixed)	34,594
Yard Waste	86,100
Other (Aggregated)	3,074
Total	168,444

Program/Source of R/C Recycling Data	Quantities (Tons)
Commercial Survey	16,151
Data from Other Recycling Facilities	2,733
Ohio EPA Commercial Retail Data	11,886
Curbside Recycling Services	33,051
Drop-off Recycling Locations	642
Composting Facilities	48,970
Other Food and Yard Waste Management Activities	38,814
Ohio EPA Scrap Tire Data	15,313
Other Muni Recycling	370
ReWorks Program	514
Total	168,444

B. Historical Recovery

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

Year	Commercial Survey	Data from Other Recycling Facilities	Ohio EPA Commercial Retail Data	Curbside Recycling Services	Drop-off Recycling Locations	Composting Facilities	Other Food and Yard Waste Management Activities	Ohio EPA Scrap Tire Data	Other Muni Recycling	ReWorks Program
2013	14,988	18,564	7,828	26,005	897	64,783	24,450	10,231	148	983
2014	14,473	9,538	7,162	26,111	980	72,113	15,623	11,448	173	725
2015	21,456	2,317	7,630	27,702	465	55,029	16,165	7,694	528	1,039
2016	22,587	1,074	8,190	30,945	431	42,223	16,595	8,116	579	489
2017	16,151	2,733	11,886	33,051	642	48,970	38,814	15,313	370	514

**Discrepancies in OEPA Commercial Retail Data reported in this table versus OEPA can be attributed to adjustments made during the completion of recycling data in Annual District Report for double counting. If a generator provides a survey response directly to ReWorks, that total is deducted from the data provided on the OEPA report.

C. Residential/Commercial Recovery Projections

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

Year	Data from Other Recycling Facilities	Ohio EPA Commercial Retail Data	Curbside Recycling Services	Drop-off Recycling Locations	Composting Facilities	Other Food and Yard Waste Management Activities	Ohio EPA Scrap Tire Data	Other Muni Recycling	ReWorks Program	Totals
2018	6,786	8,439	27,191	583	56,226	24,200	10,462	333	790	152,723
2019	24,585	8,469	26,037	523	56,422	26,448	10,498	313	839	154,133
2020	24,670	8,498	24,874	463	56,617	28,711	10,535	292	889	155,549

Appendix E: Residential/Commercial Reduction and Recycling Data

2021	24,755	8,528	23,703	402	56,813	30,988	10,571	272	939	156,971
2022	24,841	8,557	22,523	341	57,009	33,281	10,607	251	989	158,399
2023	24,926	8,586	21,334	280	57,205	35,589	10,644	230	1,039	159,833
2024	25,011	8,616	20,137	218	57,400	37,912	10,680	209	1,090	161,273
2025	25,096	8,645	18,931	156	57,596	40,250	10,717	188	1,141	162,719
2026	25,182	8,674	18,995	156	57,792	40,387	10,753	188	1,145	163,272
2027	25,267	8,704	19,059	157	57,988	40,523	10,790	189	1,149	163,825
2028	25,352	8,733	19,124	157	58,183	40,660	10,826	190	1,153	164,378
2029	25,438	8,763	19,188	158	58,379	40,797	10,862	190	1,157	164,931
2030	25,523	8,792	19,252	158	58,575	40,934	10,899	191	1,160	165,484
2031	25,608	8,821	19,317	159	58,770	41,070	10,935	192	1,164	166,037
2032	25,693	8,851	19,381	159	58,966	41,207	10,972	192	1,168	166,590
2033	25,779	8,880	19,445	160	59,162	41,344	11,008	193	1,172	167,143
2034	25,864	8,909	19,510	161	59,358	41,481	11,044	193	1,176	167,696
2035	25,949	8,939	19,574	161	59,553	41,618	11,081	194	1,180	168,249

Not featured in the table above: 2018 Commercial Survey tonnage (17,713 tons)

ReWorks used Survey Monkey to gather recycling data for the commercial/industrial sectors for reference year 2017. ReTrac Connect was used to gather data for residential recycling data in reference year 2017. It is anticipated that by 2021 the Commercial/Industrial survey will no longer be utilized in favor of a focused distribution of questions to Recycling Processors and selected generators of especially large quantities of recycling utilizing processors from outside of Northeast Ohio.

This methodology for projections is repeated in Chapters 5.

Recycling Projections

Methodology:

The recycling streams identified above were examined between 2013 and 2017 in order to establish both an average percentage of the entire waste generation stream, as well as the standard deviation of this percentage per waste stream that has occurred throughout the timeframe. In order to estimate and project the futures of the waste streams, fractions of the standard deviations have been added or subtracted from the percentage of the entire stream that each individual stream will comprise proportional to the predicted strength or weakness of the stream into the future based on current knowledge.

Several recycling streams appear to be increasing over time in the projections. This is due to the methodology dictating that these numbers are calculated in relation to the percentage of the total waste stream. If any adjustments to this percentage of the total waste stream are anticipated, they are outlined below. Otherwise, the percentage is assumed to be a constant percentage defined by the average of the percentage from 2013 to 2017.

Example: Curbside Recycling Services: Down 1/2 current Std Dev per year, flat by 2025

The example expresses that the Curbside recycling stream is predicted to decrease by ½ of the standard deviation per year over the next several years until 2025. The average percentage of the waste stream composed of Curbside Recycling Services over the last 5 years (5.955%) is anticipated to decrease by ½ of a standard deviation associated with the stream over the same time period ($0.521\% * \frac{1}{2} = 0.2605\%$). This represents the idea that the percentage of the total waste stream that is associated with Curbside recycling will decrease from 5.955% in 2017 to 5.6945% in 2018 to 5.434% in 2019... to 3.871% of the entire waste stream in 2025.

As the effects felt by the Chinese National Sword policy continue to ripple through the recycling industry, potential changes to the recycling industry have been reflected in these predictions. This projection was based on the anticipation for recycling Drop off locations to close, as well as curbside recycling tonnage to decrease as the communities begin to decrease the recorded tonnage of recycling due to reduction in contamination.

Commercial/Industrial Survey: Zero by 2019

This category only denotes a specific method of gathering data. As we progress into the future, this method will be used less and less in favor of surveying a smaller number of processors. Different methods of capturing this type of data will be invested into which will cause this percentage to drop off entirely to be absorbed by the "Data from Other Recycling Facilities" category.

Data from Other Recycling Facilities: Absorb Commercial Survey by 2019

This category only denotes a specific method of gathering data. As we progress into the future, we will rely on this method as it is able to be more closely monitored and associated with auditability higher than that of the self-reported survey. Investments in developing reliable reports from this source will become more prevalent as time goes on. We expect that this category will absorb the percentages of the "Commercial Survey" in two years (by 2019). Rate assumed to remain flat after absorbing Commercial Survey as stream.

Ohio EPA Commercial Retail Data: Flat Avg

We are not able to speak to the development of this data source as it is not managed by ReWorks.

ReWorks Programs: Up 1/5 current Std Dev per year, flat by 2025 Electronics collection program

Curbside Recycling Services: Down 1/2 current Std Dev per year, flat by 2025

As the recycling industry continues to reel from the changes to the acceptability of contaminants, this figure is expected to drop initially before trending upwards as the recycling industry responds to the changes with progressive innovations. In the meantime, as contracts are developed with additional recycling fees, it is expected that tonnage collected in such programs will decline into the future before innovation is able to steady increasing recycling costs. Reduction in acceptance of glass as a common recyclable will likely cause a reduction in this number as well.

Drop-off Recycling Locations: Down 1/4 current Std Dev per year into future, flat by 2025

It is expected that single location drop offs will experience a reduction in viability due to the decreased acceptability of contaminants. We have witnessed MRFs within Summit county eliminate under-performing drop off locations from being allowed to drop off materials into the MRF. We expect that this trend will continue if drop-offs refuse to implement monitoring services..

Composting Facilities: Flat Avg

We are not able to speak to the development of this data source as it is not managed by ReWorks.

Other Food and Yard Waste Management Activities: Up by 1/4 current Std Dev per year, flat by 2025

We expect to see an increase in this category as our efforts toward food diversion mature into actionable processes that will effectively increase this category into the future until saturation estimated at 1 full standard deviation from the previous 5 year average.

Ohio EPA Scrap Tire Data: Flat Avg

We are not able to speak to the development of this data source as it is not managed by ReWorks.

Other Muni Recycling: Down 1/8 with current Std Dev per year, flat by 2025

Simple Recycling is currently undergoing reduction in service offerings for communities.

Appendix F: Industrial Waste Reduction and Recycling Data

A. Reference Year Recovery Data

Table F-1: Industrial Survey Results (Material

<u>NAICS</u>	Glass (Tons)	Ferrous Metals (Tons)	Non-Ferrous Metals (Tons)	Corrugated Cardboard (Tons)	All Other Paper (Tons)	Plastics (Tons)	Wood (Tons)	Rubber (Tons)	Commingled Recyclables (Mixed) (Tons)	
31	23	3	2	414	2	230	106	0	158	
32	1	147	27	6,724	1,037	1,126	120	0	309	
33	0	19,933	612	13,746	56	1	89	38	197	
Other: OEPA Report					1,017					
<i>Unadjusted Total</i>	24	20,084	641	20,884	2,111	1,357	315	38	663	46,118
<i>Adjustments</i>										0
<i>Adjusted Total</i>	24	20,084	641	20,884	2,111	1,357	315	38	663	46,118

No recycling figures were reported for NAICS 22: Utilities. The 'Other' listed under the OEPA report was not elaborated upon.

Table F-2: Data from Other Recycling Facilities

Other Recycling Facilities were not Queried in the sample year

Table F-3: Other Recycling Programs/Other Sources of Data

Other Recycling Facilities were not Queried in the sample year

Table F-4: Industrial Material Recovered in Reference Year

Material	Quantity (tons)
Food	24
Glass	20,084
Ferrous Metals	641
Non-Ferrous Metals	20,884
Corrugated Cardboard	2,111
All Other Paper	1,357
Plastics	0
Textiles	315
Wood	38
Rubber	663
Commingled Recyclables (Mixed)	0
Ash	0
Non-Excluded Foundry Sand	0
Flue Gas Desulfurization	0
Other (Aggregated)	0
Total	46,118

Table F-5: Quantities Recovered by Program/Source

ReWorks does not operate or track any Industrial recovery programs.

B. Historical Recovery

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

Year	Industrial survey	Data from other recycling facilities
2013	42,494	700
2014	47,458	0
2015	51,375	0
2016	42,144	0
2017	46,118	0

Industrial Recovery is not tracked beyond the Commercial/ Industrial Survey

C. Industrial Recovery Projections

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

Year	Industrial survey	Data from other recycling facilities
2021	0	46,892
2022	0	47,085
2023	0	47,279
2024	0	47,472
2025	0	47,665
2026	0	47,859
2027	0	48,052
2028	0	48,246
2029	0	48,439
2030	0	48,633
2031	0	48,826
2032	0	49,020
2033	0	49,213
2034	0	49,406
2035	0	49,600

ReWorks used Survey Monkey to survey and collect recycling data for the commercial/industrial sectors for reference year 2017. It is anticipated that by 2021 the Industrial survey will no longer be utilized in favor of a focused distribution of questions to Recycling Processors and selected generators of especially large quantities of recycling utilizing processors from outside of Northeast Ohio.

See explanations of projections in Chapters 5 for more information.

Appendix G: Waste Generation

A. Historical Year Waste Generated

Table G-1: Reference Year and Historical Waste Generated

Year	Population	Residential/ Commercial				Industrial			Total (tons)
		Disposed (tons)	Recycled (tons)	Generated (tons)	Per Capita Generated (ppd)	Disposed (tons)	Recycled (tons)	Generated (tons)	
2013	541,929	430,418	168,877	599,295	6.06	53,864	43,194	97,058	696,353
2014	542,267	407,755	158,343	566,098	5.72	50,435	47,458	97,893	663,991
2015	541,316	409,249	140,024	549,273	5.56	60,678	51,375	112,053	661,327
2016	540,300	423,686	131,229	554,915	5.63	66,267	42,144	108,412	663,327
2017	542,511	435,135	168,444	603,405	6.10	49,887	46,118	96,005	699,584

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

Table G-1a: Reference Year and Historical Waste Generated

Annual % Change (tons)		
Year	Residential/ Commercial	Industrial
2013	-	
2014	-6%	1%
2015	-3%	14%

2016	1%	-3%
2017	9%	-11%

G-1

1. Historic Residential/Commercial Waste

Municipalities report residential recycling and disposal data to ReWorks annually as a requirement to receive Community Recycling Assistance Grant funds. Based on the history of disposal tonnage as it reported to ReWorks from the municipalities through , we estimate residential makes up about 44% of the res/com disposal waste stream.

Summit County's per capita disposal rate was determined to be 6.09 PPD (pounds per day). This matches with the statewide average of 6.09 PPD, but is not as healthy as the 4.4 PPD nationwide average. Districts with similar characteristics as Summit County feature slightly higher per capita generation statistics as well: 6.78 (Cuyahoga County, 2016), 7.91 (Hamilton County, 2015), and 6.66 (Montgomery County, 2015).

2. Historic Industrial Waste

Industrial waste trends are projected to increase slightly over the planning period. Recycling tonnage is subject to survey response, but is projected to remain the same with a slight increase as well. No major change is projected in either of these streams.

B. Generation Projections

Methodology

Projection is based off of halving the linear regression based increase of Residential/Commercial and Industrial waste/recycling trends from 2013 to 2017.

Assumptions: These waste streams will continue to increase similarly to how they have in the past. There are currently no developments in place that would drastically alter the trajectory of these streams that can be accounted for currently which allows for this assumption to be reasonable

Appendix G: Waste Generation

Table G-2: Generation Projections

Year	Population	Residential/ Commercial				Industrial			Total (tons)	Annual Percentage Change		
		Disposal (tons)	Recycle (tons)	Generation (tons)	Per Capita Generation (ppd)	Disposal (tons)	Recycle (tons)	Generation (tons)		Residential/ Commercial	Industrial	Total
2021	540,255	425,053	156,971	582,024	5.90	57,408	46,892	104,300	686,324	0.4644%	0.5663%	0.5%
2022	539,841	426,322	158,399	584,720	5.93	57,802	47,085	104,887	689,607	0.4633%	0.5631%	0.5%
2023	539,427	427,590	159,833	587,423	5.97	58,196	47,279	105,474	692,897	0.4622%	0.5600%	0.5%
2024	539,013	428,858	161,273	590,131	6.00	58,590	47,472	106,062	696,193	0.4611%	0.5569%	0.5%
2025	538,599	430,126	162,719	592,846	6.03	58,984	47,665	106,649	699,495	0.4600%	0.5538%	0.5%
2026	537,981	431,395	163,272	594,667	6.06	59,378	47,859	107,236	701,903	0.3072%	0.5507%	0.3%
2027	537,363	432,663	163,825	596,488	6.08	59,772	48,052	107,824	704,312	0.3063%	0.5477%	0.3%
2028	536,745	433,931	164,378	598,309	6.11	60,165	48,246	108,411	706,720	0.3053%	0.5447%	0.3%
2029	536,127	435,199	164,931	600,130	6.13	60,559	48,439	108,999	709,129	0.3044%	0.5418%	0.3%
2030	535,509	436,468	165,484	601,952	6.16	60,953	48,633	109,586	711,538	0.3035%	0.5389%	0.3%
2031	534,831	437,736	166,037	603,773	6.19	61,347	48,826	110,173	713,946	0.3026%	0.5360%	0.3%
2032	534,153	439,004	166,590	605,594	6.21	61,741	49,020	110,761	716,355	0.3016%	0.5331%	0.3%
2033	533,475	440,272	167,143	607,415	6.24	62,135	49,213	111,348	718,763	0.3007%	0.5303%	0.3%

2034	532,797	441,541	167,696	609,237	6.27	62,529	49,406	111,935	721,172	0.2998%	0.5275%	0.3%
2035	532,119	442,809	168,249	611,058	6.29	62,923	49,600	112,523	723,580	0.2989%	0.5247%	0.3%

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

The methodology explanations of projections repeated in Chapters 5. G-3

Appendix H: Strategic Evaluation

1. Residential Recycling Infrastructure Analysis

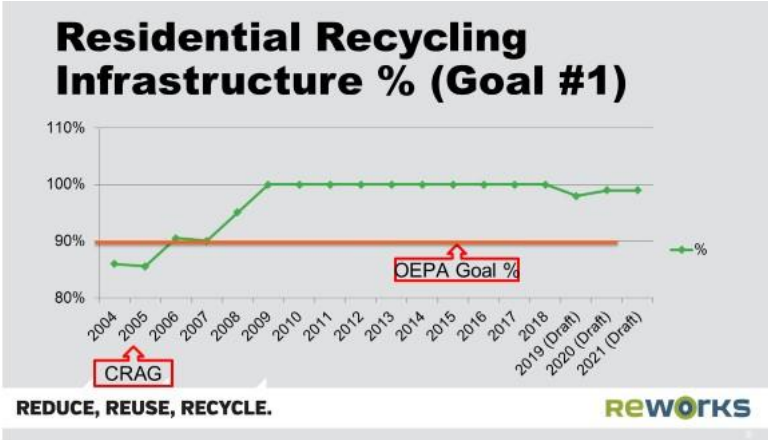
A. Evaluation

Geographical: Summit County has a well-established residential recycling infrastructure. ReWorks has directed grant funds and efforts toward establishing this residential infrastructure since 2005. Of the 31 political subdivisions in Summit County in the reference year 2017, all communities had either curbside or drop off recycling opportunities. The two largest cities offer municipally operated curbside trash and recycling services. Most the communities have exclusive contracts with the private industry to provide trash and curbside recycling. A few communities offer recycling drop off centers as a supplement to their curbside recycling programs. Only one community offers a recycling drop off only.

Functionality: Multi-family housing units are not serviced by the municipal exclusive contracts for curbside trash and recycling. There are a few recycling drop offs available in some communities for residents living in multi-family units to utilize. Few recycling drop offs exist due to issues with contamination or because the community entered into an agreement for exclusive curbside recycling service. ReWorks meets with property managers of multi-family housing units and provide technical assistance on how to contract recycling services with the private industry. ReWorks encourage communities to offer recycling drop offs that are monitored. All recycling curbside and drop off collect a comprehensive mix of materials through single stream recycling.

Comparison of reference year to current approved plan: Residential recycling infrastructure in the current plan shows a recycling access rate of over 90% for the reference year. Again, proving the long history of established curbside and drop off recycling infrastructure. ReWorks helped facilitate the transition of many municipalities to exclusive trash and curbside recycling service agreements between 2005 and 2014. We did this though providing grant funds as well as technical assistance on contract guidance.

B. Conclusions/Findings- Residential Recycling Infrastructure



2. Commercial/Institutional Sector Analysis

A. Entities with SIC codes or NAICS codes that categorize them as commercial or industrial and located within Summit County receive the same services from ReWorks. ReWorks does not request SIC/NAICS codes from entities contacting our agency for services. Therefore, program descriptions for this section are the exact same as those listed under industrial and schools.

B. Conclusions/Findings-Commercial/Institutional (and Industrial)

Services for this sector will remain the same for the planning period for the following programs

- Waste and Materials Management Consultation
- Collection Services
- Contracting Assistance

3. Industrial Sector Analysis

The narratives provided in the “Commercial/Institutional” sector apply to the industrial sector as well

4. Residential/Commercial Waste Composition Analysis

With the availability of other residential/commercial waste composition analysis data/reports, ReWorks is not planning on conducting a separate analysis at this time.

5. Economic Incentive Analysis

A. Community Recycling Assistance Grant

CRAG was one of the three key items being reviewed by the Strategic Planning Committee. The committee is reviewing the results of the community feedback as well as the financial planning for the grant. See additional comments under “Financial Analysis.”

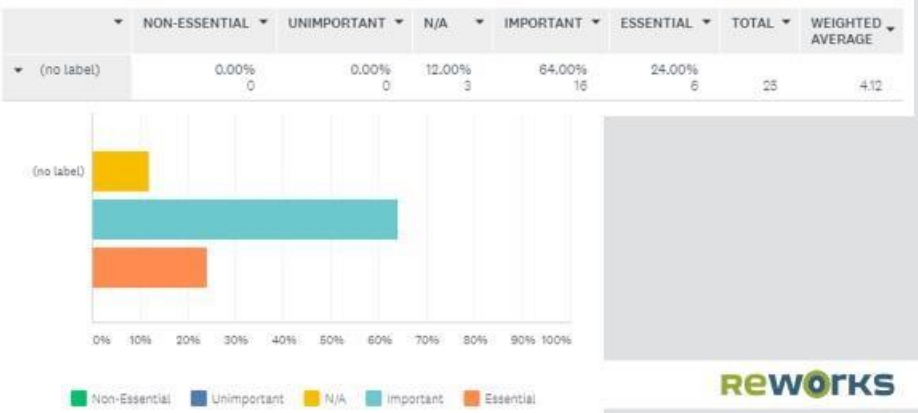
The Community Recycling Assistance Grant (CRAG) has been in place since 2005. One dollar of the five dollar per ton Generation Fee is designated for this grant. Based on estimate of 480,000 tons annual, the CRAG funds of the Generation fee is about \$480,000 annually. The grant was created to give financial incentive to the 31 municipalities of Summit County to increase recycling infrastructure (i.e. curbside and drop off recycling) as well as increase landfill diversion.

In preparation of the CRAG review, ReWorks facilitated six (6) group discussions with representatives from all 31 municipalities of Summit County. The 31 communities were sorted

into groups based on similarities in recycling infrastructure (curbside or drop off) and population.

Prior to the group meetings, a CRAG Feedback Questionnaire was sent to the 31 municipalities representatives. Below are the questions provided in the questionnaire and the results

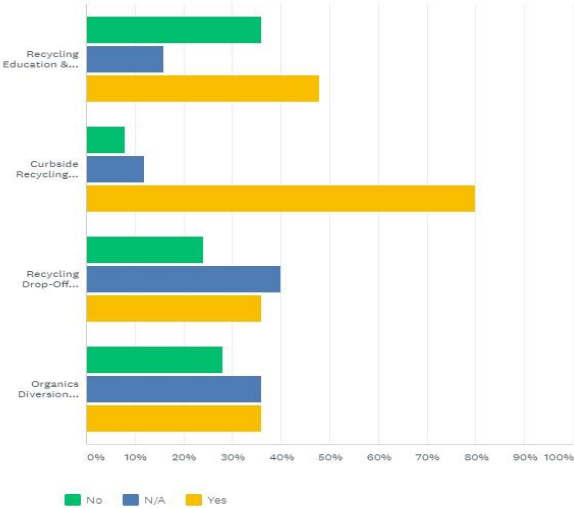
1. How would you describe CRAG Funds in relation to your landfill diversion efforts? (e.g. curbside recycling, recycling drop off center, organics diversion)



2. Would your community provide the following services without CRAG Funding?

Answered: 25 Skipped: 0

Service	NO (%)	N/A (%)	YES (%)	TOTAL	WEIGHTED AVERAGE
Recycling Education & Promotion	36.00%	16.00%	48.00%	25	2.76
Curbside Recycling Programs/Services	8.00%	12.00%	80.00%	25	3.64
Recycling Drop-Off Programs/Services	24.00%	40.00%	36.00%	25	2.88
Organics Diversion Programs/Services	28.00%	36.00%	36.00%	25	2.80



3. Please indicate your level of interest in the following consortium bidding efforts:
- a. 9 communities* interested, 5 currently uninterested, 11 need more information concerning Organics consortium programs
 - b. 9 communities* interested, 7 currently uninterested, 9 need more information concerning curbside trash/recycling bidding

NOTE: * 25 of 31 Summit County Communities responded to the CRAG Feedback Questionnaire Survey from whence these responses were sourced.

Below is a summary of the results of the questionnaire along with the discussion question presented at all six (6) group meetings.

- **Education and Promotion:**
 - a. *9 communities* would no longer provide Recycling Education & Promotion without CRAG Funds*
 - b. *How do we improve our education and promotion efforts?*
- **Organics (Yard Waste/Food Waste):**
 - c. *9 communities* currently don't provide organics collection; 7 would not provide organics collections without CRAG Funds, and 9 would still provide organics collections without CRAG Funds*
 - d. *How do we improve organics collection efforts?*
- **Curbside Collections:**
 - e. *20 communities* would still provide curbside recycling even without CRAG funds*
 - f. *How do we improve our curbside collection efforts?*
- **Drop Offs:**
 - g. *6 communities* would no longer provide a recycling drop off without CRAG Funds*
 - h. *How do we improve our drop off performance?*
- **Consortium:**
 - i. *9 communities* interested, 5 currently uninterested, 11 need more information concerning Organics consortium programs*
 - j. *9 communities* interested, 7 currently uninterested, 9 need more information concerning curbside trash/recycling bidding*
 - k. *How can we facilitate consortium bidding efforts between communities?*
- **Database:**
 - l. *ReWorks is creating a recycling database. What information would your community want access to?*
- **Open/Miscellaneous Suggestions:**
 - m. *Funds Uses*
 - i. *22 "Important" or "Essential" responses to "How important is CRAG to your diversion efforts?"*
 - ii. *9 suggestions to increase funds flexibility (project type, etc)*
 - iii. *5 grant administration concerns (paperwork, data entry, time involvement)*

The focus of the group meetings was to get feedback from the 31 municipalities on the following:

- How can CRAG funds help increase the quantity and quality of recyclables collected through your community curbside or drop off recycling programs?
- ReWorks is creating a recycling database. What information would you community want access to?
- What process would your municipality need to follow to participate in a consortium bid for curbside recycling/trash/yard waste collection service?

B. Conclusions/Findings-CRAG

Taking the results and ideas generated from the group meetings, ReWorks created a list and sent it back out to the 31 municipalities and requested they prioritize the list on how they would want CRAG funds spent. Below are the results.

1. Prioritize these efforts in order from most to least important to your community.

☰	1	• HHWRC: More open days/hours for the Household Hazardous Waste Recycling Center
☰	2	• Education & Promotion: Uniform editable media for community custom flyers and advertisements
☰	3	• Organics: ReWorks operated Class IV compost facility cor community leaf drop off
☰		• Organics: ReWorks stores and maintains organics collection equipment (vac truck; chipper; etc.)
☰		• Open: Specific waste event advertisements
☰	4	• Consortium: CRAG funds dedicated to providing consortium facilitation and legal counsel
☰		• Organics: Food scrap diversion Inclusion into eligible expenses
☰		• Curbside: ReWorks operated/managed cart tagging audits
☰	5	• Drop Offs: ReWorks provided Drop-Off misuse enforcement officer

Need feedback? 

6. Restricted and Difficult to Manage Waste Streams Analysis

A. HHW

The Household Hazardous Waste Recycling Center (HHWRC) was Ohio’s first permanent HHW collection facility back in 1996. It is still in operation and is open to Summit County residents seasonally. The HHWRC has always operated on a weekday. The cost per pound to operate this HHW collection is higher than the majority of the other programs and services offered by ReWorks.

B. Conclusions/Findings- HHW

While this program has a high cost per pound in comparison to other ReWorks programs, it offers a solution for materials that are difficult for residents to manage. Without the HHWRC, residents have limited or no options to safely keep household hazardous waste out of the landfill. Additionally, in the CRAG survey to the municipalities, they indicated an interest in increased HHW services. The format of this program has allowed for 25 years of providing this service for Summit County residents at an economically sustainable level.

7. **Diversion Analysis**

ReWorks meets Goal #2 in the reference year and is projected to meet the goal for the duration of the solid waste plan. While diversion through residential recycling remains a focus and priority, ReWorks also look to target other materials to increase the overall waste diversion percentage.

A. Food Waste

The management of food waste has been on ReWorks agenda since 2009 when we hosted a regional food waste summit that included stakeholders like Ohio EPA, US EPA, food waste generators, food waste processors, haulers, composters, solid waste districts and many more.

From 2010-2015 ReWorks funded the Commercial Food Scrap Collection and Composting program. ReWorks contracted with a contractor that provided collection and composting services for food scraps. This program not only collected and composted over 4,000 tons of food, but also brought about awareness of food waste to the business/non residential sector.

In June 2015, ReWorks was notified by the collection and composting contractor that the agreement for servicing of the Commercial Food Scrap Composting program would terminate July 31, 2015 leaving ReWorks with extremely limited options for food waste diversion in Summit County. At the August 2015 Board of Trustees meeting, an Organics Committee was formed to review available option and set a plan for ReWorks role in the future of diversion/reduction of not only food waste but also other organics. The committee is made up of board members as well as two additional community members committee met twice in 2015 and three times in 2016.

Guest speakers and tours were part of the meetings. Some of the issues/topics covered in the meeting include:

- 1) Infrastructure in Summit County (OEPA recognized compost facilities (Class I, II, III, and IV), Anaerobic Digesters, Community gardens)
- 2) Ohio EPA food waste strategies hierarchy
- 3) Definition of four(4) classifications of Ohio EPA compost facilities

- 4) ReWorks financially supported yard waste collection community programs
- 5) Regional organics waste ordinances
- 6) Challenges of operating Class II compost facilities 7) Local gardens role in organics diversion.

B. Conclusions/Findings- Food Waste

In September 2016, the Board of Trustees approved the following recommendations and goals of the Committee.

2016 Goal – Increase the diversion of food waste from 3% to 25 % and yard waste from 72% to 85% by 2026.

Short Term – 1-2 Years	Med. Term – 3-5 Years	Long Term – 5+ Years
Create a network of community gardeners, businesses and organizations to support composting	Restructure CRAG funds away from access and focus them on supporting organics diversion	Build a regional facility in Summit County to accept residential and commercial food waste
Establish a composting program to support the network of businesses, organizations and community gardeners	Establish a regional facility to divert food waste <ul style="list-style-type: none"> ✦ Provide collaborative leadership ✦ Provide financial assistance 	<i>Note: This goal will only be applicable if the regional organics diversion facility is not created.</i>
Advocate with public officials and generators to reduce barriers to organics diversion	Advocate with public officials and generators to reduce barriers to organics diversion	Advocate with public officials and generators to reduce barriers to organics diversion
Educate the public on the importance of organics diversion	Educate the public on the importance of organics diversion	Educate the public on the importance of organics diversion

In the reference year 2017, the committee met 3 times and the committee continues to meet and monitor progress.

8. Special Program Needs Analysis

A. Open Dump Enforcement

Open Dump enforcement is currently handled through the service agreement with Summit County Public Health. ReWorks has no local law enforcement program in place to address open dumping.

B. Conclusions/Findings

ReWorks will work with local law enforcement and Summit County Public Health to formulate a plan on how to include an Open Dump Enforcement Officer during the planning period.

9. Financial Analysis

ReWorks collects \$5.00 per ton in generation fees for solid waste generated in Summit County. Of this amount, \$1.20 per ton is to be used to assist the City of Akron with the closure of the Hardy Road landfill. Additionally, \$1.00 per ton of this amount is to be used to provide the Community Recycling Assistance Grant (CRAG) to assist Summit County cities, townships and villages maintain residential recycling and waste diversion infrastructure. The remaining \$2.80/ton goes to the general operating budget for expenses, programs and services for solid waste plan implementation.

A. General Operating Budget

Currently, the Generation Fee remains at the level established in 2004, which was \$5 per ton. Prior to 2004, the fee was \$2.75/ton for the general operating budget. The generation fee approval in 2004 increased the general operating budget by \$0.05/ton to \$2.80/ton. ReWorks has adjusted programs and service to maintain expenses since 2004. In order to increase services, additional funds directed to the general operating budget are needed.

B. Community Recycling Assistance Grant (CRAG)

Analysis for CRAG:

Three payout options are being reviewed by the Strategic Planning Committee

1. No Change- Population with Recycling Service
 - A. Grant payout based on population= \$1/person recycling credit
 - B. Pros
 - i. Communities get more money
 - ii. More money may incentivize community to keep curbside contracts
 - C. Cons
 - i. Population less accurate
 - ii. Not sustainable-deficit spending
 1. Max pop. payout is more than revenue
 2. Payment based on a % of total
 - iii. No balance of funds to direct to other programs/education
2. HHs W/ Recycling Service
 - A. Grant Payout based on # of Households (HH) =\$1/HH with recycling service
 - B. Pros

- i. HH count more accurate
 - 1. Based on billing of actual HH paying for service
 - 2. More accurate reflection of actual recycling infrastructure ii.
- Sustainable-Balance
 - 1. Max HH payout is less than revenue iii. Balance of funds to direct to other programs/education
- C. Cons
 - i. Communities get less money
 - ii. Getting reports on household counts
- 3. Hybrid-
 - A. Grant payout based on HH converted to population
 - i. \$1/HH with recycling service MULTIPLIED by 2.6 people/HH
 - B. Pros
 - i. Communities get slightly more money than only HH credit
 - ii. Household count better accuracy
 - 1. Based on billing of actual HH paying for service
 - C. Cons
 - i. *Potentially* not sustainable-deficit spending
 - 1. Max pop. payout is more than revenue
 - 2. May have to have payment based on a % of total ii. No

	Option #1- Pop	Option #2- HH	Option #3- Hybrid
Maximum Payout	540,255	207,790	540,255
Balance	(60,255)	272,210	(60,255)
Estimated Payout	450,000	144,397	375,432
Balance	30,000	335,603	103,000

balance of funds to direct to other

programs/education

C. Landfill Closure Fund

ReWorks entered into an agreement with the City of Akron to pay approximately \$11.4 for the post closure care of the Hardy Road Landfill. It is project that the final payment for this obligation will be met in 2024.

D. Conclusions/Findings- General Operation Budget/CRAG/Landfill Closure Fund

- a. General Operating Budget
 - i. ReWorks is not pursuing a Generation Fee increase. Reallocating funds from CRAG and the Landfill Closure fund upon its completion, will allow ReWorks to expand services. This includes the opportunity and potential to have a more publicly available administrative office and an addition of a service center.
- b. CRAG
 - i. CRAG payout will transition to a household count converted to population (2.6pp/hh). This proposal will allow for balance funds to be directed toward those items prioritized by the surveyed municipality representatives.
- c. Landfill Closure Fund
 - i. Upon final payout of the landfill closure account, the following options are being reviewed by the Strategic Planning Committee. These options are not exclusive as other opportunities may be available.
 1. Transition some funds to operating budget to cover increasing costs of programs and services
 2. Direct funds toward a larger, permanent facility for the diversion of food waste
 3. Transition a portion of the funds to expenses for proposed administrative office and service center

10. Data Collection Analysis**A. Recycling Data Collection Surveys**

For data years 2007- 2016, ReWorks used a third party vend ReTRAC Classic to gather recycling data from the non-residential sectors (commercial, institutional, industrial). For the reference year 2017 data, ReTRAC Classic was no longer available, and ReWorks had to choose between ReTRAC Connect or another service. The ReTRAC Connect format required businesses responding to the survey to create an account in order to submit recycling data to ReWorks. Additionally, the businesses would have to enter the data twice, once in their account and again for the ReWorks survey. For this reasons and others, ReWorks did not continue services with ReTrac Connect for the commercial/institutional/industrial recycling data survey. Survey Monkey was used for this survey instead.

Additionally, for data years 2007-2017 ReTRAC Classic and ReTRAC Connect were used to gather residential recycling/yard waste data, program information, and contract information from the 31 municipalities of Summit County. After similar review from the non-residential survey, ReWorks used Survey Monkey and requested documents from the municipalities instead of ReTRAC for 2018 data.

Currently, our business operations are performed via a series of Excel spreadsheets varying in quality of data, housed in multiple files, on separate drives in some cases, without data validation or verification processes or procedures in place.

B. Conclusions/Findings-Recycling Data Collection Surveys

ReWorks is contracting the construction and initial implementation of a Database meant to manage certain essential business operations, especially tracking and monitoring tonnage data associated with the material streams occurring within our county for which we are responsible. ReWorks has chosen the Summit County Office of Information Technology to construct the database.

Utilization of the database will be a single location allowing for fewer data touches, minimizing the opportunity to make mistakes, and maximizing efficiency in generating compliance reports. Use of this database will also allow for ReWorks to reduce reliance on third parties to provide certain software solutions (e.g. Re-TRAC, Survey Monkey). The database will allow us to generate high quality analysis from information that is recorded.

11. Education/Outreach Analysis

Outreach priorities focus on consumer/residential, and business sectors. This target audience has direct impact on materials management practices. While school-aged presentations are available, priorities are directed more toward adults and businesses. Campaigns and promotions cover basic topics like ReWorks funded programs and services, composting, curbside recycling, and reduction of contamination in curbside collection. However, additional priorities are focused on campaigns and promotions focused on behavior change in the form of topics like waste reduction, and food waste reduction strategies.

Appendix I: Actions, Priorities, and Program Descriptions

A. Actions and Priorities

2. Priorities

- A. Continue to provide the existing recycling and waste diversion programs and services
- B. Increase efforts to address food waste management
- C. Increase community outreach/education on curbside recycling and waste reduction
- D. Utilize Community Recycling Assistance Grant to better serve municipalities on recycling and waste diversion.
- E. Relocation of administrative offices and addition of service center

B. Programs

Reference Year (2017) Residential Recycling Infrastructure

Curbside Recycling Services AND Drop-Off Recycling Locations

ID	Name	Start Date	End Date	Goal(s)
	Provided in Tables B-1 and B-2	Existing	Ongoing	1, 2

Reference year and Planning Period Programs

	CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
1	Waste Assessment & Audits/ Contracting Guidance	Waste and Materials Management Consultation/Contract Guidance	<p>2017: This service is partnered with the Commercial Single Stream Program. Any business (commercial or industrial) interested in recycling gets a site visit from the Program Manager. Of the 30 commercial/industrial inquires in 2017: 16 had waste assessments 15 Started Own Program 10 were added to Commercial Single Stream Program. 5 did not pursue for various reasons. 83% Success rate to adding recycling programs through ReWorks technical support/waste assessment.</p> <p>Planning Period: This will be an ongoing service. While it is currently partnered with the Commercial Single Stream Program, if that program ceases to exist, ReWorks will continue to offer technical assistance on recycling, materials management and waste diversion practices to any business (commercial or industrial) in Summit County.</p>	Existing	Ongoing	4
2	Collection Services	Commercial Single Stream Recycling Program	<p>2017: Kimble was the single stream recycling contractor from 2014 thru April 2017. Through a bid process, service fees increase so the program saw an increase in cost by 58% . Kimble was selected as the contractor again. At the end of 2017, 126 participants were included in this program. ReWorks collected approximately 271 tons of material, with an annual contract cost of \$53,778.89. In 2017, 42 dumpster participants were removed from program as part of ReWorks transition to only include smaller volume recyclers on our CSS program. Of the 42, 32 went with their own hauler & 1 school transitioned to totes until end of school year in 2018. Very smooth transition with little opposition. This program services the non-residential sectors (commercial, institutional, industrial and multi-family units) that meet the program requirements.</p> <p>Planning Period: This program will be offered through the planning period as long as it is financially sustainable. Since it started in 2010, it has seen an increase in service fees through several bidding cycles. Additionally, there is lack of competition for the servicing of this program. However, it remains to be priority to offer this program to provide recycling to the underserved smaller generators of recyclables that would otherwise have no option for this service.</p>	Existing	Ongoing	2

3	Workgroups/Roundtables	Workgroup Roundtable Meetings	<p>2017: Thirty-one Summit County municipalities are invited to attend the Community Recycling Assistance Grant meeting where ReWorks notifies the communities of the amount of funding that is available for their grants and to discuss any changes to the 2017 grant process. Topics Reviewed & Discussed; Recycling Education & Community Communication; ReWorks Recycling Programs Update; 2017 CRAG Handbook Review & Community Examples and ReTRAC data entry and demonstration. The meeting allows communities to share their successful yardwaste and drop off programs. This forum provides an “open discussion” with the service directors of the participating communities. We present and provide technical assistance to business (i.e. commercial/industrial entities) associations on how to recycle and reduce waste.</p>	Existing	Ongoing	4
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Commercial/Institutional Sector Reduction and Recycling Programs

Industrial Sector Reduction and Recycling Programs

	CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
1	Collection Services	Commercial Single Stream Recycling Program	2017 & Planning Period: Although the program title does not include the word "industrial" entities with SIC codes categorized by OEPA as "industrial" that meet the requirements can be serviced by this program. ReWorks does not differentiate commercial from industrial. See description above	Existing	Ongoing	2
2	Waste Assessment & Audits/ Contracting Guidance	Waste and Materials Management Consultation/Contract Guidance	2017 & Planning Period: Entities with SIC codes or NAICS codes categorized by OEPA as "industrial" can be serviced by this program. ReWorks does not differentiate commercial from industrial.	Existing	Ongoing	4

Restricted & Difficult to Manage Wastes, Special Collection Events

	MATERIAL TYPE	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS

1	Electronics	E-Waste Recycling Program	<p>2017: , ReWorks funded e-waste collection from residents from 2001 to 2009 at the HHWRC. Transitioned to promoting existing e-waste collection infrastructure from 2010 on.</p> <p>Planning Period: In 2019, ReWorks contracted with an electronics recycler to collect e-waste from participating communities. This format allows communities to collect televisions, laptops, cell phones and tablets from the residents from their specific community. ReWorks funds the supplies, transportation and recycling/processing of the material collected. The communities provide the labor to staff the collection as well as the facility and storage of the material collected until it is picked up by the ReWorks contractor.</p>	Existing	Continue with Change in 2019	2,5
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	MATERIAL TYPE	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
2	HHW	HHW Recycling Center	<p>2017: The HHWRC season ran June through the end of September with Thursdays from 2pm to 7pm being the only day open to the public. About 4710 households were serviced through the HHWRC. This program collected 120.91 tons of HHW and (new in 2017) 5.21 tons of oily bottles managed through the hazardous waste contract, of which 119 tons were recycled. The program witnessed an overall recycling rate of 93%. EnviroServe was awarded the contract for 2016-2017 and was paid \$172,385 for HHW services and \$12,200 for oily bottles recycled into engineered fuel. The entire program cost around \$205,000. This program is only for the residential sector.</p> <p>Planning Period: This program will continue through the planning period. While this program is expensive, it offers a solution for materials that are difficult for residents to manage. Without the HHWRC, residents have limited or no options to safely keep this material out of the landfill. The format of this program has allowed for 25 years of providing this service for Summit County residents at an economically sustainable level.</p>	Existing	Ongoing	2,5

Appendix I: Actions, Priorities, and Program Descriptions

3	Batteries	Lead-acid batteries collected with HHW	<p>2017 and Planning Period: Lead acid batteries are collected at the HHWRC. The battery weight is included in the 2017 HHWRC total. This service will continue as long as the HHWRC is operational. This program services residents. Non-residential entities are provided information on facilities that accept lead acid batteries.</p>	Existing	Ongoing	2,5
4	Other	Document Shredding & Recycling Events	<p>2017: Funded 6 shredding events, May-October, in Summit County. We collected a total of 155,489 pounds of paper and 4,346 pounds of cardboard (total =79.91 tons) from 2,600 households and businesses. Due to an acquisition of Neoshred by Stericycle in June 2017, the service contract transitioned to Stericycle (dba Shred it). ReWorks actual cost of the events was 6,762.23. Contract was renewed for a 1 year term for 2018. This program services residential and non-residential sectors.</p> <p>Planning Period: This program will be for will continue through the planning period.</p>	Existing	Ongoing	2
5	Organics	Food Scrap Composting Program &	<p>2017: Rosby Organics Recycling notified ReWorks in June of 2015 that they were terminating the agreement for services effective July 31, 2015. This was due mostly to the inability of Class II facilities to offer a consistent means to accept material collected through this program. ReWorks formed an "Organics</p>	Existing	Ongoing	2,5
	MATERIAL TYPE	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
		Food Waste Mgmt	<p>Committee" to review this issue. Keeping in line with the approved goals of the committee, in 2017 ReWorks funded about \$2,200 in equipment and materials to build 22 compost bins for local community gardens to compost food scraps. All garden compost activities are smaller than the 500sq ft compost exemption. This was done in partnership with Let's Grow Akron. This partnership resulted in more than 32 tons of coffee grounds/food waste being composted at community gardens. Additionally, ReWorks funded the collection of food scraps from The</p>			

State of the County speech that resulted in diverting 660lbs of food scraps that was collected, transported and composted by an OEPA Class II facility.

Planning Period: The management of food waste is a priority of ReWorks and the planning period will see continued efforts to collect, compost, and divert food waste from the landfill. Additionally, outreach priorities will focus on food waste reduction.

2017: Tires are collected the same time as HHW, but are not accounted for in the HHW weights or cost of the HHW program. Residents are charged \$1/tire for passenger and light truck tires. During the HHWRC 2017 season, 2,622 scrap tires were collected and recycled. During a one-day collection event held in April, 619 more tires were collected and recycled from 108 residents. ReWorks also took 998 tires from Summit County Service Departments that picked up tires

6

Existing Ongoing 2,5

dumped along roadsides or generated at service garages. Lastly, ReWorks took 430 tires from the Summit County Public Health tire clean up project. Total tires collected by ReWorks program in 2017 = 4,699 (46.99 tons).

Scrap Tires Scrap Tire Collection Program

Planning Period: This program will continue in its current format through the planning period.

In the reference year 2017, "Other Collection Drives" included expenses and tonnage for the Target materials for Document Shredding and Recycling Events.

7

Planning Period: During the planning period, ReWorks will evaluate

Continue opportunities to increase programs to collect materials that can include, but are Existing with 2

not limited to items like textiles, glass, and mattresses, if environmentally and sound options are available. Target

Change economically

Other Grants, Economic Incentives, Market Development Materials

CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS

1	Community Grants	Community Recycling Assistance Grant (CRAG)	27 of 31 of municipalities applied for and received funds. \$486,173.09 in grant funds Some of the projects funded include: Non subscription curbsid recycling, Subscription curbside recycling, Increased Community Resident leaf & yard waste drop off & pick-up programs, Maintenance, personnel & service of Drop off recycling centers, Improvements for drop-off recycling centers	Existing	Ongoing	1,2, 6
2	Pass-through Grants	Ohio EPA Pass Through Grants (Market Development, Community Development, Scrap Tire)	<p>2017: ReWorks was awarded an OEPA MDG for \$250,000 to Liberation Capital Vadxx of Akron to purchase equipment to process post consumer plastics as a feedstock to plant that produced crude oil from plastics. In ea 2018, we were notified that this company was not going to pursue the gran project and ReWorks returned the money back to OEPA.</p> <p>Planning Period: ReWorks will continue to support and act as a sponsor for OEPA Market, Community and Scrap Tire Grants. Applicants vary from year to year.</p>	Existing	Ongoing	8
3	Business Grants	Waste Reduction and Recycling Grant	<p>2017: A \$20,000 grant was awarded to the Akron Zoo to assist in the construction of the building to hold their new Big Hanna, an in-vessel composting unit. This grant is in line with the goals of the Organics Committee to financially support projects that manage food scraps and oth organic material. The Big Hanna, will allow the Zoo to divert their food scra and organic material from the landfill without having to depend on another source to take their material. This is a sustainable option for the Zoo for fo waste management.</p> <p>FOR THIS GRANT</p>	Existing	Ongoing	2,6

Planning Period: SEE INCLUDED GRANT GUIDELINES AND CRITERIA in Appendix T

Facility Operation

	CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
1	Closed Facility Maintenance (Closure/PostClosure Care)	Hardy Road Landfill Post Closure	<p>2017: \$584,345 was paid to the City of Akron to assist with the postclosure care of the facility.</p> <p>Planning Period: It is projected that the final payment for landfill closure will be in 2024</p>	2005	2024	
2	Administration and Service Facility	ReWorks Offices and Service Facility	<p>Planning Period (2020): The Strategic Planning Committee is reviewing options to relocate ReWorks administrative office, and add a service center, potentially on the same campus/property as include the Household Hazardous Waste Recycling Center (HHWRC). Other options included moving into an existing facility or new construction. In 2020, ReWorks is working out of temporary offices in preparation for the relocation.</p>	2020	Ongoing	4,2,5

Enforcement & Clean-up

	CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
1	Health Dept. Funding	Health Department Funding - General Solid Waste Enforcement Activities	<p>Although our SW Plan contemplated a decrease in funding for 2017, we believed we could continue to support funding at \$150,000. Additionally, our agreement with the health department allows for spending to abate open dumps. In 2017, the health district reported the following activities:</p>	Existing	Ongoing	-

Appendix I: Actions, Priorities, and Program Descriptions

	CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
			solid waste facility inspections, compost inspections, open dump inspections, and scrap tire inspections.			
2	Open Dump/ Litter Law Enforcement	Open Dump Law Enforcement Office	Working with Summit County Public Health and local law enforcement to create a plan and reviewing other SWD similar programs, ReWorks plans to have an Open Dump Enforcement Officer by 2022.	2022	Ongoing	

Other Programs

	CATEGORY	DESCRIPTION	COMMENTS/ACTIVITIES	START DATE	END DATE	GOALS
1	Award/Recognition	Community Tracking and Recognition Program	The ReWorks' Tracking of Active Recyclers Report is published in ReWorks Annual Report with recycling rates per community based on what was reported in ReTRAC. This was provided as a means to educate them on the importance or reporting recycling data.	Existing	Ongoing	4
2	Data Management	Data Management System (SWARM)		2018	Ongoing	9

3	Disaster debris/disaster assistance		<p>Planning Period: ReWorks will work with local emergency management agency(ies) to assist with the proper management of solid waste defined materials and debris caused during a disaster event.</p>	As approved	As Approved	
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Appendix J: Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

A. Residential Sector Opportunity to Recycle

The City of Akron, in May 2020, introduced legislation to remove the lower rate provided to residents opting-in to curbside recycling service. By removing the opt-in recycling credit, during a time of decreased market value for recyclables and the economic hardships of the pandemic, the City is able to sustain the recycling program during ongoing budgetary constraints. As of June 1, 2020, under this legislation, Akron residents are charged one rate for trash and recycling service, making the City of Akron curbside recycling program non-subscription.

The City of Cuyahoga Falls maintains a recycling rate discount for residents opting-in to curbside recycling service. The opt-in format makes the City of Cuyahoga Falls curbside recycling program subscription. The City offers a recycling drop off in addition to the curbside recycling program. As an additional service to its residents, the City of Cuyahoga Falls also offers opt-in curbside yard waste collection for an additional fee.

Table J-1: Demonstration of Residential Opportunity to Recycle

ID #	Summit	2017		2032		2021	
	Name of Community (City, Village, Township)	Community Population	Population Credit	Community Population	Population Credit	Community Population	Population Credit
<i>Non-subscription curbside</i>							
NCS1-2	Akron	197,846	197,846	194,798	194,798	197,023	197,023
NCS3	Barberton	26,120	26,120	25,718	25,718	26,011	26,011
NCS4	Bath	9,691	9,691	9,542	9,542	9,651	9,651
NCS5	Boston Heights	1,298	1,298	1,278	1,278	1,293	1,293
NCS6	Boston	706	706	695	695	703	703
NCS7	Clinton	1,209	1,209	1,190	1,190	1,204	1,204
NCS8	Copley	17,307	17,307	17,040	17,040	17,235	17,235
NCS9	Coventry	10,876	10,876	10,708	10,708	10,831	10,831
NCS10	Cuyahoga Falls*	49,247	49,247		0	0	-
NCS11	Green	25,747	25,747	25,350	25,350	25,640	25,640

Appendix J: Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

NCS12-15	Hudson	22,245	22,245	21,902	21,902	22,152	22,152
NCS16	Lakemore	3,073	3,073	3,026	3,026	3,060	3,060
NCS17	Macedonia	11,940	11,940	11,756	11,756	11,890	11,890
NCS18	Munroe Falls	5,063	5,063	4,985	4,985	5,042	5,042
NCS19	New Franklin	14,165	14,165	13,947	13,947	14,106	14,106
NCS20	Northfield Center Twp	5,841	5,841	5,751	5,751	5,817	5,817
NCS21	Norton	12,013	12,013	11,828	11,828	11,963	11,963
NCS22	Peninsula	562	562	553	553	560	560
NCS23	Reminderville	4,248	4,248	4,183	4,183	4,230	4,230
NCS24	Richfield Township	2,515	2,515	2,476	2,476	2,505	2,505
NCS25	Richfield Village	3,637	3,637	3,581	3,581	3,622	3,622
NCS26	Sagamore Hills	10,955	10,955	10,786	10,786	10,909	10,909
NCS27	Silver Lake	2,499	2,499	2,461	2,461	2,489	2,489
NCS29-32	Stow	34,769	34,769	34,233	34,233	34,624	34,624
NCS33	Tallmadge	17,552	17,552	17,282	17,282	17,479	17,479
NCS34	Twinsburg Township	2,889	2,889	2,844	2,844	2,877	2,877
NCS35	Twinsburg City	18,959	18,959	18,667	18,667	18,880	18,880
NCS36	Springfield*	0	0	14,351	14,351	14,515	14,515
Subscription curbside							
SC1	Fairlawn	7,468	1,867	7,353	1,838	7,437	1,859
SC2	Springfield*	14,576	7,550	0	0	0	-
SC3	Mogadore	3,826	957	3,767	942	3,810	953
SC4	Cuyahoga Falls*	-	-	48,488	44,200	49,042	44,200
Full-time, urban drop-off							
FTU1	Bath Township	-	5 000x	-	5 000x	-	5 000

Appendix J: Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

FTU2	Copley Township*	-	5 000x	-	-	-	0
FTU3	Cuyahoga Falls	-	5 000x	-	5,000	-	5,000
FTU4	Fairlawn	-	5,000	-	5,000	-	5,000
FTU5	Hudson, City of*	-	5 000x	-	0	-	0
FTU6	Macedonia*	-	5 000x	-	0	-	0
FTU7	Norton, City of	-	5 000x	-	5 000x	-	5000x
FTU8	Twinsburg, City of	-	5 000x	-	5 000x	-	5000x
<i>Part-time, urban drop-off</i>							
PTU1	Green	-	2 500x		2 500x		2 500x
PTU2	Copley*				2 500x		2 500x
<i>Full-time, rural drop-off</i>							
FTR1	Lakemore	-	2 500x		2 500x		2 500x
FTR2	Northfield Village	3,669	2,500	3,612	2,500	3,654	2,500
<i>Part-time, rural drop-off</i>							
<i>Mixed municipal waste material recovery facility</i>							
Total County Population		542,511		534,153		540,255	
Total Population Credit		530,846		530,412		535,824	
Percent of Population		98%		99%		99%	

*Statuses changing; Communities with multiple ID#s represent multiple waste haulers operating within the municipality;

Appendix J: Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

“x” following a population credit indicate recycling drop offs in place in addition to non-subscription curbside programs which eliminates their population credit from the overall recycling infrastructure rate.

The City of Cuyahoga Falls operates “opt in” subscriptions curbside recycling service. The population credit for these communities is calculated by multiplying the number of household subscribing to curbside recycling service X 2.6ppl/hh.

Springfield submitted reports through the Community Recycling Assistance Grant that indicate 51.8% of their household subscribe to curbside recycling service.

B. Commercial Sector Opportunity to Recycle

Table J-4: Infrastructure Demonstration for the Commercial Sector

Service Provider	Type of Recycling Service Provided	Appliances	Cardboard	E-Waste	Metals	Paper	Plastics	Single Stream	Textiles
Annaco	PA BR	X			X				
City Scrap and Salvage	PA SY	X			X				
Decco Alloys	PA SY	X			X				
E-Waste, LLC	PA			X					
FPT-Cleveland LLC	PA DO				X				
Goodwill Industries	PA DO			X					X
Iron Mountain	I		X			X			
Kimble (J&J)	PA,HC, R, C, I							X	
Maxwell Recycling	PA SY				X				
Pinnacle Recycling	C I BR			X	X	X			

Appendix J: Reference Year Opportunity to Recycle and Demonstration of Achieving Goal 1

PSC Metals	C I SY				X				
Regency Technologies	BR C I			X					
Republic Waste	PA, DO, R, C, I							X	
River Valley Paper Company	PA BR DO C		X			X			
Royal Oak	DO BR					X		X	
Rumpke	R, C, I							X	
S Slesnick Co	PA SY BR DO		X			X			
Shred-It	BR,HC		X			X			
Summit Polymers	C I BR						X		
Waste Management	PA BR DO, R, C, I							X	

Table J-4 Legend

PA	Publicly available
DO	Drop-Off
SY	Scrap Yard
BR	Broker
BB	Buy Back Center
R	Residential
C	Commercial
I	Industrial

C. Demonstration of Meeting Other Requirements for Achieving Goal 1

1. Residential/Commercial Waste Reduction and Recycling Rate

ReWorks will achieve the 25% recycle rate required in Goal #2 for residential/commercial sectors for the planning period.

2. Industrial Waste Reduction and Recycling Rate

ReWorks will continue to offer recycling services and materials management consultation to the industrial sector throughout the planning period. The recycle rate for industrial is projected to be about 45% for the planning period.

3. Encouraging Participation

Through the maintained countywide education and outreach campaign, ReWorks will continue to encourage increased participation in residential curbside and drop off recycling programs

Appendix K: Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2

Table K-1: Annual Rate of Waste Reduction: Residential/Commercial Solid Waste

Year	Population	Recycled	Disposed	Total Generated	Waste Reduction & Recycling Rate (%)	Per Capita Waste Reduction & Recycling Rate (ppd)
2021	540,255	156,971	425,053	582,024	26.97%	1.59
2022	539,841	158,399	426,322	584,720	27.09%	1.61
2023	539,427	159,833	427,590	587,423	27.21%	1.62
2024	539,013	161,273	428,858	590,131	27.33%	1.64
2025	538,599	162,719	430,126	592,846	27.45%	1.66
2026	537,981	163,272	431,395	594,667	27.46%	1.66
2027	537,363	163,825	432,663	596,488	27.46%	1.67
2028	536,745	164,378	433,931	598,309	27.47%	1.68
2029	536,127	164,931	435,199	600,130	27.48%	1.69
2030	535,509	165,484	436,468	601,952	27.49%	1.69
2031	534,831	166,037	437,736	603,773	27.50%	1.70
2032	534,153	166,590	439,004	605,594	27.51%	1.71
2033	533,475	167,143	440,272	607,415	27.52%	1.72
2034	532,797	167,696	441,541	609,237	27.53%	1.72
2035	532,119	168,249	442,809	611,058	27.53%	1.73

During the planning period, ReWorks will achieve the residential/commercial recycling rate of 25% for Goal #2. While we project curbside recycling tonnage to decrease due to market changes, plans to support and increase yardwaste and food waste diversion will increase over the planning period. Table

Table K-2: Annual Rate of Waste Reduction: Industrial Solid Waste

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2021	46,892	57,408	104,300	44.96%
2022	47,085	57,802	104,887	44.89%
2023	47,279	58,196	105,474	44.82%
2024	47,472	58,590	106,062	44.76%
2025	47,665	58,984	106,649	44.69%
2026	47,859	59,378	107,236	44.63%
2027	48,052	59,772	107,824	44.57%
2028	48,246	60,165	108,411	44.50%
2029	48,439	60,559	108,999	44.44%
2030	48,633	60,953	109,586	44.38%

Appendix K: Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2

2031	48,826	61,347	110,173	44.32%
2032	49,020	61,741	110,761	44.26%
2033	49,213	62,135	111,348	44.20%
2034	49,406	62,529	111,935	44.14%
2035	49,600	62,923	112,523	44.08%

While challenges to gathering recycling data, not just for industrial, but for all sectors, is not a new issue for solid waste district, it does have an effect on ReWorks achieving the industrial recycling rate of 66% portion of Goal #2.

Through our extensive efforts to survey all sectors, we suspect some recycling data from the industrial sector is included in the commercial sector tonnage. Additionally, we also suspect we do not receive all recycling data through voluntary surveying.

As stated in other sections of this plan, ReWorks is making a significant investment of time and resources in the creation of a customized data management system to facilitate in the ease of gathering and analyzing recycling data. Though challenges of not voluntary surveying still exists, ReWorks is demonstrating to the Ohio EPA our commitment to improved data gathering, and hope to share this data management system with other solid waste districts.

Additionally, it is understood that removing the 66% industrial recycling rate portion of Goal #2 is being proposed at the time of this draft plan submittal. With the approval of this proposed revision, ReWorks will achieve Goal #2.

Table K-3: Annual Rate of Waste Reduction: Total Solid Waste

Year	Waste Reduced and Recycled (tons)	Waste Disposed (tons)	Waste Generated (tons)	Waste Reduction and Recycling Rate (percent)
2021	203,862	482,461	686,324	29.70%
2022	205,484	484,124	689,607	29.80%
2023	207,111	485,786	692,897	29.89%
2024	208,745	487,448	696,193	29.98%
2025	210,385	489,110	699,495	30.08%
2026	211,131	490,772	701,903	30.08%
2027	211,878	492,434	704,312	30.08%

Appendix K: Waste Reduction and Recycling Rates and Demonstration of Achieving Goal 2

2028	212,624	494,096	706,720	30.09%
2029	213,370	495,759	709,129	30.09%
2030	214,117	497,421	711,538	30.09%
2031	214,863	499,083	713,946	30.10%
2032	215,610	500,745	716,355	30.10%
2033	216,356	502,407	718,763	30.10%
2034	217,103	504,069	721,172	30.10%
2035	217,849	505,731	723,580	30.11%

A. Minimum Required Education Programs

Web Page

Name	Start Date	End Date	Goal
Website (summitreworks.com)	Existing	ongoing	3

ReWorks has had an active website for at least 15 years. As websites often do, the format of the page has changed several times over the years. This includes the transition of the URL from SASWMA.org to summitreworks.com when the office was rebranded in 2013. The most recent update occurred around 2016 and is the current format of the site. The most recent updated website is customized and was managed by the ReWorks Branding and Marketing Firm through a 3rd party web hosting company. The format was created so that the website was formatted similarly to an app that was being created to allow users to enter a material and find out if it is recyclable. In early 2017, the ReWorks app was promoted at community events, in bus ads, social media posts and other means, but still had very few downloads and minimal interest from the public. When the ReWorks app was launched in 2017 it had a very low interest and very few downloads. Additionally, the customized design made the website difficult to manage, this is also around the time of the China Sword and the priorities of the website had to change to fit the needs of current recycling market.

ReWorks completed a new website in September 2020. The site will be moved from a customized 3rd party webhost which required edits to be completed through a contractor, to a format that allows ReWorks staff to edit the website. The design and content will be mostly the same with an addition of an organics focused page. Additionally, the ability to edit internally will allow for more frequent content updates.

Content that remains consistent on the website is as follows:

- About ReWorks, solid waste plan, annual reports, Board of Trustees
- Calendar of ReWorks funding recycling/collection programs and events
- Household Hazardous Waste Recycling Center hours, acceptable materials, location
- Local Recycling Solutions : A list of recycling options for various categories of materials this is for Residential and all Non-Residential sectors
- Education/Outreach on Residential Recycling and Waste Reduction
- Curbside and Drop Off Recycling by Community
- Information on what to recycle through community curbside and drop off programs
- Organics
- Yard Waste Solution
- Food waste reduction and management solutions

ReWorks also send messages through social media platforms like Facebook, Twitter, YouTube and occasionally Flickr

Infrastructure Inventory/Resource Guide

Name	Start Date	End Date	Goal
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Appendix L: Minimum Required Education Programs: Outreach and marketing plan and General Education Requirements

Local Recycling Solutions	Existing	Ongoing	3
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The Local Recycling Solutions document service as a resource guide and inventory list. It provides a list of options for residential and non-residential sectors to reference for recycling, disposal, composting, and various other waste diversions practices. This document is updated at least annually but is commonly revised due to the opening/closing of a facility or an additional option becomes available. A copy of the documents is on the website and is available in print to those residents at all HHWRC events. Often times ReWorks uses the Local Recycling Solutions document to provide an option for a material that was not being collected at the event. For example, a resident at the Household Hazardous Waste Recycling Centers may have a dehumidifier. The resident is provided the Local Solutions and shown where to take that material.

Speaker/Presenter

Name	Start Date	End Date	Goal
Speaker/Presenter	Existing	Ongoing	3,

ReWorks staff is available to present recycling, waste reduction and other materials management topics to a variety of audiences (businesses, residents, schools, community groups, etc.) and at various events. Topics included curbside recycling, zero waste and food waste.

In 2017, ReWorks presented or attended 24 different "events" that reached more than 4,880 people.

B. Outreach and Marketing Plan

Since 2013, ReWorks contracts with a marketing firm for services to create, market and promote ReWorks recycling programs and provide strategies on community outreach on residential and non-residential recycling and waste reduction. Furthermore, the firm does graphic designing and develops, designs and manages the ReWorks website (until new site in 2020) and provided a rebranding campaign for "ReWorks."

Residential Sector

Name	Start Date	End Date	Goal
Countywide Residential Recycling Education Campaign	Existing	Ongoing	4
Organics/Food Waste Outreach	Existing	Ongoing	4

This comprehensive campaign includes recycling and waste reduction outreach to the residential sector through the following : newsletters, print ads, social media, website, presentations, press releases and paid articles.

The "What's in. Recycling at Home" campaign, to reflect the current recycling markets, is a simplified outreach effort focused on residential recycling curbside and drop-off. The campaign focuses on five items

Appendix L: Minimum Required Education Programs: Outreach and marketing plan and General Education Requirements

to recycle curbside (cartons, metal food and beverage cans, paper, cardboard, and plastic bottles and jugs). This campaign also has a dedicated landing page of the website (summitreworks.com/curbside).

The “Fed Up with Food Waste” campaign targets the residential sector by providing tips on how to how to reduce food waste. This campaign also has a dedicated landing page of the website (summitreworks.com/foodwaste).

In line with the goals of the Organics Committee, ReWorks also educated residents on the reduction of food waste through various campaigns.

In moving toward outreach that aims to change behavior, ReWorks participated in the Ohio EPA/The Recycling Partnership Contamination Grant in 2019. ReWorks provided financial and technical assistance the City of Akron to apply for the grant and complete a project that included a recycling cart tagging component. This is a non-traditional means to educate residents on how to recycle and to change behavior.

Though statistics of this project are being reviewed at the time of this draft plan submittal, the goal of ReWorks is to learn from project and implement best practices for a recycling cart tagging component to other curbside recycling programs.

Name	Start Date	End Date	Goal
cReate Works	Existing	Evaluated Annually	4

ReWorks established an art and education program to provide area artists with opportunities to work with reused materials to create art. The program's goal is to encourage people to find new ways of thinking about art and reduce, reuse, recycle.

Each year a new group of artists is challenged to address a theme around the practices of reducing, reuse, and recycle and work in various mediums to create art to share a message. ReWorks appreciates the efforts and creativity that these participating artists contributed to each project and its message.

While there was not an art project in 2017, the reference year, ReWorks utilizes this unique format to educate residential and non-residential audiences on various recycling and waste reduction messages. The project does not necessarily occur every year, but it is always an education strategy available depending on the needed recycling/waste reduction message.

In 2015, ReWorks asked artists to take leftover paint - various colors, finishes - but all latex and to create a work of art. The goal of this project was to help share the message about first reducing the amount of paint that is purchased for projects and then finding ways to reuse (or share with others) the leftover latex paint.

In 2016, the project was “Upcycle Art Project.” This project challenged artists to take materials that were no longer in use and give them a second life and new function as a piece of art. Selected artists had access to materials at Goodwill Industries of Akron's Outlet Store and space at Summit Artspace to create a work of art using materials that would have otherwise been landfilled. By supporting artists who worked with

Appendix L: Minimum Required Education Programs: Outreach and marketing plan and General
Education Requirements

recycled materials, ReWorks hoped to encourage people to reduce, reuse, and recycle materials and promote new ways of thinking about art and the environment.

In 2019, the project was “Keep It Out of the Cart-Art.” a project asking artists to take materials that have unfortunately made their way into our recycling stream and create a piece of art to bring awareness to those materials that do not belong in curbside recycling. Artists will be given a mystery box of contamination that was removed from our local recycling facility and asked to create a piece (or pieces) of art. The work will be part of a traveling exhibition that will be held at different libraries throughout Summit County.

Commercial/Institutional/Industrial Sector

Name	Start Date	End Date	Goal
Technical Assistance/Contract Guidance	Existing	Ongoing	4
Training Business/Industrial Recycling Employees Participants	Existing	Ongoing	4

As stated previously in this plan, ReWork services and outreach for commercial/institutional and industrial sectors are the same.

Technical support and outreach on recycling and waste diversion options are provided to these sectors through the following: newsletters, print ads, presentations, attending trade associations and website.

Additionally, we present and provide technical assistance to business (i.e. commercial/industrial entities) associations on how to recycle and reduce waste. This is done through Waste and Materials Management Consultations that include evaluating waste and providing recommendation on recycling and waste reduction options.

For those non-residential entities on the Commercial Single Stream Recycling Program (CSS), we provide training to the employees of the participating facility. In 2017, ReWorks Education/Promotion Specialist did more than 10 trainings of CSS participant locations reaching 191 employees and in 2018 more than 15 trainings of CSS participant locations reaching more than 250 employees.

Community and Elected Officials

Name	Start Date	End Date	Goal
Meeting with representatives from the 31 municipalities.	Existing	Ongoing	4

Annually, representatives from the 31 municipalities of Summit County are invited to attend a session where ReWorks discusses the Community Recycling Assistance Grant as well as other relevant topics for the municipalities. It is an open forum where municipal representatives can share information on their

Appendix L: Minimum Required Education Programs: Outreach and marketing plan and General
Education Requirements

recycling and diversion programs with the other communities. Topics often include contracts for curbside trash and recycling services, yard waste collection services, and recycling drop off operations.

Schools

Name	Start Date	End Date	Goal
Speaker/Presenter	Existing	Ongoing	3,4
Technical Assistance/Contract Guidance	Existing	Ongoing	4

ReWorks is available to educate students through the speaker/presenter service. Topics covered are often curbside recycling, food waste, or

Additionally, school facilities and administration, as part of the non-residential sector, receive technical assistance from ReWorks through the Waste and Materials Management Consultation.

General

Name	Start Date	End Date	Goal
Phone & Email Log	Existing	Ongoing	3

Annually, ReWorks tracks the quantity and category of phone calls received at the office and emails received via the website by the public (i.e. both business and residential). In 2019, ReWorks office received about 2,275 calls with the following break down by category: HHWRC 50%, ReWorks Programs 1%, Recycling Drop Off 1%, Waste Solutions 40%, Shredding Events 8%, Education/Promotion <1%. In addition, ReWorks received 1,388 email inquires from the website

C. Outreach Priority

Outreach priorities focus on consumer/residential, and business sectors as this target audience has direct impact on materials management practices. While school-aged presentations are available, priorities are directed more to toward adults and businesses. Campaigns and promotions cover basic topics like ReWorks funded programs and services, composting, curbside recycling, and reduction of contamination in curbside collection. However, additional priorities are focused on campaigns and promotions focused on behavior change in the form of topics like waste reduction, and food waste reduction strategies.

Appendix M: Waste Management Capacity Analysis

A. Access to Publicly-Available Landfill Facilities

Table M-1: Remaining Operating Life of Publicly-Available Landfills

Facility	Location	Years of Remaining Capacity
American Landfill 38042	Stark	65
Carbon Limestone LF 28726	Mahoning	49.3
Kimble Sanitary Landfill 42709	Tuscarawas	36.4
Lorain Co Landfill 26024	Lorain	9.8
Noble Rd LF 36417	Richland	5.26
Pine Grove Landfill 230010	Fairfield	57

Source of information: Publicly Available Landfill Remaining Capacities and Daily Waste Receipt Amounts in 2017; Ohio Environmental Protection Agency; Ohio Solid Waste Facility Data Report

Summit County does not utilize any Captive Landfill Facilities.

Summit County does not utilize any Incinerators and Energy Recovery Facilities

Appendix N: Evaluating Greenhouse Gas Emissions

Data collected via community waste hauler reports, commercial/industrial surveys and reports generated by the Ohio EPA have provided the data displayed in Table N-1. For sake of simplicity and maintaining the ability to match against projections, a mixed recyclables figure will be used in the WARM model. There were no entries made for Tons Anaerobically Digested, Composted or Combusted. Those columns have therefore been left out of the table.

Table N-1: 2017 Greenhouse Gas Emissions Baseline Data For Reference Year

Material	Tons Recycled	Tons Landfilled	Total MTCO₂E
Mixed Recyclables	214,388.00	-	(610,236.12)
Mixed MSW	NA	485,022.00	173,261.60

GHG Emissions from Baseline Waste Management (MTCO ₂ E):	(436,974.52)
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Table N-2: 2023 Greenhouse Gas Emissions Data for Projected Values Six Years Into the Plan

Material	Tons Recycled	Tons Landfilled	Total MTCO₂E
Mixed Recyclables	207,112.00	-	(589,525.64)
Mixed MSW	NA	485,786.00	173,534.52

GHG Emissions from Baseline Waste Management (MTCO ₂ E):	(415,991.12)
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Table N-3: Difference in Waste Management Greenhouse Gas Emissions

GHG Emissions from Baseline Waste Management (MTCO ₂ E):	(436,974.52)
GHG Emissions from Baseline Waste Management (MTCO ₂ E):	(415,991.12)
2017 - Projected 2023	(20,983.40)

Appendix O: Financial Plan

A. Funding Mechanisms and Revenue Generated

1. Disposal Fee

Table O-1 Disposal Fee Schedule and Revenue

Year	Disposal Fee Schedule (\$/ton)			Revenue (\$)			Total Disposal Fee Revenue (\$)
	In-District	Out-of-District	Out-ofState	In-District	Out-of-District	Out-ofState	
	n/a						\$0

No disposal fee revenue for the planning period.

2. Generation Fee

Table O-2: Generation Fee Schedule and Revenue

Year	Generation Fee Schedule (\$ per ton)	Total Revenue from Generation Fee (\$)
2013	\$5.00	\$2,418,488
2014	\$5.00	\$2,288,722
2015	\$5.00	\$2,241,419
2016	\$5.00	\$2,328,763
2017	\$5.00	\$2,419,680
2018	\$5.00	\$2,468,925
2019	\$5.00	\$2,395,685
2020	\$5.00	\$2,403,996
2021	\$5.00	\$2,412,307
2022	\$5.00	\$2,420,618
2023	\$5.00	\$2,428,928
2024	\$5.00	\$2,437,239
2025	\$5.00	\$2,445,550
2026	\$5.00	\$2,453,861
2027	\$5.00	\$2,462,171
2028	\$5.00	\$2,470,482
2029	\$5.00	\$2,478,793
2030	\$5.00	\$2,487,104
2031	\$5.00	\$2,495,414
2032	\$5.00	\$2,503,725

2033	\$5.00	\$2,512,036
2034	\$5.00	\$2,520,347
2035	\$5.00	\$2,528,657

No Generation Fee change will occur during the planning period.

Growth in disposal tonnage, and generation fee revenue tied to that tonnage, is one half of the annual growth in waste based solely off of the linear regression of the previous 4 years of recorded waste activity.

3. Designation Fees

Table O-3 Designation Fee Schedule and Revenue

Year	Designation Fee Schedule (\$ per ton)	Total Designation Fee Revenue (\$)
	n/a	

No designation fee revenue for planning period.

4. Debt/Loans

Table O-4 - Loans

Year Debt Was/Will be Obtained	Outstanding Balance	Lending Institution	Repayment Term (years)	Annual Debt Service (\$)
n/a				

No debt/loans for planning period.

5. Other Sources of District Revenue

Table O-5 Other Sources of Revenue

Year	Interest	Service Revenue/User Fee	OEPA Pass thru Grants	Misc	Adjustment occurring at transition of Accounting Systems (2014-15)	Total Other Revenue
2013	\$1,134	\$2,579	\$19,925	\$11,506		\$35,144
2014	\$3,722	\$2,665	\$69,425	\$8,759	(\$218,442)	(\$133,871)
2015	\$3,996	\$2,939	\$59,032	\$3,032		\$68,999
2016	\$9,798	\$2,569	\$131,925	\$1,396		\$145,688
2017	\$26,733	\$3,602	\$125,000	\$80		\$155,415
2018	\$58,825	\$4,102	\$125,000	\$7		\$187,934

2019	\$40,000	\$5,000	\$200,000	\$100		\$245,100
2020	\$35,000	\$5,125		\$100		\$40,225
2021	\$30,000	\$5,253		\$100		\$35,353
2022	\$20,000	\$5,384		\$100		\$25,484
2023	\$20,000	\$5,519		\$100		\$25,619
2024	\$20,000	\$5,657		\$100		\$25,757
2025	\$20,000	\$5,798		\$100		\$25,898
2026	\$20,000	\$5,943		\$100		\$26,043
2027	\$20,000	\$6,092		\$100		\$26,192
2028	\$20,000	\$6,244		\$100		\$26,344
2029	\$20,000	\$6,400		\$100		\$26,500
2030	\$10,000	\$6,560		\$100		\$16,660
2031	\$10,000	\$6,724		\$100		\$16,824
2032	\$10,000	\$6,893		\$100		\$16,993
2033	\$10,000	\$7,065		\$100		\$17,165
2034	\$10,000	\$7,241		\$100		\$17,341
2035	\$10,000	\$7,423		\$100		\$17,523

Assumptions:

Other revenue is made up of the following:

- Service Fee/User fee projected to increase 2.5%
- Interest will remain level for several years then slightly decrease.
- OEPA Pass thru grant varies year to year and cannot be predicted.
- Miscellaneous revenue is minimal and varies and projected to be flat for the duration of the plan.

6 Summary of District Revenues

Table O-6 Total Revenue

Year	Disposal Fees	Generation Fees	Designation Fees	Other Revenue	Total Revenue
2013	\$0	\$2,418,488	\$0	\$35,144	\$2,453,632
2014	\$0	\$2,288,722	\$0	-\$133,871	\$2,154,851
2015	\$0	\$2,241,419	\$0	\$68,999	\$2,310,418
2016	\$0	\$2,328,763	\$0	\$145,688	\$2,474,451
2017	\$0	\$2,419,680	\$0	\$155,415	\$2,575,095
2018	\$0	\$2,468,925	\$0	\$187,934	\$2,656,859
2019	\$0	\$2,395,685	\$0	\$245,100	\$2,640,785

2020	\$0	\$2,403,996	\$0	\$40,225	\$2,444,221
2021	\$0	\$2,412,307	\$0	\$35,353	\$2,447,660
2022	\$0	\$2,420,618	\$0	\$25,484	\$2,446,102
2023	\$0	\$2,428,928	\$0	\$25,619	\$2,454,547
2024	\$0	\$2,437,239	\$0	\$25,757	\$2,462,996
2025	\$0	\$2,445,550	\$0	\$25,898	\$2,471,448
2026	\$0	\$2,453,861	\$0	\$26,043	\$2,479,904
2027	\$0	\$2,462,171	\$0	\$26,192	\$2,488,363
2028	\$0	\$2,470,482	\$0	\$26,344	\$2,496,826
2029	\$0	\$2,478,793	\$0	\$26,500	\$2,505,293
2030	\$0	\$2,487,104	\$0	\$16,660	\$2,503,764
2031	\$0	\$2,495,414	\$0	\$16,824	\$2,512,239
2032	\$0	\$2,503,725	\$0	\$16,993	\$2,520,718
2033	\$0	\$2,512,036	\$0	\$17,165	\$2,529,201
2034	\$0	\$2,520,347	\$0	\$17,341	\$2,537,688
2035	\$0	\$2,528,657	\$0	\$17,523	\$2,546,180

Assumptions:

Other revenue is made up of the following:

- Service Fee/User fee projected to increase 2.5%
- Interest will remain level for several years then slightly decrease.
- OEPA Pass thru grant varies year to year and cannot be predicted.
- Miscellaneous revenue is minimal and varies and projected to be flat for the duration of the plan.

2.j.	Service Contracts																							
2.j.	Feasibility Studies																							
2.k.k.	Waste Assessments/Audits																							
2.l.	Dump Cleanup																							
2.m.	Litter Collection/Education																							
2.n.	Emergency Debris Management																							
2.o.	o. Loan Payment																							
2.p.	Other (depreciation+ other)	\$9,139	\$9,139	\$9,139	\$14,389	-\$107,636	\$28,718																	
3.	Health Dept. Enforcement	\$160,000	\$160,000	\$160,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$155,000	\$155,000	\$155,000	\$155,000	\$155,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000
	Summit County Public Health	\$160,000	\$160,000	\$160,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$155,000	\$155,000	\$155,000	\$155,000	\$155,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000	\$160,000
	Health Department Name:																							
	Health Department Name:																							
	Health Department Name:																							
4.	County Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4.a.	Maintaining Roads																							
4.b.	Maintaining Public Facilities																							
4.c.	Providing Emergency Services																							
4.d.	Providing Other Public Services																							
5	Well Testing																							
6	Out-of-State Waste Inspection																							
7	Open Dump, Litter Law Enforcement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$5,000	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
7.a.	Health Departments																							
7.b.	Local Law Enforcement									\$5,000	\$5,000	\$5,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	
7.c.	Other																							
8	Health Department Training																							
9	Municipal/Township Assistance	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
9.a.	Maintaining Roads																							
9.b.	Maintaining Public Facilities																							
9.c.	Providing Emergency Services																							
9.d.	Providing other Public Services																							
10	Compensation to Affected Community (ORC Section 3734.35)																							
Total Expenses		\$2,178,748	\$2,394,832	\$2,214,267	\$2,029,478	\$2,249,700	\$2,529,148	\$2,555,900	\$2,477,959	\$3,333,954	\$2,854,898	\$2,665,145	\$2,468,859	\$2,137,574	\$2,159,551	\$2,224,192	\$2,224,751	\$2,250,231	\$2,284,135	\$2,245,218	\$2,264,482	\$2,223,932	\$2,233,571	\$2,243,402

Explanation of Expenses

1 Plan Monitoring/Prep.

1.a Plan Preparation

ReWorks staff completed all tasks for the draft Plan. No consultant was paid. Cost for staff time is included in “District Administration: Personnel” category.

1.b Plan Monitoring

Expense for 2017 reference year survey of residential/municipalities survey through ReTRAC Connect and commercial/industrial/institutional survey through Survey Monkey is included in Information Technology Professional services in the “District Administration: Other” category

1.c Other

2 Plan Implementation

2.a District Administration

2.a.1 Personnel

This category includes expenses from payroll, medical benefits, workers compensation, Ohio Public Employee Retirement System, staff education and development, memberships and subscriptions.

Expenses from 2013-17 vary due to retirement of executive director in 2016, employee positions vacancies and new employees. All five positions were filled by October 2017. A projected 2% increase is set from 2022 through planning period.

2.a.2 Office Overhead

This category includes expenses from rent, property maintenance, office supplies, phone service, postage/shipping, motor vehicle, office equipment, computers. Expenses are projected to increase in 2021 with the proposed relocated office/service center.

2.a.3 Other

This category includes expenses from professional services such as legal, accounting, risk management, information technology, and insurance.

Expenses increase in 2019 -2022 due to potential professional services (engineering, architecture, environmental assessment, etc.) needed to relocate ReWorks offices and operations. A 2.5% increase is projected after 2026.

2.b Facility Operation

2.b.1 MRF/Recycling Center

If approved, the proposed office relocation and service center expense would be included in this category in 2021/2022 and through planning period

2.b.2 Compost

2.b.3 Transfer- n/a

2.b.4 Special Waste

This category includes expenses from the operation of the Household Hazardous Waste Recycling Center that is operated seasonally. The primary function of this permanent facility is to collect household chemicals from residents.

Expenses from 2013-2019 indicate program growth and increased service fees from licensed hazardous waste contractor. Expenses from 2020 on are projected to increase due to higher service fees and potentially more operational days/hours.

2.c Landfill Closure/Post-Closure

ReWorks pays the City of Akron for the post closure care expenses for the closed Hardy Road Landfill.

2.d Recycling Collection

2.d.1 Curbside-n/a

2.d.2 Drop-off n/a

2.d.3 Combined Curbside/Drop-off

This category includes expenses from the Community Recycling Assistance Grant (CRAG) that provides funding to Summit County municipalities to support recycling and waste diversion programs including curbside and drop off recycling.

Expenses in 2013-2016 reflect a partial payout of grant funds due to generation fee totals being lower than the population credit used to pay out grant. However, in 2017-2020, reserve funds were used to increase to a full grant payout. Per Board/Strategic Planning Committee review, the CRAG funds and grant payout criteria may change in 2021.

2.d.4 Multi-family n/a

2.d.5 Business/Institutional

This category includes expenses from the Commercial Single stream Recycling Program that funds the collection of recyclables from commercial, multi-family, industrial, and institutional sectors.

This expense continues to grow as ReWorks only receives one private hauler bid for these services, and there is no competition from other private hauler to influence lower service fees.

Additionally, the current contractor passes along increased service fees claiming higher recycling processing fee.

2.d.6 Other **n/a**

2.e Special Collections

2.e.1 Tire Collection

Expenses cover the collection of scrap tires at the HHWRC, events, and collection of tires from the municipalities and health district. If approved, the office/service center would allow us to collect more tires, the projected increased expenses for 2021 and on reflect this growth.

2.e.2 HHW Collection

This expense is covered under the “Facility Operations: Special Waste” category because we operate a permanent, seasonal facility not just a collection event.

2.e.3 Electronics Collection

Starting in 2020, an electronics collection program will be offered. The expenses will be recorded in this category.

2.e.4 Appliance Collection **n/a**

2.e.5 Other Collection Drives

The category includes expenses from the Document Shredding and Recycling Events program that provides residents the ability to bring their confidential documents to 6 events hosted May/October and have them shredded onsite by a paid contractor.

Expenses from 2013-2020 include only Document Shredding events. However, with the plan update allowing for the evaluation of increased programs to collect “Target Materials,” expenses for these programs will be captured in this category and are projected to increase.

2.f Yard Waste/Other Organics

This category includes expenses from purchasing food waste compost from Class II compost facility for the Grow Green Compost Giveaway program as well as supplies for community garden compost units. It also includes fees to transport and compost food waste collected at ReWorks facilitated zero waste events.

Expenses from 2016-2018 include the Grow Green program and food waste collection at zero waste events. Expenses from 2020 and on indicate increased expense to compost food waste. Additionally, if approved, the relocation of office/service center would allow ReWorks to potentially manage a 500 square foot exemption compost site

2.g Education/Awareness

2.g.1 Education Staff

ReWorks' Education/Promotion Specialist salary and medical expenses are included in "District Administration: Personnel" category.

2.g.2 Advertisement/Promotion

The category includes expenses from the branding/marketing firm contracted services expenses and program promotion and education expenses for flyers, posters, print ads, and social media ads.

Expenses in 2013-2016 are mostly contracted fees paid the branding/marketing firm. Starting in 2016, with the hiring of a new Education/Promotional Specialist, ReWorks staff took over most of the tasks that were previously paid to marketing firm to manage. The expense in this category are projected to increase over the planning period as ReWorks plans to increase countywide community outreach for curbside/drop off recycling and other waste reduction and recycling services.

2.g.3 Other **n/a**

2.h Recycling Market Development

2.h.1 General Market Development Activities- **n/a**

2.h.2 Ohio EPA pass-through grant

2013-2019 expenses reflect grants awarded to ReWorks for various cooperating enterprises. No projection in this category due to the unpredictability of applications and awards for the OEPA grant.

2.n Emergency Debris Management **n/a**

2.p Other

This category includes expenses from depreciation and other misc expenses.

Expenses for 2013-2018 reflect depreciation. In 2017, a negative expense is in the "Other" category to account for a \$-129,218.01 GAAP adjustment made for grants paid in fist qtr 2017 for 2016. Depreciation will not be reported in quarterly fee reports moving forward.

3 Health Dept. Enforcement

Health Department Name: Summit County Public Health

This category includes expense from solid waste enforcement and monitoring service agreement with Summit County Public Health to perform services allowable by the Ohio Revised Code.

Expense from 2022 on show a slight increase. The implementation of a enforcement officer for open dumping will increase services from the health district.

7 Open Dump, Litter Law Enforcement

7.a Heath Departments n/a

7.b Local Law Enforcement

In 2022, ReWorks’ open enforcement officer expenses will be reported in this category.

Table O-8 Budget Summary

Year	Revenue	Expenses	Annual Surplus/Deficit (\$)	Balance (\$)
2012	Ending Balance			\$2,188,696
2013	\$2,453,632	\$2,178,748	\$274,884	\$2,463,580
2014	\$2,154,851	\$2,394,832	-\$239,981	\$2,223,599
2015	\$2,310,418	\$2,214,267	\$96,151	\$2,319,750
2016	\$2,474,451	\$2,029,478	\$444,973	\$2,764,723
2017	\$2,575,095	\$2,249,700	\$325,395	\$3,090,118
2018	\$2,656,859	\$2,529,148	\$127,711	\$3,217,829
2019	\$2,640,785	\$2,555,900	\$84,885	\$3,302,715
2020	\$2,444,221	\$2,477,959	-\$33,738	\$3,268,976
2021	\$2,447,660	\$3,333,954	-\$886,294	\$2,382,683
2022	\$2,446,102	\$2,854,898	-\$408,796	\$1,973,886
2023	\$2,454,547	\$2,665,145	-\$210,597	\$1,763,289
2024	\$2,462,996	\$2,468,859	-\$5,863	\$1,757,426
2025	\$2,471,448	\$2,137,574	\$333,874	\$2,091,300
2026	\$2,479,904	\$2,159,551	\$320,353	\$2,411,653
2027	\$2,488,363	\$2,224,192	\$264,172	\$2,675,825
2028	\$2,496,826	\$2,224,751	\$272,076	\$2,947,901
2029	\$2,505,293	\$2,250,231	\$255,063	\$3,202,963
2030	\$2,503,764	\$2,284,135	\$219,629	\$3,422,592
2031	\$2,512,239	\$2,245,218	\$267,021	\$3,689,613
2032	\$2,520,718	\$2,264,482	\$256,235	\$3,945,848
2033	\$2,529,201	\$2,223,932	\$305,269	\$4,251,117
2034	\$2,537,688	\$2,233,571	\$304,117	\$4,555,234

2035	\$2,546,180	\$2,243,402	\$302,778	\$4,858,012
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ReWorks will maintain at a minimum, a \$500,000 balance.

Appendix P: Designation

A. Statement Authorizing/Precluding Designation

The Board of Trustees of the Summit Akron Solid Waste Management Authority is hereby authorized to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code after this plan has been approved by the director of the Ohio Environmental Protection Agency.

B. Designated Facilities

Although the Board has not opted to designate any facilities it still retains the authorization to do so during the period of the Plan Update. If the Board does exercise its authority to designate solid waste facilities, the Board will concurrently develop, if determined appropriate, a waiver process that complies with Section 343.01(1)(2) of the Ohio Revised Code.

Appendix Q: District Rules**A. Existing
Rules**

ReWorks has not adopted any rules. At this time ReWorks is satisfied that the rules, which have already been promulgated by the State, are sufficient to address the current conditions.

**B. Proposed
Rules**

ReWorks proposes no new rules for this planning period. However, the it reserves its right to act to adopt, publish and enforce all of the rule-making powers authorized by Ohio Revised Code §343.01, Divisions (G)(1), (G)(2), (G)(3) and (G)(4). In addition, with the review of HB592 currently in progress and the pending regulatory changes that could occur, ReWorks also reserves any rights resulting from that process.

Therefore, this Plan Update authorizes and empowers the Board of Trustees to make rules as they best determine (in accordance with all applicable laws and enabling legislation).

Q-1

Appendix R: Blank Survey Forms and Related Information

A. Survey Response Requests

Surveys are filled out on a voluntary basis. The verbiage used in the request to have commercial entities answer the survey is featured below (Figure R-1). This correspondence was distributed digitally via email to those entities who have entered their contact information in the past and physically to those who we do not have this information for. The verbiage has been stripped of some format variations.

The survey was available digitally via the Survey Monkey online platform. Being that the survey was available digitally and features several permutations, a question tree will be featured below in order to fully describe the survey questions available (Figure R-2).

Figure R-1: Survey Request Verbiage

Dear «Company» Representative:

Annually, ReWorks (www.summitreworks.com/) is required by the Ohio Environmental Protection Agency (Ohio EPA) to collect recycling tonnage from industries, businesses, and institutions within Summit County. The recycling data gathered determines Summit County's recycling rate and the future waste and recycling needs of our county.

You have shared your recycling data with us in the past, which is how we are able to contact you now. Thank you for prior responses to the survey you may have provided.

The information you provide is compiled with other businesses' data and reported as a summary to the Ohio EPA. This **simple online survey** records recycling data for materials such as cardboard, scrap metals, plastics and paper. **Benefits**

Tracking this information is the first necessary step towards reducing waste and potentially reducing unnecessary expenses.

You will also be eligible to obtain a ReWorks window clinger which outwardly displays your commitment to recording and reporting your recycling efforts. **Why did you receive this message?**

All businesses are classified with a North American Industry Classification System (NAICS) code. Your business is classified under one of the codes, designated by Ohio EPA, from which ReWorks must request recycling data. To find your NAICS code, visit this website <https://www.census.gov/eos/www/naics/>

What do you have to do?

Identify the employee responsible for managing recycling services. Recycling data must be reported by your business; **not** your trash/recycling hauling service.

Provide that employee with the link below in order to complete the online recycling survey (for 2017 recycling data):

www.research.net/r/reworks2017

The survey must be completed by Friday **March 30, 2018**. We appreciate your personal attention to this request. For questions regarding this request contact ReWorks at recycle@summitreworks.com. *You may receive a similar letter in the US Mail following this notification. If you have already completed the survey, please disregard the letter.*

Sincerely,
Marcie E. Kress
Executive Director, ReWorks

Figure R-2: Survey Questions

1	Contact Information																									
2	NAICS Code																									
3	Do you recycle materials through residential curbside programs?																									
4	Do you share common recycling receptacles?																									
	4.1	Property manager contact information																								
5	Which of the following materials do you recycle?																									
	5.1	<table border="1"> <tr> <td>Single Stream Recyclables</td> <td rowspan="13">5.1.1</td> <td rowspan="13">How much of this material did you recycle in 2017?</td> </tr> <tr> <td>Ferrous Metal</td> </tr> <tr> <td>Non-Ferrous Metal</td> </tr> <tr> <td>Appliances/White Goods</td> </tr> <tr> <td>Paper</td> </tr> <tr> <td>Corrugated Cardboard</td> </tr> <tr> <td>Glass</td> </tr> <tr> <td>Plastics</td> <td rowspan="2">5.1.2</td> <td rowspan="2">In what unit?</td> </tr> <tr> <td>Recycled Textiles</td> </tr> <tr> <td>Donated Textiles</td> </tr> <tr> <td>Non-Tire Rubber</td> </tr> <tr> <td>Scrap Tires</td> <td rowspan="4">5.1.3</td> <td rowspan="4">Who recycled this material for you?</td> </tr> <tr> <td>Food</td> </tr> <tr> <td>Donated Food</td> </tr> <tr> <td>Electronics</td> </tr> <tr> <td>Yard Waste</td> <td></td> <td></td> </tr> </table>	Single Stream Recyclables	5.1.1	How much of this material did you recycle in 2017?	Ferrous Metal	Non-Ferrous Metal	Appliances/White Goods	Paper	Corrugated Cardboard	Glass	Plastics	5.1.2	In what unit?	Recycled Textiles	Donated Textiles	Non-Tire Rubber	Scrap Tires	5.1.3	Who recycled this material for you?	Food	Donated Food	Electronics	Yard Waste		
Single Stream Recyclables	5.1.1	How much of this material did you recycle in 2017?																								
Ferrous Metal																										
Non-Ferrous Metal																										
Appliances/White Goods																										
Paper																										
Corrugated Cardboard																										
Glass																										
Plastics			5.1.2			In what unit?																				
Recycled Textiles																										
Donated Textiles																										
Non-Tire Rubber																										
Scrap Tires			5.1.3			Who recycled this material for you?																				
Food																										
Donated Food																										
Electronics																										
Yard Waste																										

7	Interest in a waste audit/consulting?	
	Wood and Wooden Pallets Lead Acid Batteries All Other Dry Cell Batteries Used Motor Oil Ash Non-Exempt Foundry Sand Specified Other	*These questions are asked three times for metals and cardboard
6	Are you interested in receiving information from ReWorks	

R-3: Residential Survey Information Requests

As per section XII. A. 6. Of the 2019 CRAG Handbook, the following pieces of data were requested of the communities within Summit county. The information gained through this process is used to generate reports that are produced by ReWorks.

- a) **Tonnage Reports** –Each of these will include the destination of the material, the organization that collected it, and the means through which it was collected for any and all (each residential hauler operating in your municipality) tonnages itemized below (drop-off, curbside, event, etc.)
 - (1) Solid Waste
 - (2) Recycling Programs
 - (3) Yard Waste
 - (4) Household Hazardous waste
 - (5) Miscellaneous (document shredding, electronics collections, tires, etc.)
- b) **Drop-Off information**
 - (1) Hours of operation
 - (2) Location(s)
- c) **Solid Waste and Recycling Contracts**
 - (1) Any and all contracts pertaining to curbside and/or drop off collection and processing for organics, solid waste and recycling.
 - (2) Any additional narrative information meant to frame contract information including household count

For the refence year 2017, this residential information was gathered from the municipalities via ReTrac Connect. For 2018 and moving forward, ReWorks will gather this data from other survey formats.

Appendix S: Siting Strategy

See Narrative element within Chapter 4.

Appendix T: Miscellaneous Plan Documents

District resolutions, certification statements, public notices, other notices (e.g. a copy of the notice sent to the 50 largest generators)

Resolution Number: 459-2019
The Summit/Akron Solid Waste Management Authority

A RESOLUTION AUTHORIZING CERTAIN MEMBERS OF THE SUMMIT/AKRON SOLID WASTE MANAGEMENT AUTHORITY BOARD OF TRUSTEES TO SIGN THE CERTIFICATE STATEMENT FOR DRAFT PLAN

WHEREAS, the Ohio EPA has requested certain members of the Summit/Akron Solid Waste Management Authority (the "Authority") Board of Trustees (the "Board") to sign a statement which provides, in part, that to the best of the Board of Trustee member's knowledge and belief, the statements, demonstrations and all accompanying materials that comprise the Authority's Draft Solid Waste Management Plan (the "Plan") (referred to herein as the "Certificate Statement For The Draft Solid Waste Plan") are accurate and are in compliance with the requirements in the Authority Solid Waste Management Plan Format, revision 4.0; and

WHEREAS, the Board now wishes to authorize the individuals holding the following positions to sign the Certificate Statement For the Draft Plan, which is attached hereto as Exhibit A:

County Executive or Designee
Municipal Officer or Designee
Township Representative
Health Commissioner or Designee
Solid Waste Generator Representative
Member Representing General Interests of Citizens
Public Representative


NOW, THEREFORE, IT IS HEREBY RESOLVED BY THE BOARD OF TRUSTEES OF THE SUMMIT/AKRON SOLID WASTE MANAGEMENT AUTHORITY, THAT:

SECTION 1: This Board hereby authorizes the above-referenced individuals to sign the Certificate Statement for the Draft Solid Waste Plan, as set forth in Exhibit A attached to this resolution.

SECTION 2: This Board hereby finds and determines that all formal actions relative to the adoption of this resolution were taken in an open meeting of this Board and that all deliberations of this Board and of its committees, if any, which resulted in formal actions, were taken in meetings open to the public, in full compliance with applicable legal requirements, including Section 121.22 of the Ohio Revised Code.

ADOPTED on this 13th day of August, 2019.


Ilene Shapiro, Chair





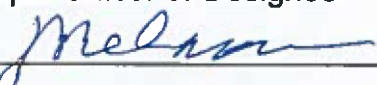

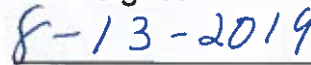
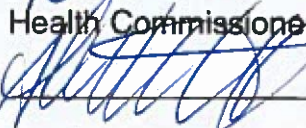


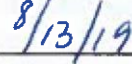
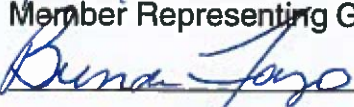


Diana Miller-Dawson, Secretary/Treasurer


Marcie E. Kress, Executive Director

August 13, 2019

For the Summit Akron Solid Waste Management Authority (dba ReWorks):

We as representatives of the board of trustees for the Summit Akron Solid Waste Management Authority (dba ReWorks) do hereby certify that to the best of our knowledge and belief, the statements, demonstrations, and all accompanying materials that comprise the Authority's solid waste management plan (Plan) are accurate and are in compliance with the requirements in the District Solid Waste Management Plan Format, version 4.0, the 2009 State Solid Waste Management Plan, and the Ohio Revised Code.

 _____	 _____
County Commissioner or Designee	Date Signed
 _____	 _____
Municipal Officer or Designee	Date Signed
 _____	_____
Township Representative	Date Signed
 _____	 _____
Health Commissioner or Designee	Date Signed
 _____	 _____
Solid Waste Generator Representative	Date Signed
 _____	 _____
Member Representing General Interests of Citizens	Date Signed
 _____	 _____
Public Representative	Date Signed



Lead, Teach, Act — Target Zero

Referenced in Appendix I page I-6

Waste Reduction & Recycling Grant Guidelines and Application

ReWorks’ mission is to provide solutions and leadership to empower our community, institutions and businesses to develop and utilize environmentally sound, cost-effective recycling and waste management strategies.

The funding from this grant is intended to financially support projects directly aimed at measurable waste reduction and recycling activities consistent with ReWorks’ mission.

Grant Guidelines

1. ELIGIBILITY –

Who Can Apply:

- Applicant must be located in Summit County;
- Local and Government Agencies;
- Universities;
- Non-Profit and For-Profit Agencies and institutions; ➤ Commercial and Industrial Entities.

What type of material

- Material targeted for recycling/reduction must be defined as a solid waste (ORC 3734.01).
 - Material targeted for recycling/reduction must be generated in Summit County.

2. GRANT PERIOD –Funds are to be expended within one year after award. (No exceptions)

3. FUNDING LIMITS - The maximum amount of funding granted available for all projects is \$20,000.00.

MATCH REQUIREMENTS

Local and Government Agencies	Demonstrate financial commitment to project
All Schools and Universities	Demonstrate financial commitment to project
Non-Profit and For-Profit Agencies and Institutions	50% Match Required
Industrial/Commercial Entities	50% Match Required
Apartment Complexes, Condominiums	50% Match Required

4. ALLOWABLE PROJECT EXPENSES: includes but is not limited to expenses listed below

- Recycling processing and collection equipment;
- Yardwaste management equipment;

5. **PROHIBITED PROJECT EXPENSES:**
- Organics diversion projects
 - Salaries or wages
 - Hazardous Waste Collections
 - Paper Shredding
 - Special Events
 - Litter Clean- ups
 - Illegal Dumping remediation

6. **FUNDING/REVIEW CRITERIA:**

Grant application review process shall take no more than 45 days from the date of receipt. Final approval of funding is determined by the ReWorks' Board of Trustees at the monthly meeting (second Tuesday of the month) following the review and recommendations of the Executive Director and staff.

Upon approval ReWorks and applicant will enter into an agreement for the implementation and funding for the project.

Applications will be reviewed with the following criteria:

- Demonstration of positive and environmental impact for your organization and the county;
- Demonstration of positive economic impact for your organization;
- Consistency with ReWorks strategic goals;
- Measurability of project's results and goals;
- Sustainability of the project;
- Overall quality of application;
- Completion of Waste Reduction and Recycling Report (Attachment A);
- Other criteria as specified by ReWorks.

*Questions regarding the grant can be directed to:
Marcie Kress, Executive Director
PH: 330-374-0383 ext 206 mkress@summitreworks.com*

Grant Application

(page 1 of 2)

Cover Sheet and Project Budget

For internal office use only

Date of Application Submittal		Date Received by ReWorks	
-------------------------------	--	--------------------------	--

Applicant (Subdivision, Company, School, etc)	
Applicant Mailing Address (street, floor, office # , city, state, zip)	
Contact Person (Name and title)	
Phone	
E-mail	

Material(s) targeted for recycling and/or reduction

Project Budget

Expense Category	Grant Funds Requested	Match Funds Committed	Total

TOTAL			

Grant Application

(page 2 of 2)

Project Summary

Application must address the following issues in narrative form (2 double-sided page limit)

- Provide an overview of the project's overall purpose and scope;
- Timeline of project;
- Who is responsible for implementing the project;
- Who will benefit from the project;
- What is the amount and type of material source reduced and/or recycled by the project and/or goals of the project;
- Discuss all assumptions associated with expected quantities recovered, reduced or recycled;
- Identify and discuss mechanisms which will allow both qualitative and quantitative measurement of the success of the project;
- Provide a brief narrative on the budget for the project.
- Explain the proposed economic impact for your organization. This can be shown in three ways by describing at least one of the following:
 - Payback schedule
 - Return on Investment
 - Cost avoidance measures
- Address sustainability of the project

Application instructions:

Mail one complete application and report to the address below.

ReWorks
12 East Exchange Street, 3rd Floor
Akron, Ohio 44308
RE: Grant Application

Email one complete application and report to the email address below.

mkress@summitreworks.com
Subject line: Grant Application

Appendix U: Ratification Results

Table U-1 Ratification Summary

Summit County Council	Approved	Rejected	Date Resolution Adopted
Community	2020 Population		Date Resolution Adopted
	Approved	Rejected	
Cities			
Akron	197,174		
Barberton	26,031		
Cuyahoga Falls	49,080		
Fairlawn	7,443		
Green	25,660		
Hudson	22,169		
Macedonia	11,899		
Munroe Falls	5,046		
New Franklin	14,117		
Norton	11,971		
Stow	34,651		
Tallmadge	17,491		
Twinsburg	18,895		
Townships			
Bath	9,658		
Boston	704		
Copley	17,248		
Coventry	10,839		
Northfield Center	5,821		
Sagamore Hills	10,918		
Springfield	14,527		
Richfield	2,506		
Twinsburg	2,879		
Villages			
Boston Heights	1,294		
Clinton	1,205		
Lakemore	3,063		
Mogadore	3,813		
Northfield	3,657		
Peninsula	560		
Reminderville	4,234		
Richfield	3,625		
Silver Lake	2,491		
Total	540,669	0	
2020 County Population	540,669		
Ratification percentage	100%		